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MinnesotaGO

A Collaborative Vision for Transportation

State Aviation System Plan











MINNESOTA DEPARTMENT OF TRANSPORTATION

LAST UPDATE JULY 2013



August 15, 2013

Dear Citizens of Minnesota,

It is a pleasure for me to present to you this comprehensive State Aviation System Plan (SASP) for 2012-2030. This plan was developed by the MnDOT Office of Aeronautics, with extensive input from you, the citizens of Minnesota. I am confident that this plan will guide us to continue to meet the needs of Minnesota's aviation industry and aviation community, while allowing for flexibility and growth that will benefit us all.

The SASP recognizes these five primary goals in concert with the Minnesota GO Vision:

- SAFETY - Enable development of Minnesota's aviation system to not only enhance the overall safety of airport operations but also minimize and/or reduce aviation fatalities and injuries.
- MOBILITY and ACCESS - Ensure the people and businesses of Minnesota have convenient access to the air transportation network.
- FINANCIAL OPPORTUNITY and RESPONSIBILITY - Improve system airports' ability to become more financially sustainable, attract appropriately planned economic development opportunities, and fit into the context of the community from which it receives support.
- OPERATIONS - Ensure the system is operated in a manner that users can rely upon.
- PRESERVATION and ASSET MANAGEMENT - Ensure the structural integrity of existing airport infrastructure to meet current needs and not compromise what is needed in the future.

The success of Minnesota's entire transportation system depends on the coordinated efforts of many public and private partners. Objectives and strategies outlined in this plan provide a framework for our joint efforts improving the transportation systems' aviation component. A team of dedicated aviation professionals in our Office of Aeronautics is working hard to ensure that these and other goals are met in a timely and cost effective manner, so that Minnesotans can continue to utilize quality aviation facilities and dependable services throughout the state. We recognize the value aviation brings to our communities and to our state. We understand economic impact and the importance of the benefits aviation brings to every citizen within our borders. Through continued collaboration, we can together, build and maintain an air transportation system that realizes the SASP goals, while maximizing opportunities for our citizens, enhancing Minnesota's quality of life, environment, and economy, throughout the entire state.

Sincerely,

Charlie Zelle
Commissioner of Transportation

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Acknowledgements

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Document prepared by MnDOT Office of Aeronautics and HNTB Corporation.

TABLE OF CONTENTS

Chapter 1: Introduction and System Goals 1

Chapter 2: Inventory 29

Chapter 3: Forecast 43

Chapter 4: Airline Service 63

Chapter 5: Airport Facility Requirements 75

Chapter 6: Performance Report 97

Chapter 7: Investment Plan and System Recommendations 161

Chapter 8: A Future Vision of Aviation 195

Appendices 215

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MinnesotaGO
A Collaborative Vision for Transportation

State Aviation System Plan

Chapter 1

INTRODUCTION AND SYSTEM GOALS

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INTRODUCTION AND SYSTEM GOALS

The Minnesota State Aviation System Plan (SASP or Plan) provides a description and assessment of the performance of the current aviation system as well as guidance for the future development of aviation in Minnesota. It has been developed through partnerships with many stakeholders including airports, pilots, businesses, the Federal Aviation Administration (FAA) and the Minnesota Department of Transportation (MnDOT) Office of Aeronautics, among others. In reading this Plan, it is critical to note that, with the exception of one airport partially owned by the state, the airports that make up the state's system are owned by the local communities in which they are located; the State's role is primarily to provide technical and funding assistance. Equally important to note is that the SASP is not a programming or an implementation document.



One key purpose for planning on a system-wide level is to monitor trends and provide policy makers with the information necessary to make decisions that benefit the State. It is not airports or pilots alone that will be impacted by the system-wide decisions contained within this plan; the Plan's direction for the aviation system extends for example to airline passengers, corporate and business aviation users, personal/recreational flying, energy and resource exploration, and agricultural aviation. These diverse functions must be taken into account to ensure the aviation system is properly funded and preserved for its users.

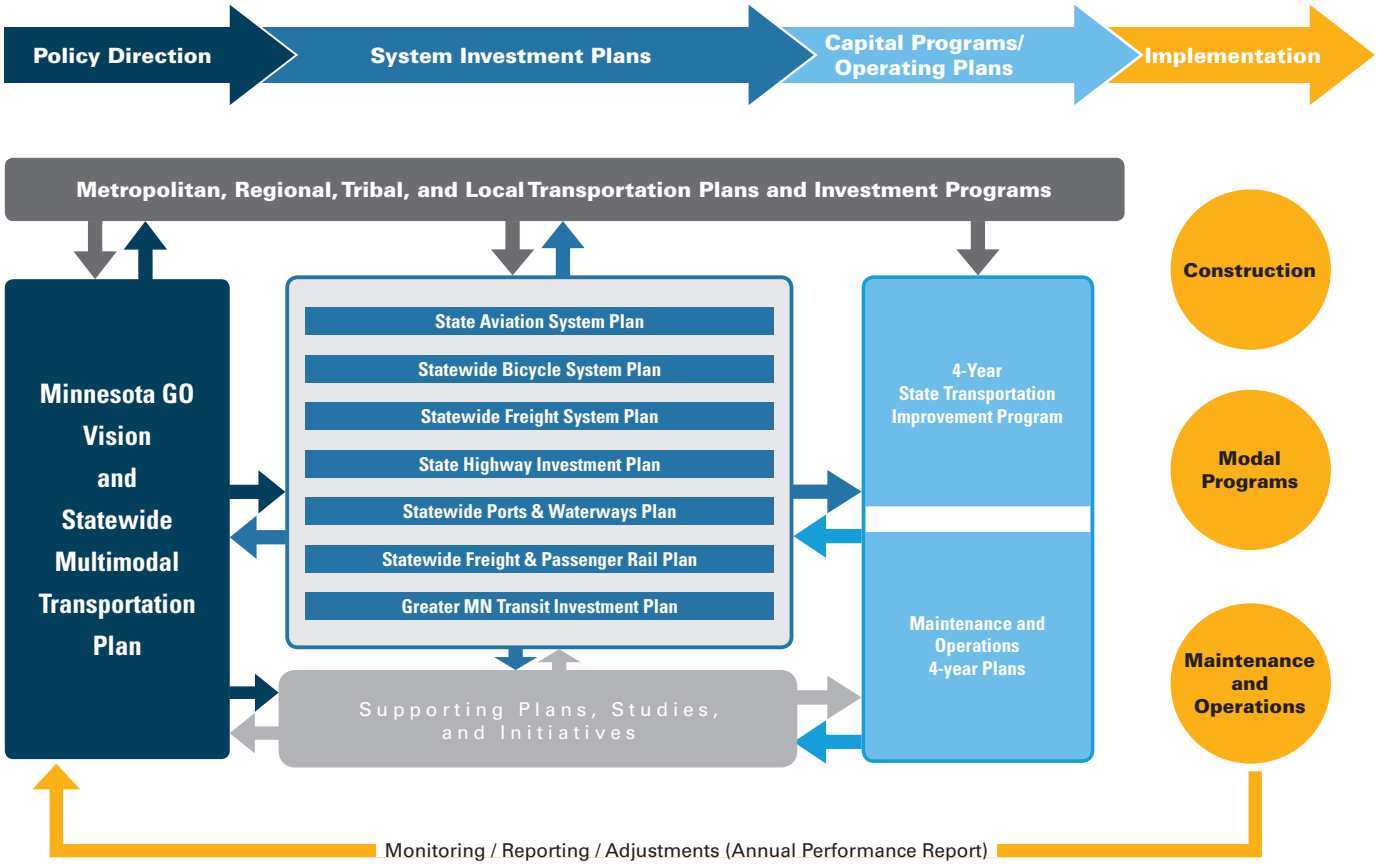
This plan also informs the citizens of Minnesota, in a transparent manner, about the state of the existing system's performance and it will be considered for incorporation into the FAA's National Plan of Integrated Airport Systems (NPIAS). The NPIAS identifies airports across the country significant to national air transportation. Airports included in the NPIAS are eligible for certain federal grants to support their development.

Minnesota GO

THE MNDOT FAMILY OF PLANS

MnDOT is responsible for developing plans not only for aeronautics, but also for other modes of travel including transit, walking and biking, freight and passenger rail, and highways. These plans, known as modal plans, receive a degree of policy direction from the Statewide Multimodal Transportation Plan, which is also MnDOT's responsibility to develop. These plans are collectively part of MnDOT's "Family of Plans" which establishes statewide policy. Subsequent to modal policy plan development, modal investment plans are completed to identify how projected revenues will be spent. **Figure 1-1** highlights the complex relationship. This SASP includes both policy and investment direction for aeronautics in Minnesota.

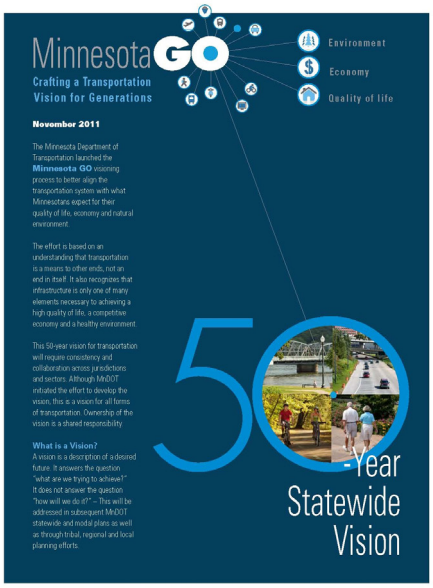
Figure1-1: MnDOT Plans and Programs



MINNESOTA GO VISION

In early 2011, MnDOT launched the Minnesota GO 50-year statewide visioning process to better align the transportation system with what Minnesotans expect for their quality of life, economy and natural environment. While federal and state transportation planning requirements have been in place for years, Minnesota's transportation system needed a long-term vision—a destination toward which state and local transportation planning could navigate.

Teaming with the University of Minnesota and the Citizens League, MnDOT asked Minnesotans to help shape a vision that answers the question "what are we trying to achieve?" As one of the first modal plans developed following the November 2011 adoption of the Minnesota GO Vision, this SASP begins to address the follow-up question "how will we do it?"



MINNESOTA GO VISION FOR TRANSPORTATION

Minnesota's multimodal transportation system maximizes the health of people, the environment and our economy.

The system:

- Connects Minnesota's primary assets—the people, natural resources and businesses within the state—to each other and to markets and resources outside the state and country
- Provides safe, convenient, efficient and effective movement of people and goods
- Is flexible and nimble enough to adapt to changes in society, technology, the environment and the economy

QUALITY OF LIFE

The system:

- Recognizes and respects the importance, significance and context of place—not just as destinations, but also where people live, work, learn, play and access services
- Is accessible regardless of socioeconomic status or individual ability

ENVIRONMENTAL HEALTH

The system:

- Is designed in such a way that it enhances the community around it and is compatible with natural systems
- Minimizes resource use and pollution

ECONOMIC COMPETITIVENESS

The system:

- Enhances and supports Minnesota's role in a globally competitive economy as well as the international significance and connections of Minnesota's trade centers
- Attracts human and financial capital to the state

This Minnesota GO Vision included the following principles to guide future policy and investment decisions for all forms of transportation throughout the state, including aviation. These are listed in no particular order.

GUIDING PRINCIPLES



The following principles will guide future policy and investment decisions for all forms of transportation throughout the state. These are listed in no particular order. The principles are intended to be used collectively.

Leverage public investments to achieve multiple purposes:
The transportation system should support other public purposes, such as environmental stewardship, economic competitiveness, public health and energy independence.

Ensure accessibility: The transportation system must be accessible and safe for users of all abilities and incomes. The system must provide access to key resources and amenities throughout communities.

Build to a maintainable scale: Consider and minimize long-term obligations—don't overbuild. The scale of the system should reflect and respect the surrounding physical and social context of the facility. The transportation system should affordably contribute to the overall quality of life and prosperity of the state.

Ensure regional connections: Key regional centers need to be connected to each other through multiple modes of transportation.

Integrate safety: Systematically and holistically improve safety for all forms of transportation. Be proactive, innovative and strategic in creating safe options.

Emphasize reliable and predictable options: The reliability of the system and predictability of travel time are frequently as important or more important than speed. Prioritize multiple multimodal options over reliance on a single option.

Strategically fix the system: Some parts of the system may need to be reduced while other parts are enhanced or expanded to meet changing demand. Strategically maintain and upgrade critical existing infrastructure.

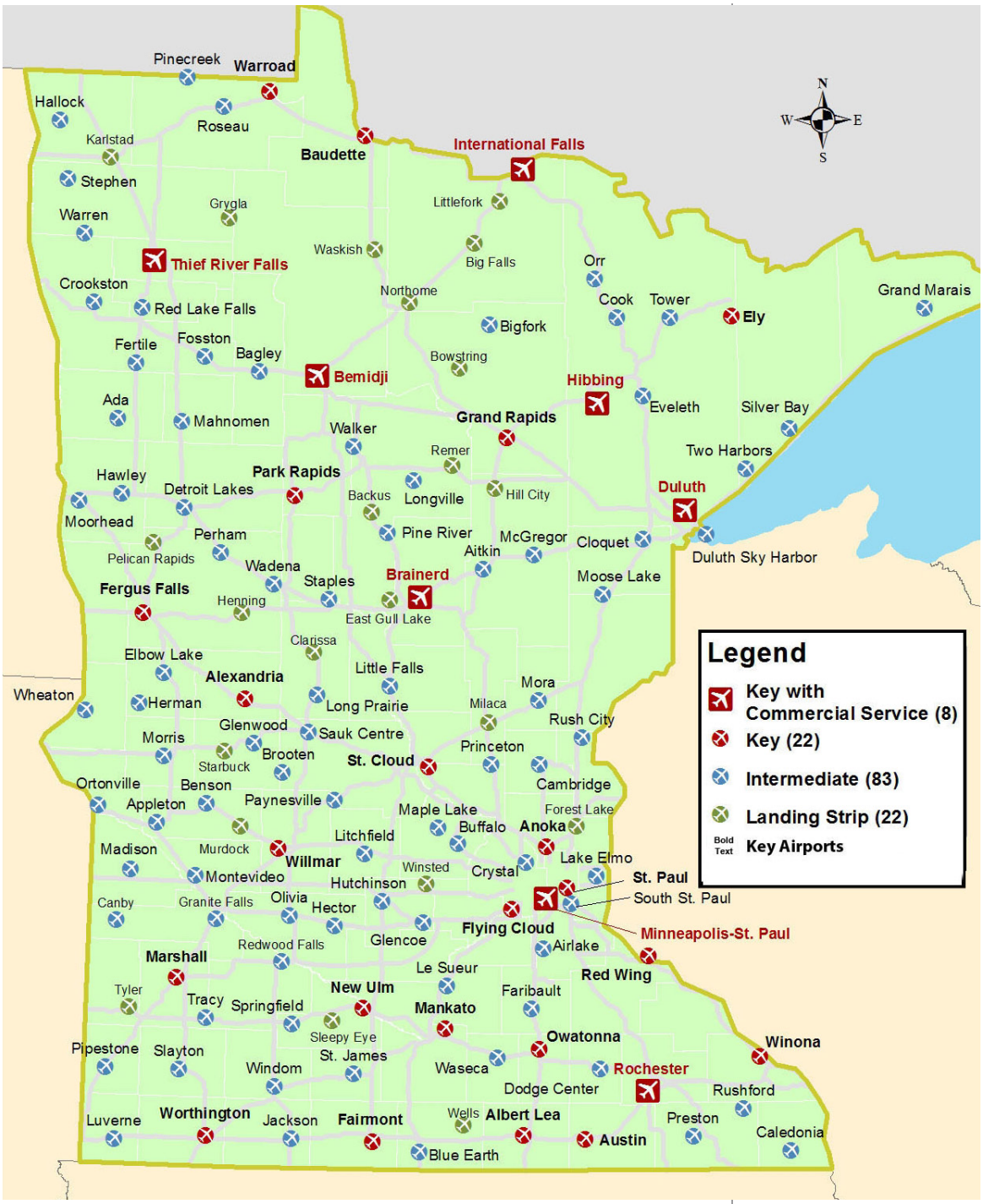
Use partnerships: Coordinate across sectors and jurisdictions to make transportation projects and services more efficient.

Development of the SASP, while in part concurrent with the Minnesota GO Vision, has aligned with these guiding principles. In the months subsequent to adoption of the 50-year vision, the Minnesota GO brand was expanded to encapsulate the entirety of MnDOT's "Family of Plans." This SASP is the first MnDOT developed modal plan to adopt the Minnesota GO brand.

Description of the System

Today's Minnesota aviation system is comprised of 135 state funded airports; 126 in Greater Minnesota and nine in the Twin Cities Metro Area (TCMA). These airports are displayed by airport classification in **Figure 1-2**.

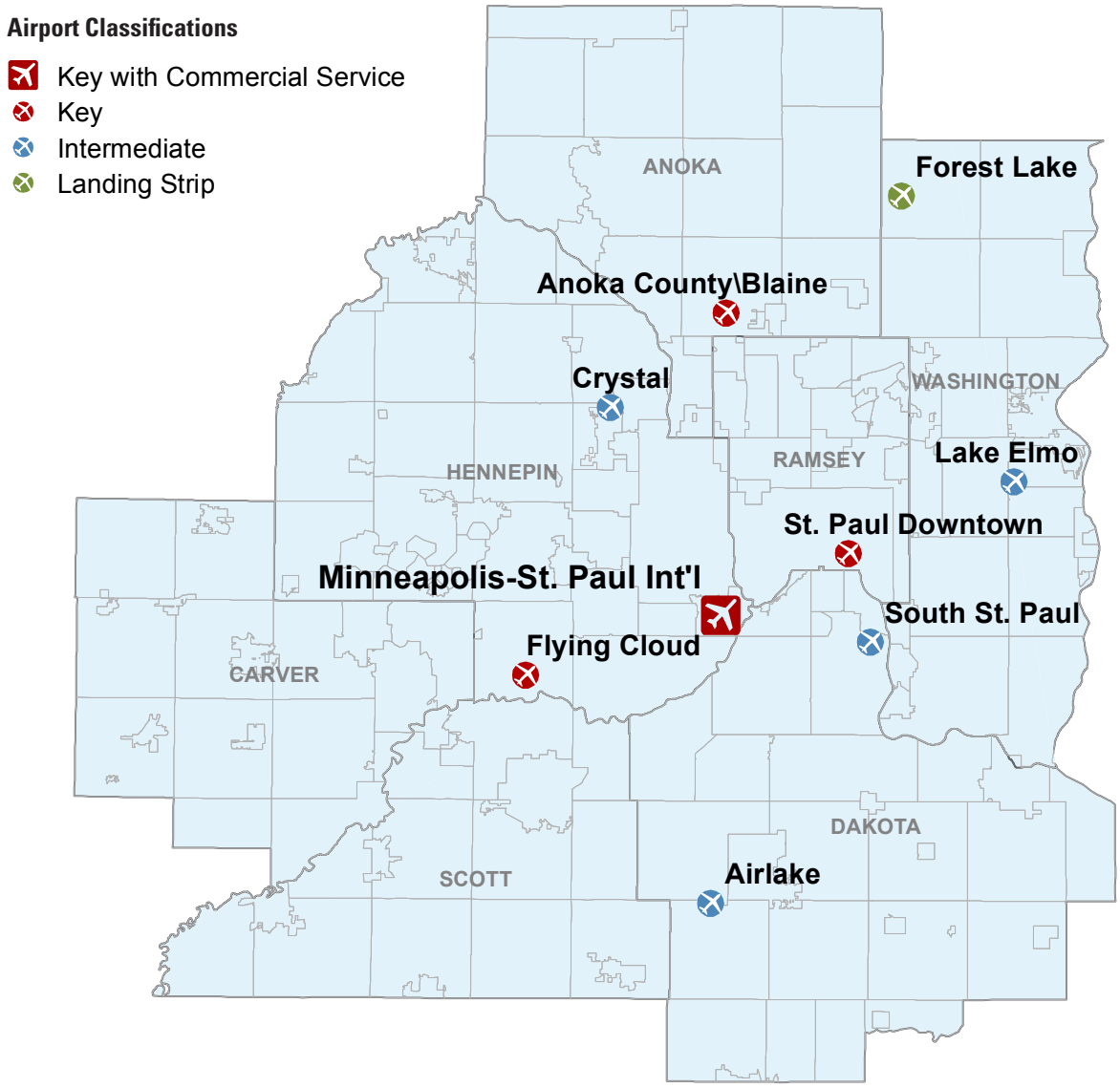
Figure1-2: Airports by Classifications



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Minnesota Statute (473.146 Subdivision 4) assigns transportation system planning, including aviation planning, for the TCMA to the Metropolitan Council. TCMA airports are partially funded by the state of Minnesota even though the state does not have the planning authority. TCMA airports are shown in **Figure 1-3**.

Figure1-3: TCMA Airports



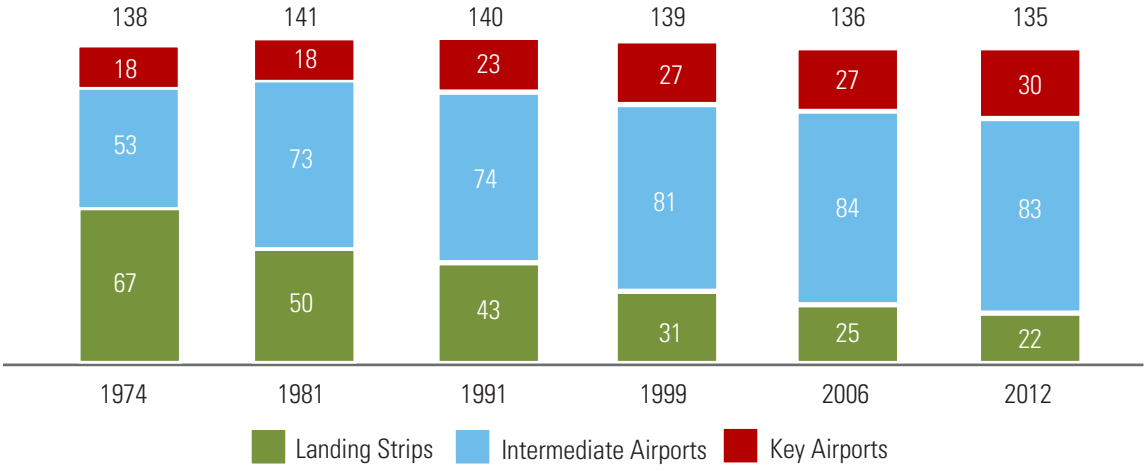
Source: HNTB

AIRPORT CLASSIFICATIONS

As directed by Minnesota Statute (360.305 Subdivision 3), system airports are categorized in three classifications: Key, Intermediate, or Landing Strip airports. The number of airports in each of the classifications shifts over time along with the total number of system airports.

Since 1974 Key Airports have grown from 18 to 30; Landing Strips have decreased from 67 to 22; Intermediate Airports have grown from 53 to 83. The total number of airports in the state's system has decreased from 138 to 135 since the 1974 SASP was completed. **Figure 1-4** depicts these changes in the system over the past 20 years.

Figure1-4: Airport Classification Trends



An airport, depending upon its classification, can be expected to have a range of existing and planned infrastructure as well as a unique role in the state's economy. The three airport classifications are described on the following pages in terms of their aeronautical use and potential economic role.

Key Airports: Key Airports have a paved and lighted primary runway 5,000 feet or greater in length. Key Airports serve as the primary landing facilities for business jets, and are the only airport classification that supports regularly scheduled airfreight and airline service. They are capable of accommodating most business jets, all single-engine aircraft and larger multi-engine aircraft. These airports tend to be located near larger population and economic centers. Key Airports often house corporate flight and maintenance divisions for major employers, allowing businesses to connect to national and some global markets directly. There are currently 30 Key Airports in the state's system.



ROCHESTER

Intermediate Airports: Intermediate Airports have a paved and lighted primary runway that is less than 5,000 feet in length. These airports are capable of accommodating all single-engine aircraft, some multi-engine aircraft, and some business jets. Intermediate Airports serve as landing facilities for flight training, aircraft maintenance, and general aviation aircraft up to the smaller business jet size. Intermediate Airports serve many roles in communities ranging from emergency medical transports to manufactured parts distribution. Intermediate Airports enable direct connections across Minnesota and the Central US region. There are currently 83 Intermediate Airports in the state's system.



RUSHFORD

Landing Strips: Landing Strips have one or more turf runways which can accommodate most single-engine aircraft and some twin-engine aircraft. This type of airport may be unusable during certain conditions such as wet weather, winter months, and during the spring melt. A key function of these airports is supporting the agricultural industry with crop seeding and spraying services. There are currently 22 Landing Strip Airports in the state's system.


MILACA

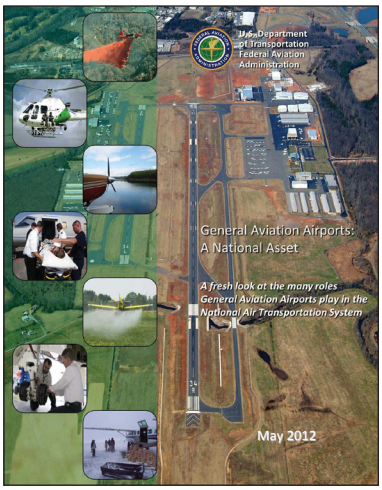
NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS

The National Plan of Integrated Airport Systems (NPIAS) identifies airports that are significant to national air transportation. Airports designated as part of the NPIAS are eligible for FAA Airport Improvement Program (AIP) funding. The NPIAS is updated by the FAA every two years and comprises all commercial airline service airports, reliever airports and qualifying general aviation airports. Since the previous SASP was prepared in 2006, Cook and Glencoe Municipal Airports have been added to the NPIAS. There are 97 Minnesota airports in the current (2011-2015) NPIAS. As a result, there are 38 airports in Minnesota which do not qualify for federal funds and must rely completely on state and local funding. **Figure 1-5** identifies Minnesota's airports included in the NPIAS. **Chapter 7: Investment Plan and System Recommendations** includes further discussion concerning changes to the NPIAS.



FAA ASSET STUDY

In May 2012 the FAA released results of the Airport System Strategic Evaluation Task (ASSET) study, which reclassifies airports in the NPIAS. The new system uses function and economic impact to place airports into one of four categories: National, Regional, Local, or Basic. The FAA will incorporate the new categories in the 2013-2017 NPIAS Report to Congress. Although this 2012 SASP does not reference the new groups, MnDOT will evaluate the ASSET category assigned to each airport in Minnesota and use the new categories to help guide future system and airport planning decisions.



AIRLINE SERVICE

Airports with regularly scheduled airline service are included in this Plan. These airports must meet minimum security protocols and FAA standards defined in the Federal Aviation Regulations (FAR) Part 139. Additionally, an airline must schedule regular flights to and from the airport.

Minnesota currently has eight airports with regularly scheduled airline service, as displayed in **Figure 1-5** and listed in **Table 1-1**. In 2006 there were nine airports with airline service, in 1999 there were 13, and in 1991 there were 20. St. Cloud Regional Airport most recently lost airline service in 2009. However, the community is actively working to have it restored and has made notable progress. Once lost, reestablishing airline service is a challenging endeavor requiring a great deal of collaboration and is subject to the business decisions of individual airlines. Airlines will likely continue to evaluate the profitability of providing flights at individual airports. **Chapter 4: Airline Service** provides detail regarding airline service in the State and identifies trends affecting airline decision making.

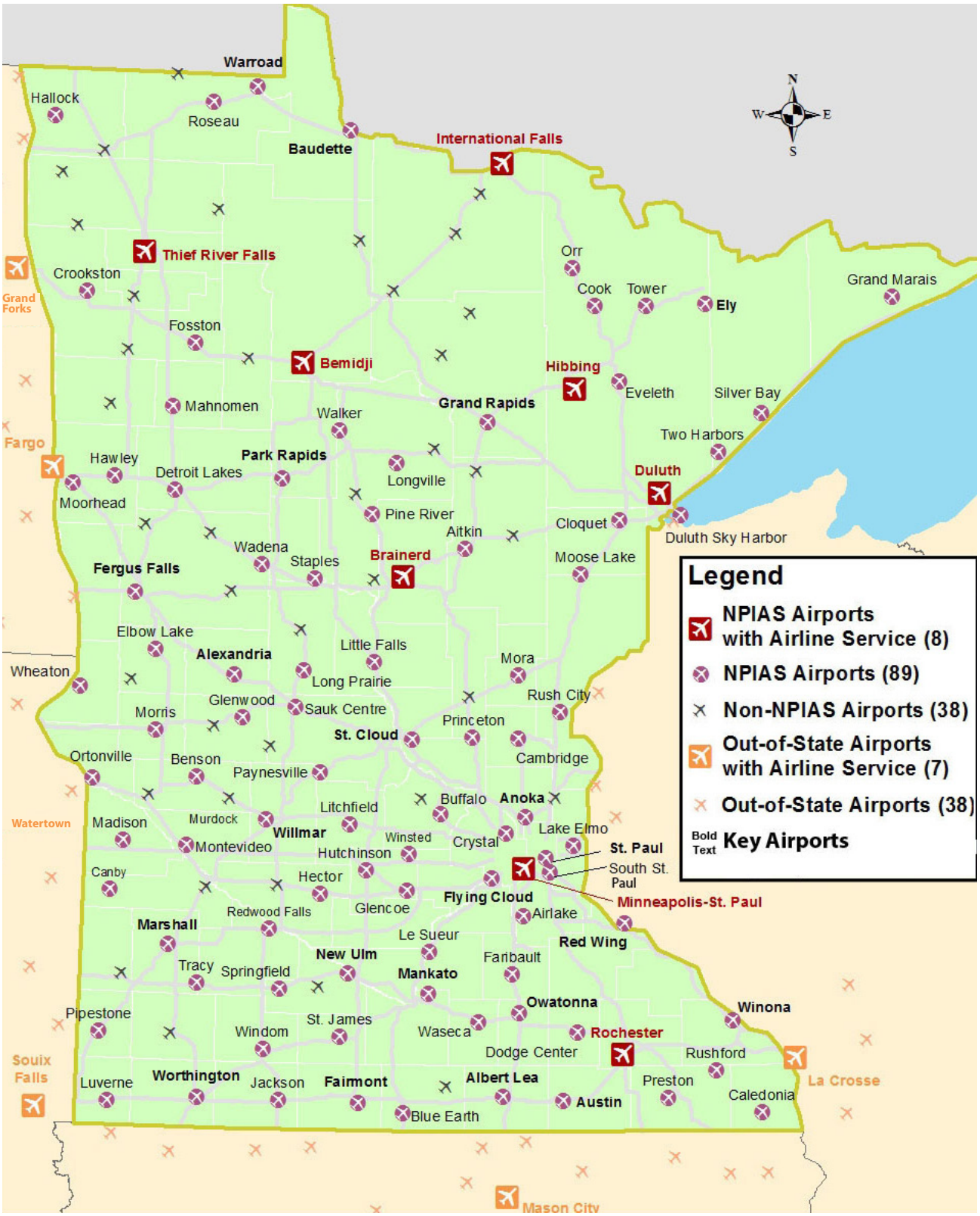
Table 1-1: Airports with Airline Service

Bemidji Regional	Minneapolis-St. Paul International
Brainerd Lakes Regional (Brainerd, MN)	Range Regional (Hibbing, MN)
Duluth International	Rochester International
Falls International (International Falls, MN)	Thief River Falls Regional



States adjacent to Minnesota also have airports with airline service that Minnesota residents may choose to utilize. **Figure 1-5** also depicts airline service airports in Iowa, North Dakota, South Dakota, and Wisconsin.

Figure 1-5: Minnesota System Plan Airport Federal Classifications



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis





ADDITIONAL COMPONENTS OF THE SYSTEM

There are many components of the State's aviation system that, while not directly addressed in this SASP, play an important role in Minnesota.

Numerous privately owned airports across the State are used for farm support or personal recreation purposes. MnDOT may have a role in licensing these private airports, but does not participate in planning for, or funding of, these airports.

Special use facilities such as seaplane bases and heliports are also part of the state's larger system. These facilities serve the people of Minnesota by supporting activities such as: firefighting, responding to medical emergencies, providing for agricultural needs, and even deploying military activities.



Photo Credit: Gary Chambers Photography

SASP Planning Principles

The FAA requires periodic updates of state aviation system plans every five to seven years. This Plan is funded through an FAA planning grant and is required to meet certain federal planning standards and expectations including: specific data collected in the airport inventory phase, utilization of approved system forecasting methods, and recommendations for adjustments to the NPIAS. Complete FAA guidance is presented in the FAA Advisory Circular (AC) 150/5070-7 The Airports System Planning Process. This SASP meets the minimum required federal standards outlined by the FAA as well as MnDOT expectations for inclusion in the "Family of Plans".

The major needs of the airports in the state system are the primary concern of this Plan. Impacts of infrastructure provided at one airport in a region which may supplement activities at another airport in the same region are also considered. This SASP identifies the costs associated with maintaining existing infrastructure and provides information to help airports plan for their future growth in a fiscally responsible way. Finally, this Plan has been developed to be web based and includes an online toolbox which will ultimately display airport specific information (e.g. runway lengths, navigation systems, operation forecasts and project needs) for each airport. This information will be available to the communities that own airports as well as the general public. This information is accessible at the following website: http://www.dot.state.mn.us/aero/planning/sasp.html.

This Plan is distinguished from the previous 2006 SASP in a number of ways. First, as noted previously, the Metropolitan Council is the designated aviation planning authority for the Twin Cities Metro Area (TCMA). However, in order to present a complete picture of the aviation system in Minnesota elements of the 2030 Twin Cities Aviation System Technical Report and Metropolitan Airports Commission (MAC) individual airport Long Term Comprehensive Plans (LTCPs) are incorporated to assist in preparation of forecasts and infrastructure needs. While the 2006 SASP did not include the nine metro area airports, prior iterations of the SASP did. The nine metro area airports include seven MAC owned and operated airports and two airports owned by the municipalities of Forest Lake and South St. Paul.

A second new aspect of this SASP is the inclusion of an investment plan which highlights how available funds can best be leveraged to achieve Plan goals. Identification of innovative funding and alternate fund sources for the system and individual airports are included as part of the investment plan.

Public and Stakeholder Involvement



Of critical importance to the development of this Plan was the continual involvement of aviation stakeholders and the general public. Their participation helped guide the planning process from initial "listening posts" held around the state to provide input on elements to be included in the Plan, to development of the aviation system vision statement and goals, and establishment of performance measures that will gauge progress toward the Plan's goals.

Two formal advisory groups were convened as part of the plan development process and met routinely throughout the project. The committees were comprised of a diverse group of aviation industry professionals including representatives from commercial airlines, fixed-base operators, advocacy groups, federal and state agencies, consultant firms, neighboring states, and other interested organizations and individuals.

SASP ADVISORY COMMITTEE (SAC)

The SAC met to consider higher-level policy issues important to the Plan's development and provided guidance and insight regarding different aspects of the aviation industry with potential impact to the State. For example, the SAC was crucial in prioritizing the values and goals that should typify Minnesota's airports and gave critical guidance relating to the system forecasts. **Table 1-2** provides a list of the entities represented on the SAC.

Table 1-2: SAC Representation

Advocacy Groups	Minnesota Chamber of Commerce
Airport Personnel	Minnesota Council of Airports (MCOA)
Aviation Consulting Firms	Minnesota Department of Employment & Economic Development (DEED)
Civil Air Patrol	Minnesota Department of Natural Resources (DNR)
Delta Air Lines	Minnesota House of Representatives
Federal Aviation Administration (FAA)	Minnesota State Patrol
Fixed-Base Operators	Minnesota State Senate
League of Minnesota Cities	MnDOT District and Modal Offices
Local Airline Service Action Committee	MnDOT Office of Aeronautics
Mayo Clinic Medical Transport	North Dakota Aeronautics Commission
Metropolitan Council	Planning Commissions
Minnesota Air National Gaurd	Private Pilots
Minnesota Aviation Trades Association	Regional Development Commissions
Minnesota Business Aviation Association	Wisconsin DOT Bureau of Aeronautics

TECHNICAL ADVISORY COMMITTEE (TAC)

The TAC included a subset of representatives from the SAC. This committee met to provide detailed technical guidance for the planning process. TAC membership included staff from the entities identified in **Table 1-3**.

A complete list of advisory committee personnel, meeting schedules, agendas, presentations and handouts from all SAC and TAC meetings can be downloaded from the SASP project website at http://www.dot.state.mn.us/aero/avoffice/planning/sasp2011.html. In addition to the scheduled meetings of the SAC and TAC, MnDOT Aeronautics staff delivered presentations, provided status updates, and sought input from organizations and planning partners such as the Minnesota Council of Airports (MCOA), Minnesota Business Aviation Association (MBAA), Regional Development Commissions (RDCs), Metropolitan Planning Organizations (MPOs) and the Metropolitan Airports Commission (MAC).

Table 1-3: TAC Representation

MnDOT Office of Aeronautics	Metropolitan Council
Federal Aviation Administration (FAA)	Metropolitan Airports Commission (MAC)
Duluth Airport Authority	MnDOT Modal Offices
Bemidji Regional Airport	Aviation Consulting Firms
St. Cloud Regional Airport	

PUBLIC INVOLVEMENT

A Public Involvement Plan was developed and adopted by the advisory committees to guide public participation efforts. The Public Involvement Plan provided a framework for how individuals and organizations could participate in activities conducted throughout the planning process. It was a flexible plan, capable of update or adjustment based on input received and other factors. The Public Involvement Plan, and other related participatory information is accessible on the Plan website.

The Plan website was constantly maintained and updated and included a webform available to the public for submitting comments at any time. Social and traditional media resources were also used.

A statewide public hearing was held in January 2013 to formally collect comment on the draft plan. All comments received were recorded, considered, and response was provided. The plan has been adjusted to reflect comments where appropriate. A record of comments received and the MnDOT response is found on the Plan website.

System Vision and Goals

Similar to development of the Minnesota GO 50-year vision for transportation, a vision for aviation in the state was developed through collaboration with stakeholders early in the planning process. The vision for aviation provides a description of the desired future and highlights what the State is trying to achieve with its air transportation system. The bulk of this Plan answers the question of how the vision can be achieved. **Figure 1-6** shows how the aviation system vision relates to the Minnesota GO Vision and the Statewide Multimodal Transportation Plan. A more comprehensive view of this relationship is found in **Appendix G: Goals Matrix.**

MINNESOTA'S VISION FOR AVIATION

Minnesota's aviation system will enable safe, fast, and reliable air transportation for the citizens and businesses of Minnesota through partnership and innovation.

Figure 1-6: Connections to the Vision and Statewide Multimodal Transportation Plan (Example: Mobility and Access)



GOALS AND STRATEGIES SUPPORT THE VISION

The SAC and TAC identified values for the system which were consolidated into five goals. The goals were articulated and strategies to achieve each goal were developed. How these goals and strategies relate to the Minnesota Go Vision and Statewide Multimodal Plan are shown in **Figure 1-6.**

Goal: Safety

Enable development of Minnesota's aviation system to minimize and/or reduce aviation fatalities and injuries and also enhance the overall safety of airport operations.

Strategies

- Provide technical assistance to airport sponsors so that their airport zoning ordinances are acceptable under Minnesota's standards. All airports in the state should be zoned to protect existing, future, and ultimate infrastructure configurations.
- Evaluate the State's zoning standards, and consider revisions to appropriately balance public safety and provide airport compatible development opportunities near and around airports.
- Airport sponsors should continue to acquire land to control and maintain the State Clear Zones (an area similar to the FAA Runway Protection Zone or RPZ) and achieve compliance with MnDOT Office of Aeronautics' Clear Zone Policy.
- Approach airspace should continue to be kept clear of obstructions. Obstructions identified during airport safety inspections should be removed as soon as possible.
- Assist and collaborate with the entities and agencies that use the aviation system to protect and enhance local, regional and state safety including but not limited to firefighting, search and rescue, border protection, homeland security, and air medical transport.
- Enhance delivery of medical resources to the trauma centers and life-saving facilities throughout the state that play a role in preventing death following traumatic injury.
- Support air medical providers' ability to save lives and increase chances of survival in the minutes and hours following traumatic injury – a period commonly referred to as the "Golden Hour".
- Support MnDOT's continued efforts in the Toward Zero Deaths (TZD) initiative and work collaboratively with proponents to incorporate all modes, including aviation, into the initiative.



Photo Credit: Leading Edge Investigations

Goal: Mobility

Ensure the people and businesses of Minnesota have convenient access to the air transportation network.

Strategies

- Maintain and enhance the critical air connections for the people, products, and businesses of Minnesota to markets and resources outside the state and country.
- Develop a comprehensive strategy to identify and address Americans with Disabilities Act (ADA) concerns within the airport system.
- Provide viable connections to outstate by maintaining or improving airline services in Greater Minnesota, where appropriate (additional and more detailed strategies relating to airline service maintenance are found in **Chapter 4: Airline Service** and **Appendix D: Commercial Air Service Technical Report**). In doing so, collaborate with and support efforts of the Local Air Service Action Committee (LASAC).
  - Consider feasibility of increasing airline connections for Greater Minnesota airports with surface transportation options.
  - MnDOT Aeronautics will host periodic Air Service Summits to bring together aviation stakeholders in an effort to share critical air service information and develop specific strategies concerning air service in the state.
  - Monitor changes to the federal Essential Air Service (EAS) program (subsidies for commercial airline service to Minnesota airports) and work with stakeholders to develop recommendations for an EAS program that is both effective and can withstand scrutiny.
- Identify the availability of access to airports by alternate modes of transportation (e.g. transit and bicycles). Consider strategic enhancements of access where appropriate and justified.



Goal: Financial Opportunity and Responsibility

Improve system airports' ability to become more financially sustainable, attract appropriately planned economic development opportunities, and fit into the context of the community from which it receives support.

Strategies

- Develop, in cooperation with system airports, new and innovative ways to generate revenues that ultimately bring them closer to self-sufficiency.
- Collaborate with the state's aviation stakeholders to continue to provide predictable funding for the State Airports Fund.
- Consider support of modified construction standards to reduce project cost (e.g., warm mix paving applications).
- Inventory comprehensive plans of communities surrounding airports to advise on airport compatible development. A community and its airport should have compatible plans so that they foster growth for each other.
- Consider the role of airports in supporting and furthering Context Sensitive Solutions (CSS) for sponsor communities.
- Support local and community efforts to create jobs with a particular focus on enhancing the state's aviation sector.
- Support and promote system airports' efforts to pursue special or unique funding opportunities such as the joint MnDOT and Department of Employment and Economic Development (DEED) Transportation Economic Development (TED) program designed to address both the state's transportation system needs and economic development objectives.



Goal: Operations

Ensure the system is operated in a manner that users can rely upon.



Strategies

- Identify the areas of the State suitable, from an aeronautical perspective, for tall structure siting and consider similar analysis for other potential airport incompatible land uses.
- Upgrade the state's critical navigation facilities while allowing for reduction and/or phase out of unused or outdated components.
- Develop a method for more precise life-cycle tracking of the navigation system.
- Work with MnDOT's Office of Transportation and Data Analysis to research available technologies to more precisely analyze activity at airports. These technologies may be auditory or visual, able to recognize differing aircraft types, and should be tested on a limited scale to help determine accuracy.
- Work to ensure FAA efforts to incorporate Unmanned Aircraft Systems (Unmanned Aerial Vehicles) into Minnesota's airspace are pursued in a safe and transparent manner.

Goal: Asset Management

Ensure the structural integrity of existing airport infrastructure to meet the needs of the current system without compromising future needs.

Strategies

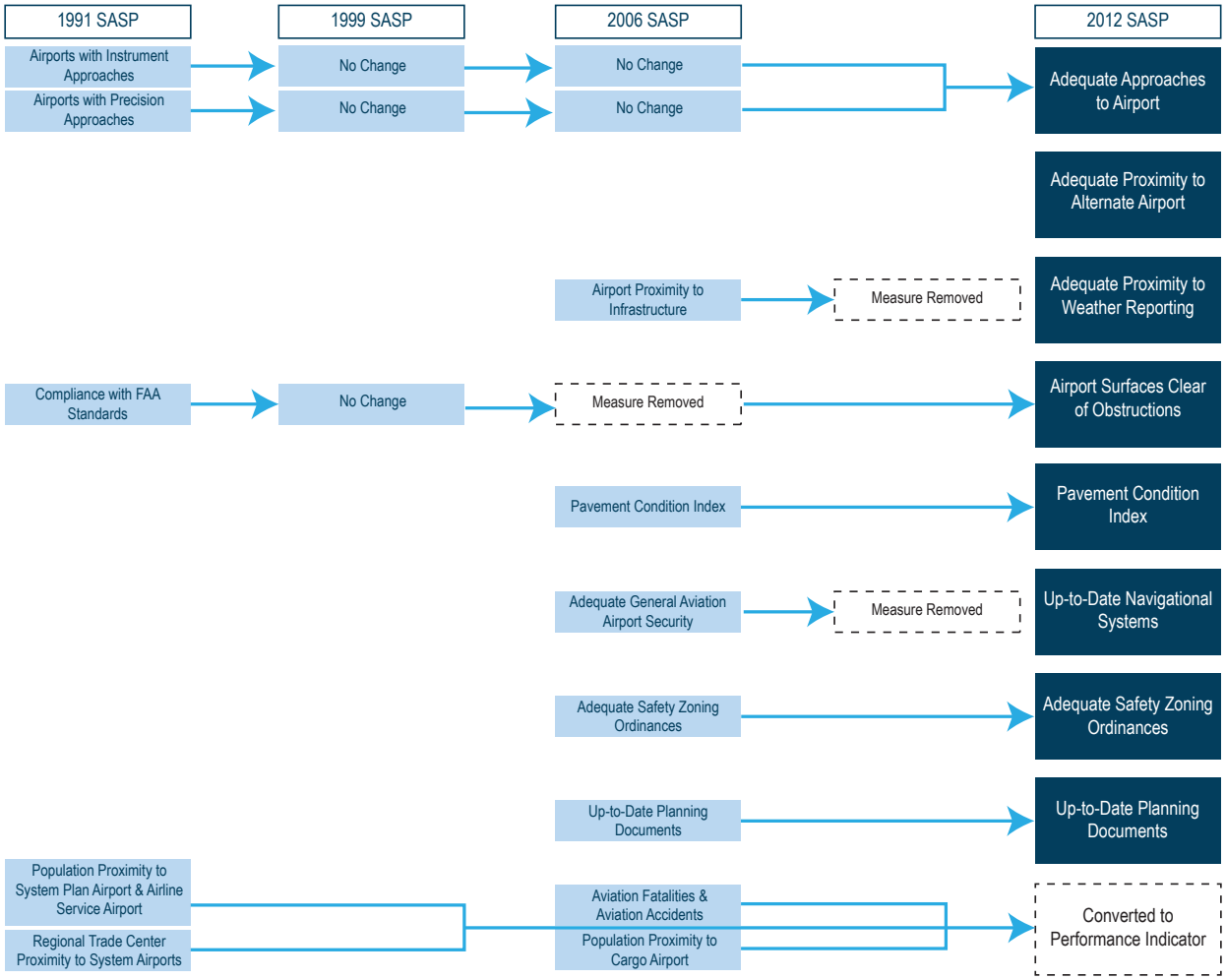
- Work collaboratively with airport sponsors to align maintenance and preservation needs with the state's funding priorities.
- Periodically review the State's project prioritization formula and consider recommendations for adjustments that are developed in a collaborative manner.
- Explore a risk-based approach to making future investment decisions.
- Ensure that construction projects are justified and appropriately sized.



Performance-Based Planning

Despite today's uncertain economy and associated funding challenges, many now are cautiously optimistic when considering the future of the aviation industry. One method for managing these financial challenges is performance-based planning, which has been used by MnDOT and the Office of Aeronautics for many years. This approach to planning aims to ensure that funding is spent strategically to meet specified goals and progress toward those goals is tracked and reported to the public. This Plan, like others before it, embraces and continues the performance-based planning approach through the use of performance measures and performance indicators. Measures and indicators are presented in detail in **Chapter 6: Performance Report**. A summary of the State's performance measures over the last 20 years is shown in **Figure 1-7**.

Figure 1-7: Evolution of SASP Performance Measures



Source: MnDOT Office of Aeronautics 2011 SASP Objectives, Goals, and Performance Measures, The 2006 Minnesota SASP, The 1999 Minnesota SASP, The 1991 Minnesota SASP, & HNTB Analysis

Aviation Industry Challenges and Opportunities

CHALLENGES

Over the past decade airports in the United States have continued to encounter challenges in supporting airline operations. Many airline service airports, particularly those with fewer flights, have seen dramatic cuts in service as legacy carriers have focused on larger domestic and international markets. Dramatic increases in fuel prices, challenges in the US economy, and leveling of passenger demand are some of the reasons flight schedules have been limited. Long-term forecasts for aircraft sales to US airlines are for planned replacement of aging aircraft. With increasing fuel prices, 50-seat regional jets are proving uneconomical to operate. Industry experts expect those aircraft to be taken out of service as their equipment leases expire in the coming years. In some markets these aircraft will be replaced by larger regional jets. In other markets, changing airline business models may result in discontinuation of service. The Essential Air Service (EAS) program, which subsidizes air service to rural communities, has faced challenges in Congress. Many experts believe that the program will be changed significantly or eventually phased out in the continental US.

Recreational aviation has been in decline for the past decade. With the high costs associated with recreational flying expected to increase, this trend is expected to continue into the future.

Corporate aviation is by its nature cyclical and suffered during the recent economic downturn. While gradual recovery is expected, long-term growth in this area will be dependent on corporate profitability.

Aging airport facilities require costly rehabilitation or replacement. Safety and security inspections create requirements for changes in airport terminal buildings. Airports also face disruption in traditional funding sources for capital improvements. The FAA Airport Improvement Program (AIP) went through a four-year period of 23 continuing resolutions while Congress was unable to pass an FAA reauthorization bill. The lack of funding stability made it difficult for airports to predict when money might be available for planned projects.







Due to federal deficit issues and the growing number of airline fees that are not subject to federal ticket taxes, the total amount of AIP funds available to airports is expected to decline over the long-term. Passenger Facility Charges (PFCs), an important funding source for commercial service airports, have been capped at $4.50 per enplanement since 2004. Taking into account the escalation in construction costs since then, it leaves PFCs at an effective rate of $2.20.

Some state and local governments are also facing fiscal challenges and may not be able to continue to subsidize local airports. In fact some have attempted to "monetize" their assets by bidding the rights to operate the airport under very long-term leases in exchange for large upfront payments.

OPPORTUNITIES

Despite these significant ongoing challenges, the role of an airport as an economic catalyst for their community continues to be recognized. In Minnesota, economic development bonding funds may be available for certain airport projects. Private companies also see value in investing in certain airport facilities where they can earn a return on their investment. Airport owners are becoming more business savvy and seeking out opportunities for compatible commercial development on airport land which will not be needed for aeronautical purposes or at least not until long in the future. Airport operators are also exploring opportunities for renewable energy generation and other non-traditional revenue sources.



Plan Overview

This section provides a brief overview of key topics in subsequent chapters of the Minnesota State Aviation System Plan.

Chapter 2: Inventory describes the process by which data utilized in development of this Plan was collected. The data serves as the foundation for Plan activities such as the aviation forecast included in **Chapter 3: Forecast** and an assessment of Airline Service is reported in **Chapter 4: Airline Service**.

Chapter 5: Airport Facility Requirements presents an overview of the minimum system objectives for each class of airport (Key, Intermediate, or Landing Strip). This chapter answers the question "What should an airport look like in terms of runway length and width, lighting, navigation systems, weather reporting, fuel services, or other characteristics?" for each class.

Chapter 6: Performance Report presents quantitative measures of system performance, associated targets and past trends where historic data is available. MnDOT has limited or no ability to influence the outcome in some areas of performance analysis, however, expectations for transparency and information sharing still exist. These data sets are referred to as performance indicators, rather than measures, and are also presented in this chapter.

Also included are "density analyses" which illustrate where gaps in the system may exist across the state. For example, a lack of availability of crosswind runways in an area creates a potential safety issue for pilots attempting to land in less than ideal weather conditions.

Chapter 7: Investment Plan and System Recommendations presents the cost breakdown of the recommended development for the entire system and describes how the system is funded today, how projects are selected, and discusses methods for funding the system.

Finally, **Chapter 8: A Future Vision of Aviation** considers the future of aviation in terms of technological advances on the horizon as well as advancement of the FAA's NextGen program seeking to make air travel more convenient, dependable, and efficient. This chapter includes consideration of how Minnesota's aviation system fits into the state's multimodal transportation system.

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State Aviation System Plan

Chapter 2

INVENTORY

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INVENTORY

To properly plan for the future of an airport, or a system of airports, it is necessary to have a comprehensive understanding of the existing conditions. This inventory of Minnesota's aviation system achieves that goal and serves as the foundation for understanding and developing an analysis of the future needs of each airport. Completion of the inventory also assists this Plan in meeting certain FAA requirements.



Inventory data was collected via an on-line survey (made available in hard copy upon request) distributed to airport owners and/or managers at all 135 airports in the system. The survey included more than 400 questions ranging from based aircraft types to trends in airport activity. Certain data collected in the survey was reconciled and/or supplemented with MnDOT Aeronautics and FAA sources. This was necessary for quality control purposes, as survey recipients had varying degrees of familiarity with the requested data. These additional sources included FAA 5010 safety inspection airport data sheets, MnDOT Office of Aeronautics pavement condition index (PCI) and zoning databases, and the Research and Innovative Technology Administration's Federal Bureau of Transportation Statistics.

The survey was distributed in April of 2011 and collected data in the following 12 subject areas:

Table 2-1: Inventory Survey Subject Areas

General Information	Current Based Aircraft
Airport Characteristics	Current Operational Data
Current Airport Usage	Airport Trends
Services Provided at Airport	Airport Planning
Airside Facilities	Airport Adequacy
Landside Facilities	Additional Comments

The remainder of this chapter is organized by the 12 sections of the survey and highlights both the importance of the data collected and provides a high-level analysis of responses. A copy of the inventory survey is included as **Appendix B: Inventory Survey.** The bulk of the information collected is found primarily in **Appendix E: Airport Facility Needs Sheets and Report Cards**.



General Information

The key data collected in this section of the survey included airport manager contact information and total airport acreage. According to the data collected, the state's system is comprised of 135 airports that own nearly 64,000 acres of land. This is nearly equal to the total land area within the city limits of Minneapolis and St. Paul combined.

Airport Characteristics

The Airport Characteristics section collected information about weather reporting capabilities at system airports, the type of aircraft an airport is designed to accommodate, airport design categories, wind cones, beacons, and segmented circles. Ninety-six airports have on-site weather reporting capabilities which provide weather condition information to pilots. Automated Weather Observation Systems (AWOS) and Automated Surface Observation Systems (ASOS) report wind speed and direction, temperature, dew point, and cloud cover. Up-to-the-minute weather information is critical to pilots as they travel throughout the state. The importance of weather reporting, wind cones, segmented circles, and beacons are discussed further in **Chapter 6: Performance Report**. A summary of this section's survey results is included in **Table 2-2**.



Table 2-2: Airport Characteristics

AIRPORT CHARACTERISTIC	NUMBER OF AIRPORTS	PERCENT OF SYSTEM
Airports with Weather Reporting	96	71%
Airports with Wind Cones	135	100%
Airports with Segmented Circles	26	19%
Aiports with Rotating Beacons	120	89%



Current Airport Usage

The Current Airport Usage section of the survey gathered information concerning the businesses, industrial parks, recreational users, flight training, firefighting, and law enforcement operations which use the airport for air transportation needs. This section also requested data about the proximity of industrial parks to airports, specific business users, and off-airport aviation dependent businesses.

Information collected in this section provides a better understanding of the diverse users of the state's airports. Some airports primarily support local businesses (e.g. agricultural, manufacturing, technology) while others serve their community by hosting medical and emergency services.

As indicated in **Table 2-3** there are twenty-five categories of on-airport users. The survey also identified off-airport users including the number of industrial parks near a system airport. Survey results revealed that 27 industrial parks are within one mile of an airport and 114 are within five miles. Almost half of the industrial parks are near intermediate airports.

Table 2-3: Airport Use

AIRPORT USE	NUMBER OF AIRPORTS	PERCENT OF SYSTEM	AIRPORT USE (CONT.)	NUMBER OF AIRPORTS	PERCENT OF SYSTEM
Recreational Flying	122	90%	Environmental Patrol	27	20%
Flight Training	86	64%	Forest Fire Fighting	25	19%
Corporate Flights	84	62%	Community Facilities	23	17%
Emergency Medical	76	56%	Real Estate Tours	20	15%
Agricultural Spraying	72	53%	Traffic/News Reporting	16	12%
Aerial Photography	57	42%	Perishable Good Transport	15	11%
Aerial Inspections	47	35%	Scheduled Cargo Flights	14	10%
On-Demand Charter	44	33%	Airline Service	8	6%
VIP/High Profile	42	31%	Skydiving	8	6%
Civil Air Patrol	39	29%	Aerial Advertising	7	5%
Police Law Enforcement	37	27%	Prisoner Transport	7	5%
Search and Rescue	35	26%	Aviation Museum	4	3%
Community Staging	34	25%			



Services Provided at Airport

Data were collected to establish the services each airport provides to the flying and non-flying public. Twenty-three different services were collected in the survey, including fuel type provided, public restroom facilities, aircraft tie downs, automobile rental, aircraft maintenance facilities, and airport access by public transportation. A summary of these services are shown in **Table 2-4**.

Table 2-4: Services Provided

AIRPORT CHARACTERISTIC	NUMBER OF AIRPORTS	PERCENT OF SYSTEM
Major Aircraft Repair	52	39%
Minor Aircraft Repair	67	50%
Avionics Repair	18	13%
Jet A Fuel	62	46%
100LL Fuel	112	83%
Mogas Fuel	9	7%
Hangar Rental	89	66%
Tie Downs	120	89%
Aircraft Rental	36	27%
Aircraft Sales	28	21%
Air Taxi	15	11%
GA Facilities	77	57%
Pilot Lounge	105	78%
Restroom	119	88%
Public Telephone	103	76%
Customs	10	7%
Restaurant	8	6%
Vending Machines	61	45%
Courtesy Vehicle	62	46%
Car Rental	35	26%
Taxis	35	26%
Public Transportation	22	16%
Other Service	9	7%

Airside Facilities

This section collected data on each airport's airside facilities including runway designations, runway lengths and widths, parallel taxiway features, pavement condition index (PCI), lighting and navigation systems. An airport's airside is defined as the portion of the airport within the aircraft operations area (AOA). At larger airports, this is the area within the security fence. At smaller airports, the AOA is typically identified through the use of signs or pavement markings. Arrival/departure buildings, automobile parking, and entrance roads are considered landside facilities and are covered in the next section (Landside Facilities). Airside facilities data are presented individually for each airport on the Airport Data Sheets found in **Appendix E: Airport Facility Needs Sheets and Report Cards.**



Landside Facilities

An airport's landside facilities may include arrival/departure buildings for air carriers or general aviation, hangar or air cargo facilities, automobile parking spaces, perimeter fencing, and entrance roads. These features are located on airport property, but are intended to support use of the airport by the public. Data collected through the survey included, among others, the size of these types of facilities as well as their construction and/or reconstruction date.

Of the airports which provided data concerning their arrival/departure building, Fosston Municipal Airport was the first Minnesota airport to construct such a building for general aviation purposes in 1956. Interestingly, this was six years before the first Lindbergh Terminal at the Minneapolis-St. Paul International Airport opened.[1]



Today there are a total of 129 arrival/departure and administration buildings located at 75 of the airports in the state's system. Some airports can accommodate all their needs with just one building, while larger airports may require multiple buildings to serve the needs of their customers. Fifty-two new buildings were constructed in the state between 1956 and 1989. Since 1989, however, 77 new facilities have been constructed.

In 1990 the first major building renovation in the state was completed. Since 1990, 33 airport buildings throughout the state have been renovated.

[1] Minneapolis-St. Paul Airport History. http://www.mspairport.com/about-msp/history.aspx; Accessed 17-October, 2011

Current Based Aircraft

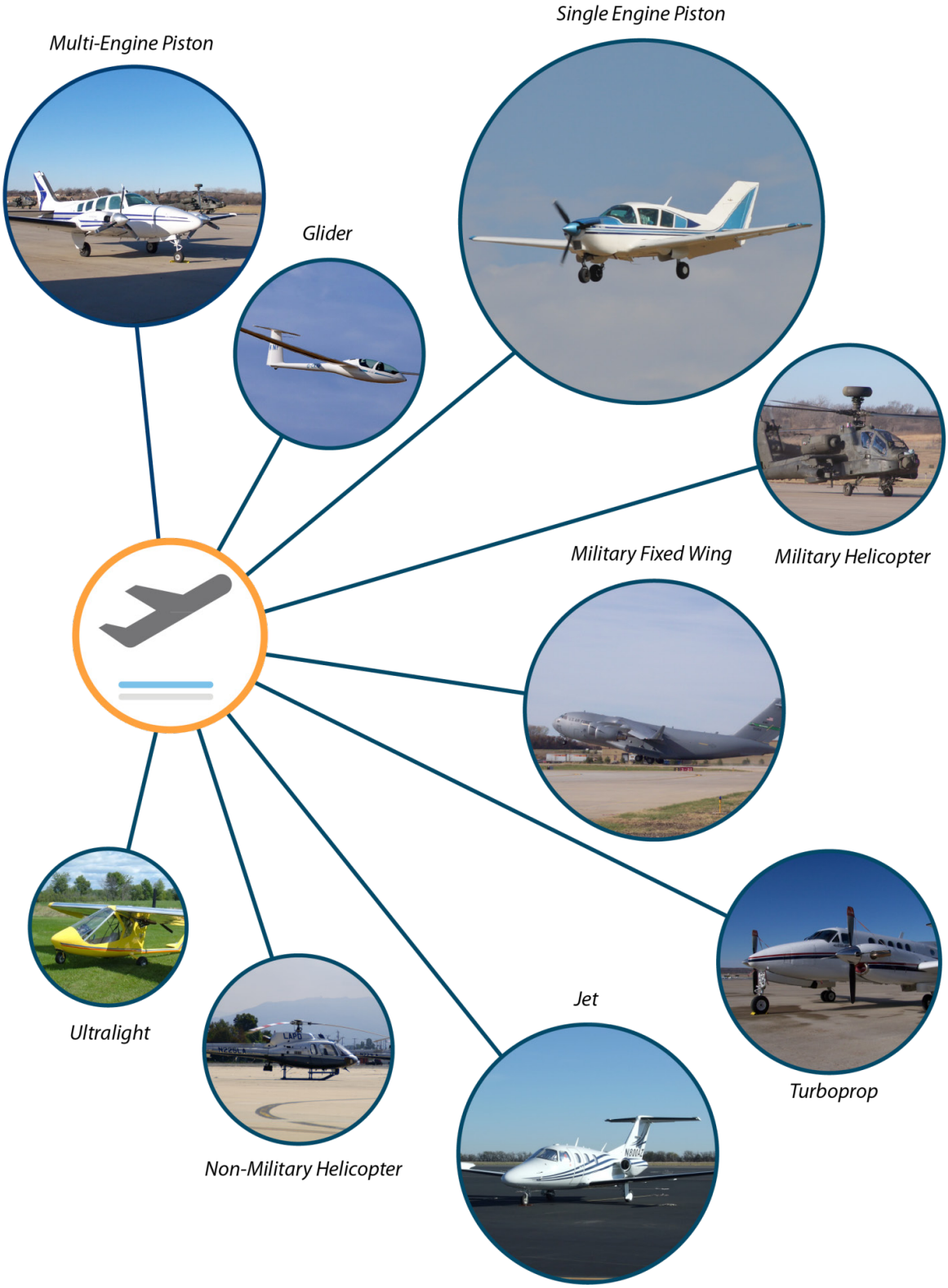
An aircraft that uses a particular airport as the primary location from which to begin or end a flight, or is stored at the airport on a permanent basis, is known as a "Based Aircraft" for that airport. The survey collected based aircraft data for each airport by asking respondents how many aircraft in the following categories were based at their airport:

Table 2-5: Aircraft Categories

Single Engine Piston	Multi-Engine Piston
Turboprop	Jet
Helicopter	Glider
Ultralight	Military Fixed Wing
Military Helicopter	Other

It is important to know what categories of airplanes are based at each airport because an airport's facility needs, like runway length or size of hangars, are directly related to the types of aircraft that utilize the airport (see **Chapter 5: Airport Facility Requirements**). The based aircraft data are also utilized in the Plan's forecasts (**Chapter 3: Forecast**). **Figure 2-1** illustrates a typical aircraft in each category. A list of the based aircraft by airport is found in **Appendix C: Forecast Technical Report**.

Figure 2-1: Aircraft Categories



Source: HNTB

Current Operational Data

The primary means of measuring aircraft activity at an airport is determining the number of aircraft operations that occur over a specified period of time. As such, operational data were collected for each airport. An aircraft operation is one of the distinct actions shown in **Table 2-6**.

Table 2-6: Aircraft Operations

AIRCRAFT ACTION	# OF OPERATIONS
Aircraft taking off from an airport	1 operation
Aircraft landing at an airport	1 operation
An aircraft touch-and-go	2 operations
An instrument departure	1 operation
A missed approach	1 operation

A touch-and-go occurs when an aircraft flies to and approaches the airport, briefly touches down on the runway, and then intentionally becomes airborne again with no intent to remain on the ground. A missed approach occurs when a pilot makes a decision not to land during an instrument approach to the runway. These unique operation types are often characteristic of pilot training exercises.

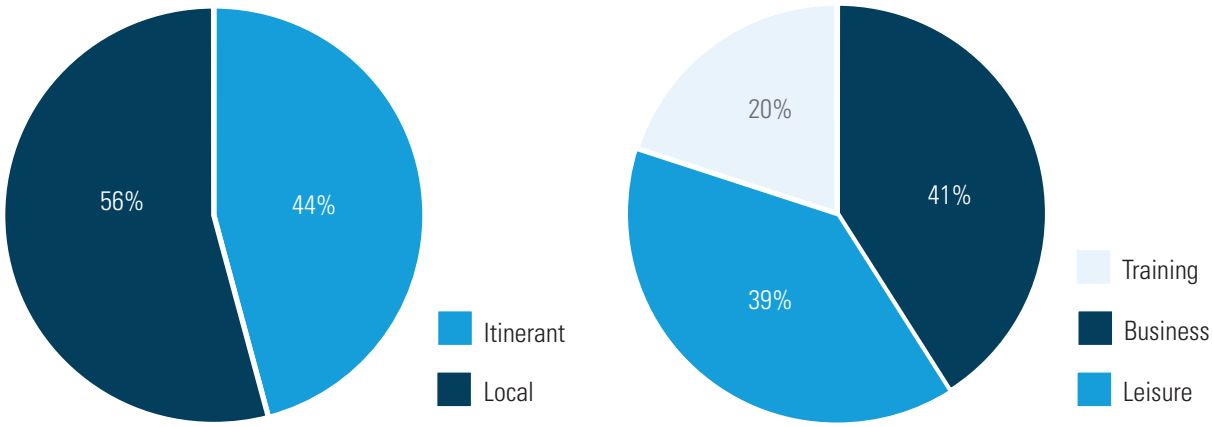
Operation types were collected, cross checked against the other data sources at MnDOT and FAA, and finally summarized by the airport classifications defined in **Chapter 1: Introduction and System Goals** (Key, Intermediate, Landing Strip). Similar to the based aircraft data, current operational data is utilized in the Plan's forecasts (**Chapter 3: Forecast**) and facility needs analysis (**Chapter 5: Airport Facility Requirements**). An airport by airport breakdown of the operations data is found in **Appendix C: Forecast Technical Report**.

Figure 2-2 presents the percent of operations in the state by certain use types according to the survey results. These possible types are shown in **Table 2-7**.

Table 2-7: Types of Aircraft Operations

Local	An operation in which the aircraft remains in or around the airport's general vicinity.
Itinerant	An operation in which the aircraft originated or is terminating at a different airport.
Business	An operation which is the sole result of a business need.
Leisure	An operation which is for the purpose of personal travel or casual flying.
Training	An operation utilized for teaching new pilots how to fly or to keep an existing pilot certified.

Figure 2-2: Percent of Aircraft Operations by Type



Airport Trends

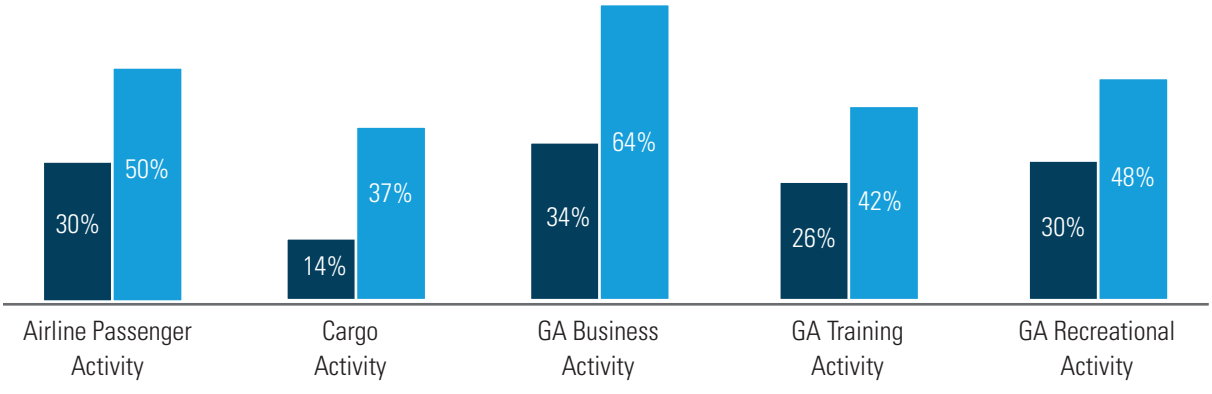
This section asked survey respondents to identify certain aviation activity trends over the previous five years and how they anticipate the same activity levels to look over the next five years. This information was sought for the five major airport uses shown in **Table 2-8**.

Table 2-8: Major Airport Uses

Airline Passenger Activity	Cargo Activity
General Aviation Business Activity	General Aviation Training Activity
General Aviation Recreational Activity	

Survey respondents were generally more optimistic about anticipated industry trends over the coming five years then they were concerning the trends over the previous five years. **Figure 2-3** shows a breakdown of these trends.

Figure 2-3: Airport Trends for Major Acitivities



Airport Planning

MnDOT Aeronautics gathered data concerning the approval status of Airport Master Plans, Airport Layout Plans (ALPs), Long Term Comprehensive Plans (LTCPs) and the adequacy of an airport's zoning ordinance. For a majority of the airports in the state's system the FAA and MnDOT share the responsibility for approving Master Plans and ALPs, while it is solely the responsibility of the MnDOT Commissioner to ensure that zoning ordinances meet state required standards. Collectively, these planning documents help both the communities that support airports and MnDOT to protect the airport from incompatible land use decisions and to determine a need for future airport growth or development (e.g., a longer runway capable of handling more and larger airplanes). **Table 2-9** identifies how many of the system airports have approved and/or adequate planning documents.

Table 2-9: Airport Planning

PLANNING DOCUMENT	NUMBER OF AIRPORTS	PERCENT OF SYSTEM
Airports with Airport Layout Plans	111	82%
Airports with Master Plans/LTCPs	61	45%
Aiports with Adequate Zoning	109	81%

Airport Adequacy

This section allowed respondents the opportunity to share perceptions of the adequacy of their airport in a variety of different areas. Some of the areas included were aircraft parking and storage capacity, airfield capacity, auto parking, taxiway conditions and configurations, and airfield signage and lighting. The results of this section provide additional insight as funding and/or future development decisions are made.

Additional Comments

In the survey's final section respondents were encouraged to provide qualitative comments on topics for which there may not have been an appropriate place in the preceding eleven sections. This data was taken into consideration as the Plan was developed.

Interactive Website

As noted at the beginning of the chapter, much of the data collected through the inventory survey is found in **Appendix E: Airport Facility Needs Sheets and Report Cards**. Additionally, the information is available electronically at the following interactive website: http://www.dot.state.mn.us/aero/planning/sasp.html.

Readers and users of this Plan are encouraged to review the information provided for the airports in which they have an interest.







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Minnesota GO
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Chapter 3

FORECAST

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FORECAST

This chapter summarizes the aviation forecast prepared for the Minnesota SASP and presents the primary factors that affect aviation activity and based aircraft numbers at system airports. This forecast is used throughout the Plan to identify where aviation activity is occurring today and where activity is expected to occur over the next twenty years. These forecast activity levels are also used to identify needs at individual airports as well as understand trends in the airline, business, cargo, and military sectors.



This forecast is demand driven and was developed using a Federal Aviation Administration approved system planning methodology. It considers the aviation system on a broad, statewide level and uses forecasted socio-economic factors, outlined in subsequent sections of this chapter, to determine demand at individual airports. This methodology is ideal for system planning because it is applied to all airports uniformly regardless of site constraints. It is acknowledged that certain difficult to predict events may take place (e.g. results of elections, changes to environmental regulations) that may alter aviation demand at one or many airports. However, in general while demand may increase or decrease at an individual airport, total demand across the system remains fairly constant.

Forecasts of the four largest categories of aircraft activity were prepared. They are: general aviation (GA), airline service, cargo service, and military operations (see **Table 3-1**). The remainder of this chapter presents a summary of the comprehensive forecast developed for the Plan. The complete forecast technical report is found in **Appendix C: Forecast Technical Report**, including individual airport forecasts.

Table 3-1: Major Aircraft Activities

GENERAL AVIATION	AIRLINE SERVICE	CARGO SERVICE	MILITARY OPERATIONS
Aircraft Operations	Aircraft Operations	Aircraft Operations	Aircraft Operations
Operations Type	Passenger Enplanements	Cargo Volume	
Based Aircraft			
Peak Hour Demand			

Forecast Planning Periods

This Plan's forecast is based on a twenty-year planning horizon which is subdivided into three periods for analysis purposes (see **Figure 3-1**) - short-term (2011 to 2015), mid-term (2016 to 2020), and long-term (2021 to 2030).

Presenting forecast information in three time periods should help develop an understanding of the needs of the system on a macro level. Five year increments for the short-term and mid-term periods provide a level of detail sufficient to identify where changes can be expected in coming years; the subsequent ten year period provides a less precise view of where the system could be headed beyond the immediate future. In subsequent sections of this Plan, information is presented within these timeframes.

Figure 3-1: Forecast Timeframes



Aviation activity is expected to grow in Minnesota over the next twenty years, but not as rapidly as forecast in previous plans due to recent considerable changes in the aviation industry and national economy. The airline service and cargo service industries are currently experiencing business focused changes, resulting in companies doing more with less. Airlines are using larger aircraft and putting more passengers on each departing flight, while cargo companies are consolidating networks to accommodate more tonnage with fewer flights.

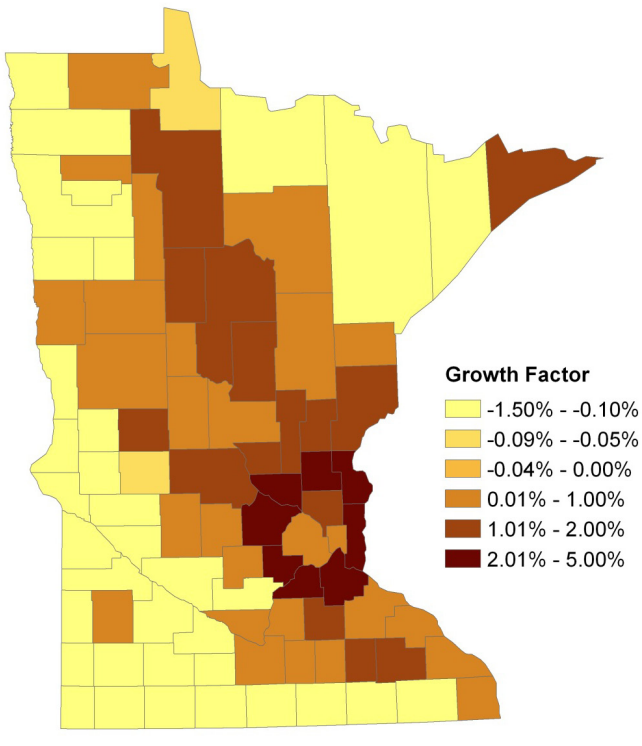
The data summarized in this chapter and in **Appendix C: Forecast Technical Report** are clear indicators that the aviation industry is still growing. The data are used in the following chapters to determine the infrastructure that will be necessary to maintain the state's aviation system while meeting the future demands of the aviation industry and the people of the Minnesota.

General Population Trends

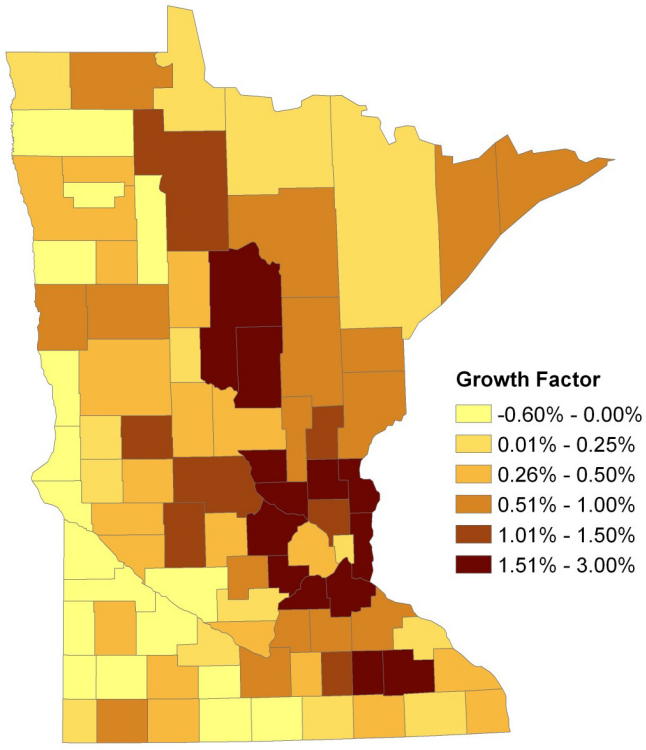
The Minnesota State Demographer's Office predicts an average annual population growth rate from 2011 to 2030 of approximately 0.96 percent. Since the Demographer's Office only produces forecasts on population and labor force, other key socio-economic parameters such as total income, per capita income and employment were obtained from the Woods & Poole's Complete Economic and Demographic Data Source (CEDDS) database,[2] the Bureau of Economic Analysis (BEA),[3] and the Bureau of Transportation Statistics (BTS). Minnesota's population growth has trailed the U.S. overall pace from 1970 to 2010; U.S. population grew 1.05 percent annually whereas the state grew 0.83 percent each year. Based on the Woods & Poole CEDDS, the U.S. population increase will slow to an annual rate of 0.94 percent while the state will accelerate to 0.96 percent. **Figure 3-2** shows both historical and forecasted population growth.



Figure 3-2: Population Growth



Historical (1970-2010)



Forecast (2011-2030)

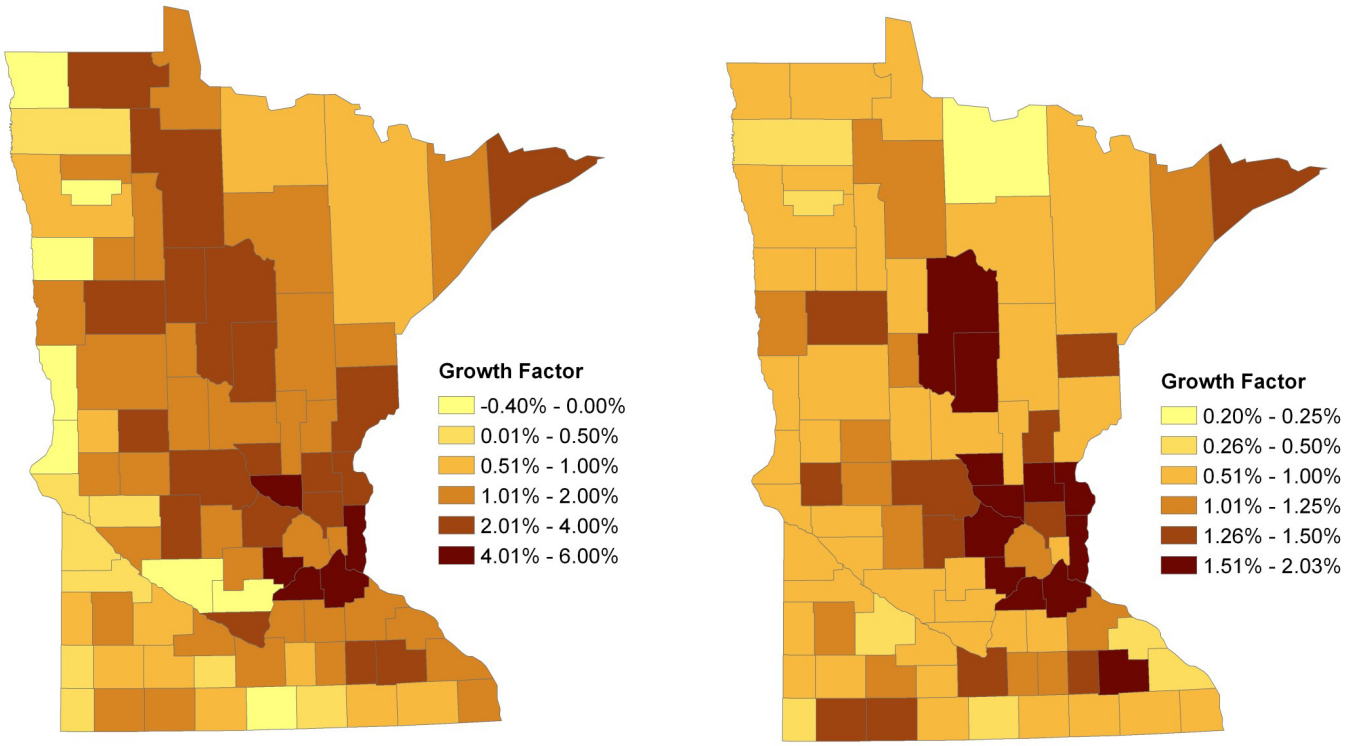
Note: Forecasted numbers rounded
Source: BTS T100 Data & HNTB Analysis

2 The Complete Economic and Demographic Data Source (CEDDS). http://www.woodsandpoole.com/, Woods & Poole. 2011.

3 GDP and Personal Income, Regional Data. http://www.bea.gov/iTable/iTable.cfm?reqid=70&step=1&isuri=1&acrdn=2. U.S. Department of Commerce, Bureau of Economic Analysis. Accessed July 2011.

Historically, Minnesota has enjoyed a higher employment growth rate than the U.S. average (1.84 percent annually compared with U.S. average of 1.63 percent from 1970 to 2010). This trend is expected to continue according to Woods & Poole, whose forecasts estimate the state employment growth rate to be slightly higher than average. **Figure 3-3** shows both historical and forecasted employment growth.

Figure 3-3: Employment Growth



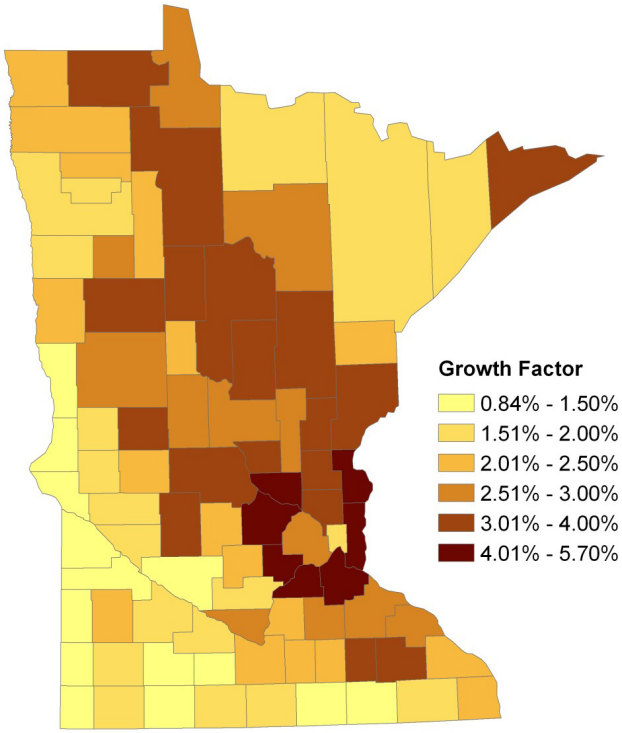
Historical (1970-2010)

Forecast (2011-2030)

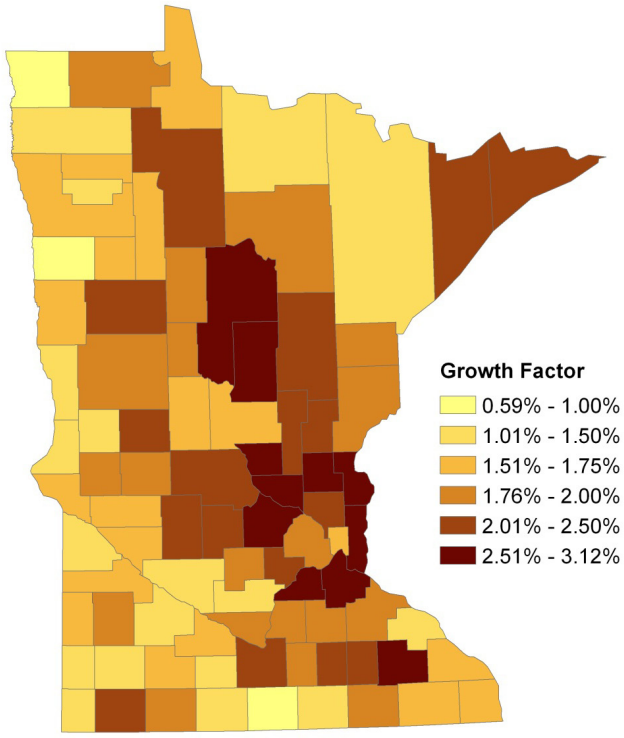
Note: Forecasted numbers rounded
Source: BTS T100 Data & HNTB Analysis

Meanwhile, the state total income growth rate is projected to be slightly lower than the overall U.S. average, consistent with historical trends. From 2011 to 2030, state personal income is expected to grow at an average of 2.18 percent each year according to the Woods & Poole forecasts. For the same period, the state employment figure is projected to increase by an average rate of 1.17 percent annually. **Figure 3-4** shows both historical and forecasted income growth.

Figure 3-4: Income Growth



Historical (1970-2010)



Forecast (2011-2030)

Note: Forecasted numbers rounded
Source: BTS T100 Data & HNTB Analysis

Two areas of Minnesota are projected to experience the fastest development in the state. The first area encompasses suburban counties surrounding the Twin Cities area including Carver, Scott, Dakota, Washington, Chisago, Isanti, Sherburne, and Wright counties. These counties also comprise part of the Minneapolis – St. Paul – Bloomington Metropolitan Statistical Area (MSA). The more urban counties including Hennepin, Anoka and Ramsey are expected to experience more moderate growth. The second growth area consists of the Brainerd Micropolitan Statistical Area including Cass and Crow Wing counties. Thanks to rich natural resources, tourism and low county taxes,[4] these two counties are projected to witness the fastest growth in the outstate area.

Finally, it is also important to note that the Minnesota State Council on Disabilities reports that disabled citizens now comprise 20 percent of the population and demographic trends indicate that this number will continue to increase. As both statewide air travel and disability numbers rise, airports will face growing demand for accessibility for all passengers and employees.

[4] Cass County Economic Development Corporation. http://www.casscountyedc.com/. Accessed September 2011.





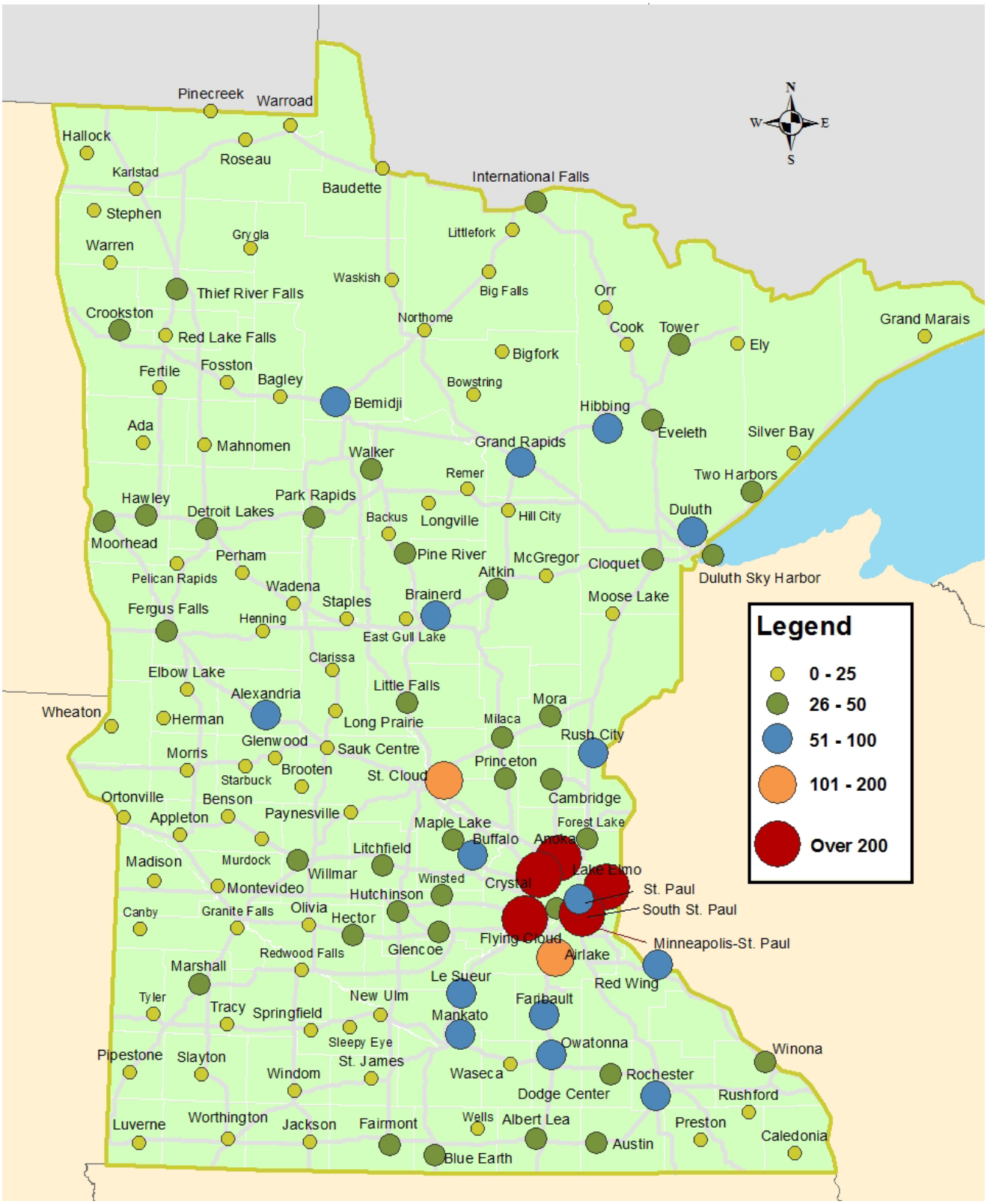


Base Year Aviation Activity Levels

The aviation industry has undergone significant changes over the past few years. Between December of 2007 and June of 2009, the United States experienced one of the most severe recessions in recent history resulting in substantially reduced levels of aviation activity. Furthermore, a spike in oil prices in the summer of 2008 applied pressure on airline operating costs which among other outcomes, resulted in major airline mergers. In addition to these industry wide changes, the general economic indicators used by the FAA to forecast aviation activity are at markedly different levels than in previous forecasts.

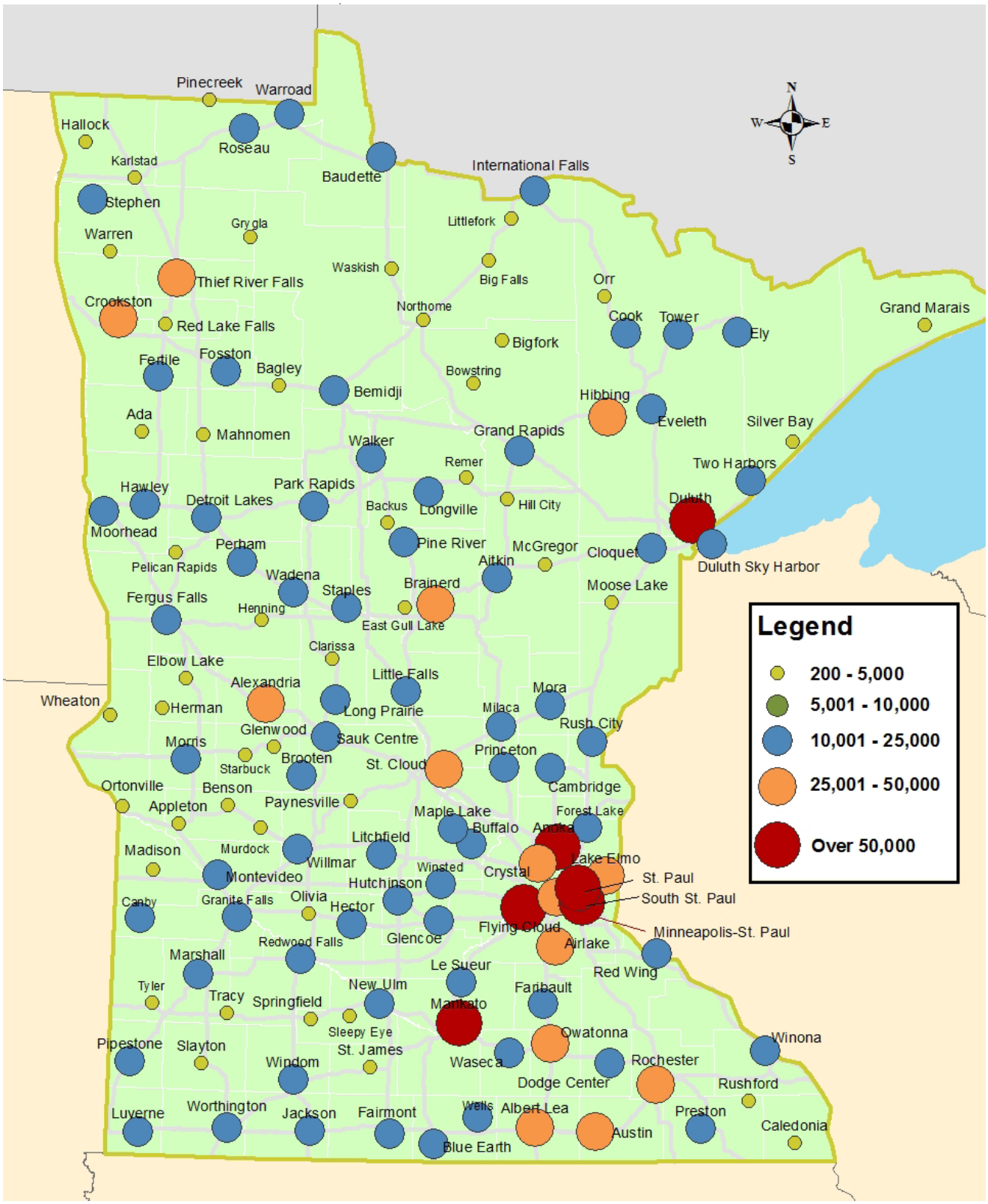
The base year for this forecast is 2010 and the data collected for that year is considered as a baseline. The most important baseline data sets used to develop this forecast are the number of based aircraft at each airport, and the number of annual aircraft operations at the airport. These are depicted for each airport in **Figure 3-5** and **Figure 3-6**. Data was gathered through both the inventory process described in **Chapter 2: Inventory** as well as electronic sources that gather and maintain industry statistics. The various data sources were resolved against each other to establish the baseline aviation activity data that serves as a major foundation of this Plan. Other important baseline data, discussed later in this chapter, are the amount of airline and cargo activity at individual airports.

Figure 3-5: System Airports by the Number of Based Aircraft - Base Year (2010)



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Figure 3-6: System Airports by the Number of GA Operations- Base Year (2010)



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

General Aviation Relevant Factors

Key factors affecting the state's aviation activity are the economy and the cost of services. The economy determines the size of a potential market and the cost of services determines how much of the potential demand is actually realized. Another important factor affecting aviation activity is competition; which may be from other airports, other transportation modes, or may even be competition from products on which consumers choose to spend their discretionary dollars. Finally, infrastructure providing access both at and around the airport is a factor affecting how an airport is utilized. Two main factors influencing aviation activity in Minnesota that were considered in developing this forecast are state demographic and socioeconomic factors, and fuel prices.

SOCIOECONOMIC CHARACTERISTICS

The socioeconomic characteristics of an airport's service area are usually the most influential factor driving demand. Socioeconomic characteristics used in this forecast include population, employment rate, per capita income, and total income. In general, as these socioeconomic factors deteriorate in an area, demand for aviation activity also deteriorates. The opposite is also true; as these factors increase so does aviation activity.

JET FUEL PRICES

Jet fuel is a significant cost for both General Aviation (GA) and the airline industry. Given the fuel price increases noted earlier in this chapter, jet fuel costs have overtaken personnel expenses as the top cost category for airlines. Jet fuel costs jumped 36.1 percent in 2011 compared with 2010, and have remained the industry's largest expense category at about 35 percent of total operating costs.[5] Twenty-five airlines went bankrupt or ceased operations in the first half of 2008, largely due to fuel costs.[6]



The impact of high fuel prices is more direct for GA users. The GA community paid nearly twice the price per gallon of fuel than the airline industry[7] resulting in significant changes in user behavior to minimize fuel consumption.[8] In April 2012 , jet fuel prices remained above $3.00 per gallon.[9] In general, as fuel prices increase, costs to aviation users increase and aviation activity decreases.

5 U.S. Airlines Post Lower Earnings in 2011 Due to Rising Costs, Airlines for America, http://www.airlines.org/Pages/news_2-28-2012.aspx, accessed Apr 2012

6 More airlines fold as fuel prices soar: International Air Transport Association, http://news.asiaone.com/News/Latest+News/Business/Story/A1Story20080708-75407.html, accessed Apr 2012

7 When Fuel Costs Spike, Everyone in General Aviation Is Impacted, National Business Aviation Association (NBAA), accessed Apr 2012

8 General Aviation Activity Declines, Behaviors Change, National Business Aviation Association (NBAA), http://www.nbaa.org/advocacy/issues/economic-downturn/highfuel-prices.php, accessed Apr 2012.

9 Jet Fuel Price Monitor. http://www.iata.org/whatwedo/economics/fuel_monitor/Pages/index.aspx, IATA Economics, accessed Apr 2012.

General Aviation



General Aviation (GA) refers to all flights that are not scheduled airline service, non-scheduled charter service, cargo service or military activities. GA makes up the largest part of aviation activity not only in Minnesota, but in every state. Accordingly, it has a significant presence at every system airport, with the majority of the system airports having only GA activity. Some of the more easily recognizable GA activities around the state include agricultural spraying and seeding, business related transportation, law enforcement, firefighting, aerial surveying and search and rescue. The GA activity forecast includes based aircraft, fleet composition, and operations.



The number of based aircraft was projected using three methodologies: market share analysis, trend line analysis, and application of FAA growth factors. The market share analysis compared the historic number of GA aircraft based at system airports to the total historic number of GA aircraft in the US.

Trend lines developed to forecast future market share were first applied to the FAA's future national GA fleet forecast and then utilized to generate Minnesota's GA based aircraft forecast. The trend line analysis projected the future fleet based directly on the historical trend, without adjustment for market share.

The FAA's Terminal Area Forecasts (TAF) for GA aircraft in the state were used to calculate average annual growth factors. These growth factors were used as the third forecast alternative.

The average of all three forecast methods was selected as the preferred forecast and is utilized in the Plan. The based aircraft forecasts were then allocated to each airport based on its current fleet composition and forecasted total income growth within each airport's catchment area (area used for this analysis from which it was assumed an airport would draw its customers). The number of operations per aircraft type was derived from the FAA General Aviation and Air Taxi Activity (GAATA) surveys. This rate was applied to the based aircraft to estimate operations by each category. **Table 3-2** summarizes the based aircraft and operations forecasts and growth rates established for the GA activity. Additional information and historic data is included in **Appendix C: Forecast Technical Report**.



Table 3-2: GA Based Aircraft and Operations Summary

GA BASED AIRCRAFT AND OPERATIONS		
YEAR	BASED AIRCRAFT	OPERATIONS
2010	5,100	1,743,000
2015	5,500	1,870,000
2020	5,700	1,978,000
2030	6,100	2,388,000
AVERAGE ANNUAL GROWTH RATE		
2010-2015	1.4%	1.4%
2010-2020	1.1%	1.3%
2010-2030	1.0%	1.6%

Note: Forecast numbers rounded
Source: FAA TAF, BTS T100, Woods & Poole, and HNTB Analysis

Based aircraft are forecast in the short-term to grow more quickly, 1.42 percent annually, than in the long–term, 0.94 percent annually. It is also expected that the growth in total GA operations will fluctuate: increasing at 1.42 percent annually in the short-term, slowing down to 1.28 percent annually from 2010 to 2020, and returning to 1.59 percent from 2010 to 2030. As a comparison, the FAA aerospace forecast projects the GA fleet to increase nationally 0.6 percent annually in the mid-term (1.15 percent in Minnesota) and 0.91 percent in the long-term (0.96 percent in Minnesota).

Table 3-3 details the based aircraft forecast by aircraft type. Less advanced aircraft types, including piston and turboprops, are expected to grow at relatively lower rates than more sophisticated jets. Light-sport aircraft represent the fastest growing category, consistent with the FAA's forecast.

Table 3-3: GA Based Aircraft Forecast by Aircraft Type Summary

GA BASED AIRCRAFT AND OPERATIONS							
YEAR	SINGLE-ENGINE PISTON	MULTI-ENGINE PISTON	TURBOPROP	JET	LIGHT-SPORT AIRCRAFT	MILITARY	OTHER
2010	4,100	310	110	170	90	30	230
2015	4,400	320	120	210	120	40	240
2020	4,600	320	120	240	150	40	260
2030	4,900	340	140	290	190	40	270
AVERAGE ANNUAL GROWTH RATE							
2010-2015	1.3%	0.3%	0.4%	4.3%	5.8%	1.7%	1.0%
2010-2020	1.0%	0.4%	0.8%	3.5%	5.3%	1.4%	1.0%
2010-2030	0.8%	0.4%	0.9%	2.6%	3.8%	1.1%	0.8%

Note: Forecast numbers rounded
Source: FAA TAF, Airport Inventory Survey, and HNTB Analysis

Base Year Airline and Cargo Activity Levels

Additional baseline data was collected on the amount of airline and cargo activity at individual airports. Airports that have regularly scheduled airline or cargo service and their associated baseline data are listed in **Table 3-4**. For airline service, baseline data consists of annual enplanements (the number of people who boarded an airplane) and annual aircraft departures (the number of aircraft with passengers that left the airport). For cargo service, baseline data consists of annual tonnage (tons of cargo shipped) and annual cargo operations (the number of cargo specific aircraft leaving the airport).

Table 3-4: Base Year (2010) Passenger and Cargo Activity Level

		PASSENGER[A]		CARGO[B]	
AIRPORT	IDENTIFIER	ENPLANEMENTS	AIRCRAFT DEPARTURES	TONNAGE	ALL-CARGO OPERATIONS
Alexandria	AXN	-	-	32	48
Bemidji	BJI	21,563	1,294	628	743
Brainerd Lakes	BRD	15,583	880	1	4
Duluth[c]	DLH	155,955	4,434	1,626	693
Hibbing	HIB	10,150	1,619	2	-
International Falls	INL	13,924	820	1	-
Minneapolis-St. Paul	MSP	16,267,639	197,255	246,903	13,642
Rochester	RST	124,601	4,315	8,144	547
Thief River Falls	TVF	2,620	626	86	244

Source: (a) FAA TAF, (b) BTS T100, (c) Duluth Airport airline statistics provided by the Duluth Airport Authority

Airline Relevant Factors

In addition to the socioeconomic characteristics and jet fuel prices discussed earlier, factors that influence airline and cargo activity were considered in developing this forecast and include: air fare, ancillary fees, high speed rail, airline consolidations, and out-of-state airports.

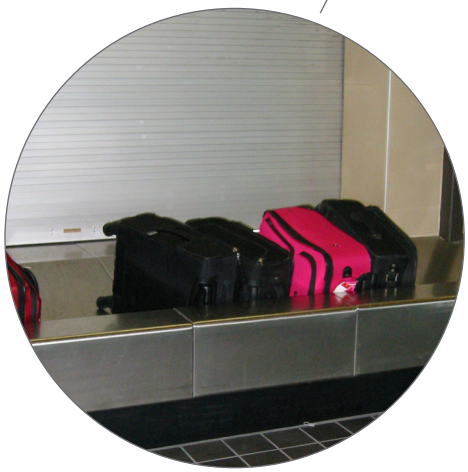
AIR FARES

Over the past twenty years, average one-way domestic fares declined by nearly 100% from 1990 to 2010 , largely as a result of reduced labor costs, increased airline efficiencies, and higher load factors resulting from more people on each plane.[10] Recently, average one-way domestic fares have begun to rebound due to airline consolidation and reduced frequency and routes. Decreases in air fare typically increase the likelihood of people using airlines for transportation. An increase in the cost of air fare may result in passengers looking to other transportation modes (bus, car, and rail) for travel needs, thus decreasing aviation demand.

ANCILLARY FEES

To increase profit, many airlines have added revenue streams such as baggage fees, reservation change fees, seat assignment fees and on-board sale of food and drink. These new ancillary fees substantially benefit the airline's bottom line but also increase out-of-pocket costs for passengers. In the past, ancillary fees were not typically considered by the flying public as part of the cost to travel by air when making the decision to fly, drive, or consider another mode of transportation. Passengers today are increasingly aware of these additional costs and as fees increase, passengers are more likely to consider alternate modes for their travel.





[10] Origin and Destination Survey (OD1A). http://www.transtats.bts.gov/Tables.asp?DB_ID=125. Research and Innovative Technology Administration, Bureau of Transportation Statistics. Accessed May 2011.

OUT-OF-STATE AIRPORTS

There are several out-of-state airports whose service areas include part of Minnesota. As a result, passengers considering travel options may consider these airports in addition to, or in lieu of, a Minnesota airport with airline service. Passengers may choose to fly from a particular airport based on its Level of Service (LOS) or ability to provide customers an easy trip. Some factors affecting LOS include airline fares, frequency of flights, number of non-stop or one stop destinations, reliability, drive time, and parking costs. **Table 3-5** shows the airports which share service areas with Minnesota airports.

Table 3-5: Out-of-State Airports

Iowa	Mason City Municipal
North Dakota	Grand Forks International
	Fargo Hector International
South Dakota	Sioux Falls Regional
	Watertown Regional
Wisconsin	Chippewa Valley Regional (Eau Claire)
	La Crosse Municipal



Based on a service-area analysis conducted for this Plan, it was assumed that only Grand Forks International Airport would divert significant passenger flow from airline service airports in Minnesota. It is assumed that any other significant passenger diversion to a non-Minnesota airport would only occur if there is a significant change in a Minnesota airport's LOS.

AIRLINE CONSOLIDATION

Several major airline consolidations were completed in the last few years. Northwest Airlines merged with Delta Air Lines in 2008 to form the world's largest carrier at the time.[11] In 2010, Continental Airlines merged with United Airlines and are the largest airline in the world today. Two low cost carriers, Southwest Airlines and AirTran Airways, merged in 2010. The system-wide capacity reduction resulting from these mergers coupled with the national economic downturn has resulted in fewer enplanements and operations than previously forecasted at most airline service airports in the state.

[11] Delta Air Lines, Northwest Airlines Combining to Create America's Premier Global Airline, http://news.delta.com/index.php?s=43&item=135. Delta Air Lines News Release., accessed November 2011.

Minnesota is particularly influenced by the Northwest Airlines and Delta Air Lines merger. Northwest Airlines was headquartered in Minnesota and operated an important hub at MSP, one with an extensive in-state, out-of-state and international network. Delta Air Lines continues to be one of the largest private employers in the state of Minnesota and MSP remains a key hub in Delta's network. Delta provides strong domestic and international service from MSP recognizing the region's robust local traffic demand and unique connection opportunities due to its geographical location. Further consolidation within the airline industry is likely and has the potential to change air service patterns and fares.

Airline Passenger Forecast

Future passenger enplanements were forecast using a regression methodology recommended by the FAA.[12] The regression analysis calculates the relationship between passenger enplanements and relevant factors including; population, economic activity, air fares, and jet fuel prices, among other factors. **Table 3-6** presents the passenger enplanement and airline flight departures forecast for the system. Additional information and historic data is included in Appendix C: Forecast Technical Report.

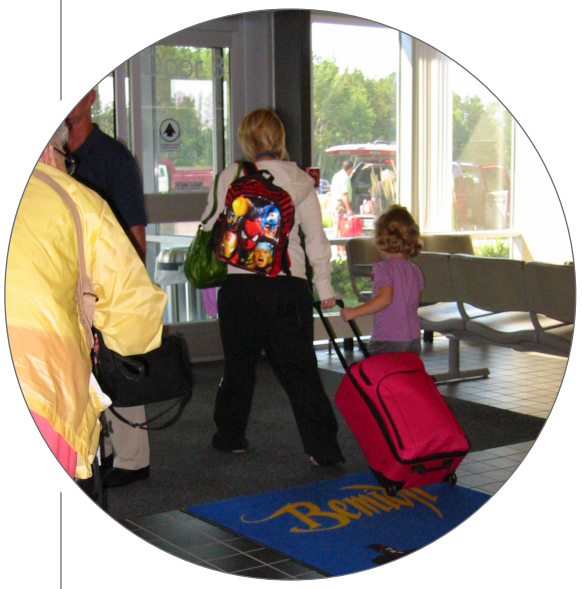


Table 3-6: Passenger Enplanements and Flight Departures Summary

PASSENGER ENPLANEMENTS AND DEPARTURES		
YEAR	PASSENGER ENPLANEMENTS	AIRCRAFT DEPARTURES
2010	16,612,000	210,200
2015	18,498,000	212,500
2020	21,181,000	234,300
2030	27,787,000	276,800
AVERAGE ANNUAL GROWTH RATE		
2010-2015	2.2%	0.1%
2010-2020	2.5%	1.0%
2010-2030	2.6%	1.4%

Note: Forecast numbers rounded
Source: FAA TAF, BTS T100, Woods & Poole, and HNTB Analysis

[12] Forecasting Aviation Activity by Airport, http://www.faa.gov/data_research/aviation_data_statistics/forecasting/media/AF1.doc, FAA, accessed July 2011.

Passenger enplanements are expected to grow at an average annual rate of 2.2 percent in the short term, increase to 2.5 percent in the mid-term, and accelerate to 2.6 percent in the long term. The number of passenger flight departures also increases but at a much slower rate. This is a result of airlines using aircraft more efficiently by reducing the number of empty seats on each flight, as well as increasing aircraft size, making a similar number of seats available with less overall operations. As a comparison, the annual passenger enplanements growth rates forecasted by the latest FAA TAF[13] for these airports are 2.26 percent in the short term, 2.34 percent in the mid-term, and 2.31 percent in the long term.



Cargo Forecast

Air cargo is transported by either all-cargo freighters (aircraft that transport only cargo) or in the belly of passenger aircraft. FedEx and UPS dominate the scheduled all-cargo service market in Minnesota. Air cargo feeders and charter service providers such as Bemidji Aviation, Air Transport International, and Evergreen International, provide cargo service, but operate non-scheduled flights.

Three methodologies were applied to forecast air cargo tonnage. First, the air cargo tonnage handled in the State was modeled as a percent of the national total tonnage. Second, trends in historic cargo volume and future cargo tonnage were forecast, assuming historic trends will continue. Third, the national air cargo growth factors provided in the 2010 FAA Aerospace Forecast[14] were applied to the state system. The total tonnage (determined in the three methodologies) was averaged; the results were used as the preferred cargo forecast. The resulting total air cargo tonnage was allocated to individual airports based on each airport's current market share and projected economic growth.

The number of all-cargo operations was estimated after projecting future all-cargo freight fleet mix (aircraft used) and load factors (amount of cargo per aircraft). Fleet replacement plans and aircraft currently on order were considered for each carrier and each airport. **Table 3-7** summarizes the all-cargo tonnage and operations forecasts.

[13] FAA Terminal Area Forecast (TAF) 2011, http://aspm.faa.gov/main/taf.asp, Federal Aviation Administration, accessed Oct 2011.

[14] FAA Aerospace Forecast Fiscal Year 2010-2030, http://www.faa.gov/about/office_org/headquarters_offices/apl/aviation_forecasts/aerospace_forecasts/2010-2030/, accessed Jun 2011.

Table 3-7: Total Cargo Tonnage and All-Cargo Operations Summary

ALL-CARGO ANNUAL TONNAGE AND OPERATIONS		
YEAR	TONNAGE	OPERATIONS
2010	236,700	14,800
2015	259,400	14,600
2020	257,300	14,400
2030	253,700	14,300
AVERAGE ANNUAL GROWTH RATE		
2010-2015	1.9%	-0.3%
2010-2020	0.8%	-0.2%
2010-2030	0.4%	-0.2%

Note: Forecast numbers rounded
Source: FAA TAF, BTS T100, Woods & Poole, and HNTB Analysis

Cargo tonnage and operations are forecast to increase at MSP while declining at outstate airports. In the short term, cargo tonnage is projected to grow at an annual rate of 1.9 percent. In the mid and long term, annual cargo tonnage growth is expected to be lower, at 0.8 percent and 0.4 percent respectively. All-cargo aircraft operation numbers are expected to decrease slightly as cargo airlines upgrade to larger freighters.



Military Operations

Military operations in Minnesota declined from approximately 30,000 operations in 1991 to 19,000 in 2010. The FAA TAF forecasts near constant military operations from 2010 to 2030. An alternative forecast developed for this plan assumes the decreasing trend continues into the future. The average of the two forecasts was chosen as the preferred forecast for future military operations and resulted in an estimated decline of one percent annually. **Table 3-8** summarizes the military forecasts.

Table 3-8: Military Operations Summary

MILITARY OPERATIONS	
YEAR	OPERATIONS
2010	19,200
2015	18,300
2020	17,400
2030	15,800
AVERAGE ANNUAL GROWTH RATE	
2010-2015	-0.9%
2010-2020	-1.0%
2010-2030	-1.0%

Note: Forecast numbers rounded
Source: FAA TAF, BTS T100, Woods & Poole, and HNTB Analysis

Peak Hour Operations

For towered airports, peak hour estimates were derived from hourly operations distributions provided by the FAA Distributed OPSNET database.[15] At non-towered airports, a relationship between peak hour and annual operations was used to estimate peak hour operations. A detailed discussion of the methodology is included in **Appendix C: Forecast Technical Report**.







[15] The Operations Network, https://aspm.faa.gov/opsnet/sys/Default.asp, Federal Aviation Administration, accessed Jun 2011

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MinnesotaGO
A Collaborative Vision for Transportation

State Aviation System Plan

Chapter 4

AIRLINE SERVICE

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AIRLINE SERVICE

Minnesota's aviation system allows residents and businesses to utilize a safe, fast, and efficient mode of transportation which enriches quality of life and furthers economic growth in all regions of the state. Our largest airports host scheduled airline flights with destinations ranging from small remote communities to the world's largest cities. Smaller airports in the state provide a lifeline connecting the communities and their businesses to the Twin Cities, the U.S. and the world.



Airlines are in business to make a profit. Each airline makes service decisions based on its own business model and profit margin. As a whole, the airline industry is a major economic force, both in terms of its own operations and its impacts on related industries such as aircraft parts and materials manufacturing and tourism. The U.S. airline industry has approximately 100 certificated airlines operating over 11 million flight departures per year and carrying over one-third of the world's total air traffic. The economic impacts of the airline industry include direct effects on airline employment, the aircraft manufacturing industry, airports, and support functions such as: maintenance, catering, fixed-based operator (FBO) service, fuel, and tourism. It also impacts every other industry relying on airline air transportation on a daily basis. Airlines contribute approximately eight percent of the U.S. Gross Domestic Product.

Two other studies of airline service in Minnesota were conducted during the preparation of this Plan. One study evaluated airport services from an airline perspective. The other developed individual community profiles for five of Minnesota's airline served airport cities and recommended strategies for retaining airline service at those locations. This chapter considers airline service for the system as a whole and describes scheduled airline passenger service in Minnesota. It includes; a description of current airline service in the state, an overview of current airline trends and risk factors associated with ever-changing airline business and operating models, a discussion of the potential for future elimination of the Essential Air Service (EAS) program, and a high level airport profile[16] for the airports with airline service. The primary focus of this chapter is to identify any major changes likely to occur in airline service within the state, and highlight changes that might suggest a need for modification of the Plan's goals and funding priorities.

[16] Flight schedules shown are from May, 2012

Present Service Pattern

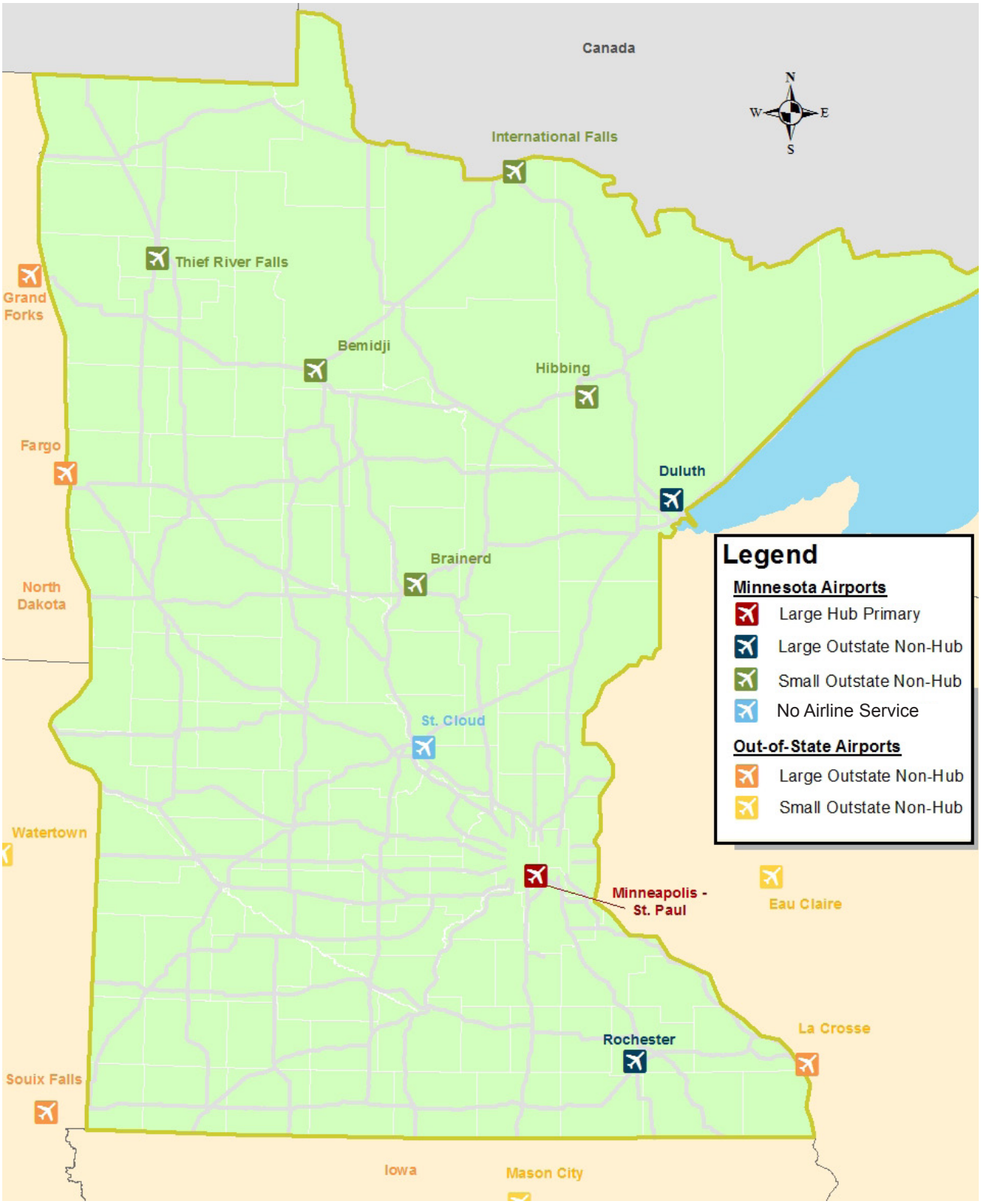
Eight airports in Minnesota presently have airline service, as illustrated in **Figure 4-1**. They include one large hub[17] at Minneapolis-St. Paul International (MSP), six primary[18] (nonhub) airports, including: Bemidji (BJI), Brainerd (BRD), Range Regional at Hibbing (HIB), Duluth (DLH), International Falls (INL), Rochester (RST), and one non-primary commercial service[19] airport at Thief River Falls (TVF). Residents of the state also utilize airline service from locations in adjacent states; these airports are also shown in **Figure 4-1**. St. Cloud does not currently have airline service.

17 FAA defines a "Large Hub" airport as one that enplanes at least 1% of total U.S. passenger enplanements

18 FAA defines a "Primary" airport as one that enplanes at least 10,000 passengers, but less than .05% of the U.S. total

19 FAA defines a "Non-primary commercial Service" airport as one that enplanes at least 2,500, but fewer than 10,000 passengers annually

Figure 4-1: Airline Service Airport Categories



Source: National Plan of Integrated Airport Systems (NPIAS) & HNTB Analysis

Historic numbers of enplanements at each airport are shown in **Table 4-1** for the period 2005-2010. An enplanement occurs each time a paying passenger boards an aircraft. One passenger is counted as one enplanement at the beginning of a trip, and as one enplanement at subsequent transfer points along the way. The number of enplanements at MSP includes passengers that begin a trip there, and passengers who transfer from one plane to another at MSP as part of a multi-legged flight.

Table 4-1: Enplanements at Minnesota Airports

AIRPORT	2005	2006	2007	2008	2009	2010	AVERAGE
MSP	17,971,771	17,192,410	16,962,563	16,369,324	15,551,206	15,512,487	16,596,294
DLH	146,394	139,480	169,971	147,793	125,451	150,556	146,608
RST	142,267	149,600	160,452	151,250	128,543	120,063	142,029
BJI	29,699	26,057	22,302	22,007	21,934	21,498	23,916
BRD	20,718	19,206	18,600	16,665	15,472	16,404	17,844
INL	21,861	18,475	17,923	16,590	15,861	14,051	17,460
HIB	10,619	10,197	8,716	8,896	8,926	11,227	9,764
TVF	4,611	3,392	3,373	3,092	2,721	2,479	3,278
STC	24,556	25,094	25,772	20,161	14,294	0	NA
Total	18,372,496	17,583,911	17,389,672	16,755,778	15,884,408	15,848,765	16,972,505

Source: FAA ACAIS

Minneapolis-St. Paul International Airport (MSP): MSP was the 15th busiest passenger airport in the U.S. in 2010[20] and the 33rd busiest airport in the world.[21] Airlines serve 135 nonstop markets from MSP, including 114 domestic and 21 international markets. MSP is the third largest hub for Delta Air Lines and accounts for more than 80 percent of the airport's passenger traffic. MSP also serves as the home base for Sun Country Airlines. A joint civil-military airport, MSP is home to the Joint Air Reserve Station, supporting both Air Force Reserve Command and Air National Guard flight operations.

Duluth International Airport (DLH): Duluth has service to five nonstop destinations with three airlines; including Delta Air Lines and United Airlines service to MSP, Detroit, and Chicago, and service on Allegiant to Phoenix and Las Vegas. Services are provided primarily by 50-seat regional jets. The airport has cargo services operated by FedEx Feeder and Bemidji Airservice. The Minnesota Air National Guard's 148th Fighter Wing is also based at DLH.

Rochester International Airport (RST) : Airline service at RST is provided by American Eagle and Delta Air Lines, with flights to MSP and to Chicago. Allegiant will begin flights to Phoenix/Mesa in November. The airport also has a large FedEx terminal, a small ABX Air station, and a General Aviation arrival building with Customs to accommodate international private flights.

[20] Airports Council International-North America (ACI-NA)
[21] Airports Council International (ACI)

Bemidji Regional Airport (BJI), Brainerd Lakes Regional Airport (BRD), Falls International Airport (INL), Range Regional Airport (HIB), and Thief River Falls Regional Airport (TVF): These cities have airline service with either non-stop or single-stop service, flying only to MSP.

St. Cloud Regional Airport (STC): The St. Cloud Airport had airline service until December of 2009 when Delta Air Lines stopped flying 34 seat regional airplanes from St. Cloud to Minneapolis. In August of 2012, Allegiant announced that it would begin service three days a week from St. Cloud to Phoenix/Mesa in December.



Essential Air Service (EAS)

EAS grants support service to five airports in greater Minnesota: BJI, BRD, HIB, INL, and TVF.[22] The Essential Air Service program was established by the U.S. Congress after the airline industry was deregulated in 1978. It provides incentive for airline companies to serve airports which would otherwise be bypassed under normal market conditions, ensuring connections from mostly rural communities to the national air transportation system. The EAS program is used by 153 airports nationwide and has a current annual budget of $199 million dollars each year in FY 2013 through FY 2015.

Congressional debate leading to the FAA Modernization and Reform Act of 2012 proposed major changes to the scope and funding of the EAS program. House and Senate leaders adopted EAS reforms to reach a compromise that preserves the program yet eliminates airports that average fewer than 10 enplanements per day. The compromise also prevents new communities from entering the program and provides funds only to those communities already in the program in FY 2011. While some EAS reductions were avoided, industry experts anticipate changes leading to future reduction or elimination of the program in the continental U.S. in the next 5 to 20 years.

[22] As of May 2012

Airline Business Decisions

In July 2011, Delta Air Lines announced that it would adjust flying in 24 small markets across the country, impacting five cities in Minnesota. The airline announced that its regional partners would request EAS funding for service to communities they had been serving without subsidy, including two in Minnesota: Bemidji and Brainerd. Service at International Falls, Hibbing, and Thief River Falls was already subsidized at the time. Delta also announced an intention to eliminate the 34 seat SAAB 340 turboprop aircraft from its fleet. Since that announcement, four of the five cities have retained Delta-branded regional jet service with seamless connections through MSP.

Smaller airports have been steadily losing seating capacity as well as numbers of total passengers. Recent years have been especially volatile due to a fall in demand in response to a recessionary economic period beginning in 2008 and a reduction in capacity in response to the rise in fuel prices. Given the lower passenger numbers and market conditions at the small outstate airports, Delta responded by reducing the number of seats available to the market. For the year-over-year periods ending in 2008, 2009 and 2010, Delta reduced seats at the small outstate airports (excluding STC in 2010) by 5.8 percent, 12.2 percent, and 2.6 percent respectively. In turn passengers used larger airports, thereby further reducing demand at the small outstate airports.

Airlines use load factors to measure seat capacity utilization in a market area and efficiency of aircraft use. Bemidji (BJI) recorded the highest load factor of the smaller Minnesota airports in 2010 with 59.3 percent. The higher the load factor, the greater the number of passengers to spread operating costs (crews, fuel, maintenance, etc.) across and more opportunity for a market to be profitable. An airline considers the minimum load factor required to break even, which influences scheduling decisions. A reduction in passenger numbers becomes a downward spiral. A decrease in load factors makes each ticket's operating costs and fares higher, and higher fares reduce demand for air service. Airlines respond to a reduction in demand by reducing aircraft size and frequencies. Fewer frequencies then make a market less convenient to customers, who seek out alternative airports or transportation modes. The EAS program subsidies are designed to offset airline operating costs and break this cycle by maintaining seat count and frequencies into smaller communities, reducing the load factor required to break even. Despite the subsidies, service to smaller outstate airports is at risk due to increasing airline cost pressures and a need to create positive shareholder returns. This trend is not limited to Minnesota or Delta Air Lines; smaller communities across the country are facing the same issues with maintaining airline service.

Factors Affecting Aviation Demand at Outstate Airports

DRIVING DISTANCE TO MINNEAPOLIS/ST. PAUL INTERNATIONAL AIRPORT

Driving distances between MSP and most outstate airports are long with surface travel times that can range from one and a half to six hours. However, with a lack of competition and high airfares from the outstate airports, travelers outside of the Twin Cities area are willing to drive a longer distance for lower fares and more travel schedule choices. When an airline passenger chooses to drive or vanpool to a larger airport rather than connect from their local airport, the smaller airport experiences a lost passenger enplanement, which is referred to as passenger leakage. The leakage rate at some smaller Minnesota airports exceeds 80 percent due to the ease of access to MSP through other modes. However, in some instances the outstate airports provide lower fares to certain markets and more convenient access.

REGIONAL AIRCRAFT

The majority of Minnesota's outstate airports are currently only served by regional aircraft, either Delta Air Lines' 50-seat regional jets (RJs) or Great Lakes Airlines' 19-seat or 33-seat turboprop airplanes. Since these aircraft form the backbone of the small airport service routes, it is important to understand the trends in the regional aircraft industry over the short and medium term. In 2011, Delta retired its 34-seat Saab 340B turboprop fleet and permanently halted the operations of 70 50-seat RJs, and has announced further, significant 50-seat RJ fleet reductions through 2015. The number of small RJs in service has dramatically dropped. Due to the fact that these aircraft are not economical for US legacy carriers or their partners, they are no longer being manufactured, and many equipment leases are set to expire, further retirements and groundings are inevitable.





System-wide Airline Service Maintenance Strategies

Although the changing status of the airline industry provides challenges, there are things that local communities, in some instances with the assistance of MnDOT, may be able to do to improve or maintain the current level of airline service in Minnesota. This section summarizes potential strategies, developed as part of a technical assessment of air service in Minnesota, which could be implemented on a system wide level. The complete assessment, which was developed to inform the SASP and serve as a "road map" to help anticipate air service opportunities and challenges is included as **Appendix D: Commercial Air Service Technical Report** of this plan.

SMALL OUTSTATE AIRPORTS

Essential Air Service: Even with Delta's announcement of flight reductions in the state, the EAS program will continue for the near-term with no immediate impact to the state's airports. Small Outstate airports should continue to pursue services through this program and call on their local and state legislators for continued support. New and established small regional air-carriers, like Great Lakes, Cape Air and Silver Airways have business models that allow them to cater to small regional airports and their communities. These airlines use smaller turboprop aircraft and leverage the EAS program to provide the link to MSP that Delta is unable to economically serve with its jet fleet.

Multimodalism: Multimodalism is the idea that transportation should be looked as one integrated system versus independent sectors. As fuel prices rise, communities, counties, and states should consider mitigating the impacts of oil prices and regaining control of their mobility. Creating a plan integrating different modes of transportation may be a key to the future movement of people and goods in an efficient and price-effective manner. This concept is discussed in further detail in **Chapter 8: A Future Vision of Aviation.**

Local Airline Service Action Committee (LASAC): All airports should continue supporting LASAC efforts to communicate, promote, and negotiate on behalf of their member communities. Additionally, LASAC may pursue joint marketing efforts, lobbying efforts with law makers, joint efforts on multi-modal initiatives, joint meetings to procure air carriers, and information sharing.

Outstate Airport Ground-Handling Coalition: Ground handling for luggage, ticketing, and aircraft fueling can add high costs to operating a route, especially for regional and smaller airlines. Outstate airports may consider a strategy to provide low-cost ground services at their airports to reduce operating costs for the airlines.

Small Community Air Service Development Program Grants: The U.S. DOT implemented a program in 2000 to help small communities improve air service. The grants are awarded at the discretion of the Secretary of Transportation. The objective of the program is to secure airline service enhancements that meet a community's air transportation needs with benefits that can be expected to continue after the grant expires.

Approach New Carriers: Approaching new carriers to request air service is a traditional practice in the airline industry. Most airlines have an open door policy when communicating with airports, and welcome community presentations and the exchange of information that will help the airline understand the community in order to tailor service that will grow the market.

LARGE OUTSTATE AIRPORTS

Airline Partnerships or Incentive Policies: Airports may develop a package to reduce airline rates and charges incurred during an initial promotional period consistent with federal rules. Incentives are clearly a double-edged sword, and can present risk if not properly designed and executed. However, they are also an accepted (and often required) element of airline negotiations, particularly as the competition for new airline services has intensified over the past several years. Well-designed policies should reward high-priority targets, avoid any appearance of discrimination and should offer both up-front support for a new service and continuing assistance.

Airport Partnerships a "Tag Team" Approach: "Tag Team" is a strategy where an airport engages with one or more other airports to jointly participate in a route proposal and marketing presentation to an airline. This technique allows the airports to present combined incentives and market data.

Leakage Analysis: A comprehensive leakage analysis can calculate how many passengers living in the catchment area of an airport are driving to another airport for their travel needs. The analysis can also identify those passengers and provide a target for direct marketing campaigns.

Sustainability of Existing Service: It is paramount to demonstrate existing positive airline performance to attract potential new entrants. Supporting incumbent airlines with cooperative marketing, sales leads, market data, and other strategies is critical to the sustainability of existing airline service.







Strategies for Community Relations

Proactive use of Conference Opportunities: Key airline-airport conferences enhance the effectiveness of on-site presentations, and maintain dialog and top-of-mind awareness among airline executives.

Executive-level Involvement and Proactive Support: Airport staff and community leaders should meet regularly with airline staff and leadership.

Board, Community, and Business Leadership Participation and Support: The support of community and business leaders can be a crucial success factor at meetings with airlines, especially for discussing new service. Community support is vital for new or expanded service, and airlines can benefit from any and all tangible evidence.

Proactive Partnerships for Cooperative Marketing and Advertising: As airline marketing resources dwindle under cost pressures, airports and communities should assume a growing responsibility. In-kind or cooperative marketing and advertising with local media outlets can range from general advertising to specially targeted ads for the launch of new service or other events.

Proactive Engagement of Local Press, Including Editorial Boards: Regular interviews or "Industry Updates" can build strong partnerships with media representatives, and foster mutual communication and awareness.

Survey/Monitoring of Customer Satisfaction and Competitive Results: Regular surveys of consumers can provide competitive feedback as well as input on many customer satisfaction issues.

Ongoing Web Site Updates and Enhancements: Web sites provide excellent opportunities to give and collect information and feedback from the user community.

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MinnesotaGO
A Collaborative Vision for Transportation

State Aviation System Plan

Chapter 5

AIRPORT FACILITY REQUIREMENTS

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AIRPORT FACILITY REQUIREMENTS

This chapter outlines the state's airport facility requirements necessary to accommodate aviation demand in Minnesota over the next 20 years as well as the processes and assumptions used to analyze them. Airport facility requirements are useful in planning how to expend anticipated revenues and are identified through consideration of an individual airport's existing facilities (**Chapter 2: Inventory**), airport activity forecasts (**Chapter 3: Forecast**), and certain minimum objectives established for the system (**Table 5-2**). This method allows for a relatively uniform analysis across the system that stops short of addressing the specific project needs of individual airports (e.g. runway extension to a specific length). It is important to note that the airport facility requirements analysis does not replace the need for individual project planning efforts or project justification reports. Rather, it provides a macro-level snap-shot of the system through short-term, mid-term, and long-term planning horizons.



Table 5-1 identifies the major airport facilities that are accounted for in this requirements analysis and are presented following description of minimum system objectives.

Table 5-1: Major Airport Facilities

Airport Pavements
Navigation Systems
Runway Lighting
Weather Reporting Systems
Airport Buildings
Fuel Facilities

These facilities represent the major cost items associated with an airport's development. While, maintenance of pavements and terminal/administration buildings also consume significant financial resources, they are discussed separately in **Chapter 7: Investment Plan and System Recommendations**.

Minimum System Objectives

As noted above, the primary baseline used to determine airport facility requirements is a comprehensive list of minimum system objectives. These minimum objectives align with Federal Aviation Administration (FAA) airport requirements as well as Minnesota's statutes on airport development. Where neither state nor federal guidance is available, commonly accepted industry standards are used. The minimum systems objectives are not intended to promote unnecessary airport development; rather, they are developed to ensure Minnesota's airports have the necessary facilities to be safe and economically competitive, nationally and internationally.

Table 5-2: Minimum System Objectives by Airport Class

FACILITY	KEY AIRPORTS	INTERMEDIATE AIRPORTS	LANDING STRIPS
Primary Runway Length & Width	5,000 Feet 100 Feet	2,400 Feet 75 Feet	2,000 Feet 75 Feet
Parallel Taxiway Length	Full Parallel	Full Parallel if Airport Has More Than 20,000 Annual Ops	No Minimum
Primary Runway Approaches	Precision	Non-Precision	Visual
Navigation Systems	Wind Cone, Rotating Beacon, PAPIs, REILs & MALSR or Other Approach Lighting System	Wind Cone, Rotating Beacon, PAPIs, REILs or Greater Approach Lighting System	Wind Cone & Rotating Beacon if Airport is Lighted
Runway Lighting	HIRL for Airline Service and MIRL for All Other	LIRL or Greater	LIRL
Weather Reporting	AWOS/ASOS	AWOS/ASOS as Needed	No Minimum
Hangars (For Based Aircraft)	100 percent of Jets/TP 95 percent of SEP & MEP	100 percent of Jets/TP 95 percent of SEP & MEP	- 95 percent of SEP & MEP
Aprons (For Based & Transient Aircraft)	All Based Aircraft Not In Hangars + Peak Hour Itinerant Operations	All Based Aircraft Not In Hangars + Peak Hour Itinerant Operations	All Based Aircraft Not In Hangars + Peak Hour Itinerant Operations
Terminals & GA/Administration Buildings	Terminal at Airline Service Airports & GA/Administration Building at Non-Airline Service	GA/Administration Building	Restroom
Automobile Parking	1 Space for Each Based Aircraft & 50 percent Increase for Employee and Visitor Parking	1 Space for Each Based Aircraft and 25 percent Increase for Employee and Visitor Parking	1 Space for Each Based Aircraft
Perimeter Fencing	Entire Airport	Entire Airport Desirable	Separate Auto from Airside
Fuel Facilities	24 Hr. 100LL & Jet A	24 Hr. 100LL Desirable	100LL as Needed

Note: HIRL = High Intensity Runway Lights, MIRL = Medium Intensity Runway Lights, LIRL = Low Intensity Runway Lights, AWOS = Automated Weather Observation System, ASOS = Automated Surface Observation System, GA = General Aviation, SEP = Single Engine Piston, MEP = Multi-Engine Piston, TP = Turboprop, PAPI - Precision Approach Path Indicator, REIL - Runway End Indentifier Lights, MALSR - Medium Intensity Approach Lighting System
Source: MnDOT Office of Aeronautics

Table 5-2 presents the minimum system objectives for each of Minnesota's three airport classifications. A facility requirement exists when there is a gap between the major facilities an airport has, and the facilities the same airport is expected to have over the short-term, mid-term, and long-term given its activity forecast and the minimum system objectives for its airport class. The remainder of this chapter focuses on this aspect. When the facility requirements for all airports in Minnesota's system are rolled up over all three planning periods, the result is the system's overall needs in terms of cost. The overall system needs are further discussed and identified in **Chapter 7: Investment Plan and System Recommendations**.

Primary Runway Length and Width

An airport's primary runway length and width are determined by the operational requirements of the airport's critical aircraft. A critical aircraft is one that requires the greatest runway length and/or width for safe operations, and has or is forecasted to have over 500 annual operations at an individual airport. A high-level analysis of primary runway needs was completed using aircraft categories collected in the inventory and utilized to prepare the forecast.

A sample of the types of aircraft within each aircraft category was compiled and one representative aircraft for each category was chosen for the analysis. Minimum runway lengths were determined for the representative aircraft using FAA Advisory Circular (AC) 150/5325-4B which is used to determine appropriate runway length using aircraft performance metrics and airport characteristics.

The desired minimum runway lengths resulting from the analysis for each airport category are shown in **Table 5-3**.

Table 5-3: Desired Minimum Runway Lengths

AIRPORT TYPE	RUNWAY LENGTH
Key Airports	5,000 Feet
Intermediate Airports (With 500+ Annual Combined Jet and Turboprop Aircraft Operations)	4,200 Feet
Intermediate Airports (With 500+ Annual Combined Jet, Turboprop, and Multi-Engine Piston Aircraft Operations)	3,200 Feet



Airports in **Table 5-4** have been identified as potentially needing a runway extension. These airports have forecast operations requiring additional runway length and are deficient of the minimum runway length by at least 250 feet, which is the minimal practical runway extension from a cost perspective. It is important to note that these runway extension needs are the result of a high-level analysis and the results cannot serve as justification for a runway extension project. An airport seeking a runway extension must work closely with MnDOT and the FAA to consider the economic, social, and environmental impacts of the project. Because extensions to 5,000 feet or greater result in reclassification of an airport from Intermediate to Key, upsizing complimentary facilities (e.g. full parallel taxiway, precision approach and others) to meet the minimum system objectives (**Table 5-2**) of Key Airports would be necessary. These facilities are also identified in **Table 5-4** as well as on individual airport's facility sheets in **Appendix E: Airport Facility Needs Sheets and Report Cards**. While it is reasonable to assume five airports will be reclassified from Intermediate to Key over the 20-year planning period, it is unlikely that it will be exactly the five identified by this macro-level analysis.

Table 5-4: Airports with Primary Runway Needs

AIRPORT	IDENTIFIER	RUNWAY EXTENSION	RUNWAY WIDENING	RE-CLASSIFICATION
Airlake	LVN	X	-	X
Appleton	AQP	X	-	-
Blue Earth	SBU	X	-	-
Brooten	6D1	-	X	-
Crystal	MIC	X	-	-
Detroit Lakes	DTL	X	-	X
Faribault	FBL	-	X	-
Fertile	D14	-	X	-
Granite Falls	GDB	X	-	X
Hector	1D6	-	X	-
Herman	06Y	-	X	-
Lake Elmo	21D	X	-	-
Maple Lake	MGG	X	X	-
Perham	16D	X	-	X
Pine River	PWC	X	-	X
Red Lake Falls	D81	-	X	-
Rushford	55Y	-	X	-
Sauk Centre	D39	-	X	-
Slayton	DVP	-	X	-
Sleepy Eye	Y58	X	-	-
Stephen	D41	X	X	-
Warren	D37	X	-	-

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Runway width requirements are defined by either FAA standards or MnDOT minimum objectives. The airports identified in **Table 5-4** could qualify for a runway widening.

Maple Lake Municipal and Stephen Municipal are identified as being deficient in terms of both the length and width of their runway.



Parallel Taxiway Length

Parallel taxiways serve two primary purposes. First, they provide added safety by minimizing potential conflicts between taxiing aircraft and arriving or departing aircraft. Second, parallel taxiways increase runway capacity, particularly at busier airports because a landing or departing aircraft must wait to use the runway while it's occupied by taxiing aircraft.

Only three airports were identified as potentially benefitting from a parallel taxiway within the next 20 years (see **Table 5-5**). One of those airports, Aitkin Municipal Airport, currently only has taxiway turnarounds on both runway ends, but has enough operations (> 20,000 annually) to warrant a full-length parallel taxiway. Both Detroit Lakes Municipal Airport and Faribault Municipal Airport have taxiways parallel to the runway for only a portion of its length, but have enough annual operations to warrant a full parallel taxiway.





Table 5-5: Airports with Parallel Taxiway Needs

AIRPORT	IDENTIFIER	FULL-LENGTH PARALLEL TAXIWAY	PARALLEL TAXIWAY EXTENSION
Aitkin	AIT	X	-
Detroit Lakes	DTL	-	X
Faribault	FBL	-	X

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis



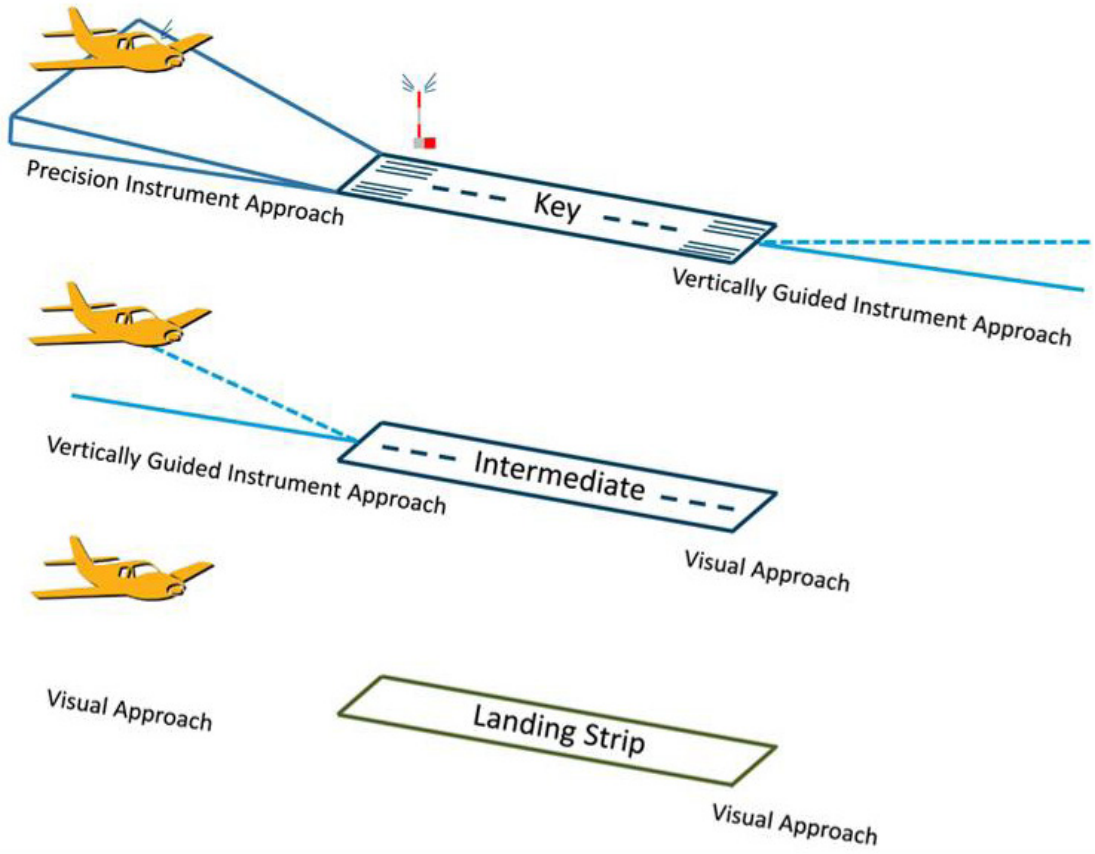
Primary Runway Approaches

Runway approach procedures are designed to guide the transition from the cruise phase of a flight to the approach and landing phase. An instrument approach makes an airport useable under a wider variety of weather conditions than an airport without one. The purpose of including approaches as a minimum system objective is to improve access to airports during inclement weather. The minimum system objectives consider multiple approach types depending upon an airport's classification.

The minimum system objective for Key Airports is to have a precision instrument approach procedure which guides the pilot vertically and horizontally for at least one end of the primary runway and a less precise approach with at least vertical guidance at the other end.

Intermediate Airports have less activity during inclement weather so the minimum system objective is less precise. These airports should have a non-precision instrument approach with vertical guidance on at least one runway end.

Figure 5-1: Minimum Approaches by Airport Classification



Source: HNTB

Visual approaches are sufficient for most aircraft that use Landing Strip airports. With the advent of GPS based approaches, some landing strips may choose to provide a non-precision approach.

Figure 5-1 illustrates the minimum system objectives for runway approaches. Because runway approaches are the focus of Performance Measure 1, additional detail and identification of those airports not meeting the minimum system objective for runway approaches is found in **Chapter 6: Performance Report**.

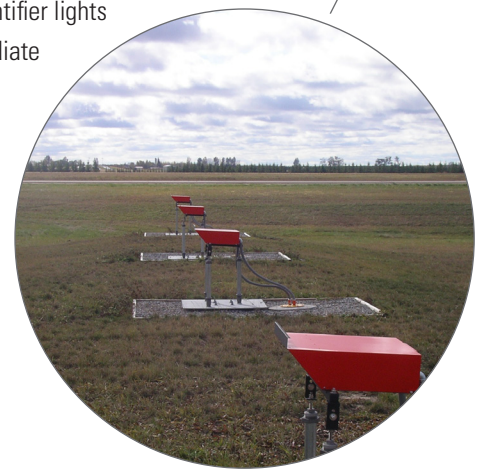
Navigation Systems

Navigation systems aid pilots landing at or departing from an airport. These facilities range from sophisticated instrument landing systems (ILS) which can guide an aircraft to the runway on autopilot, to simple fixtures, like wind socks, which aid a pilot in determining wind direction on the runway. Like the runway approaches described in the previous section, navigation system minimum system objectives are tailored to the users of each classification of airport.



The minimum system objective for Key Airports is an approach lighting system of at least medium intensity. A medium intensity approach lighting system with runway alignment indicator lights (MALSR) is a series of flashing lights which lead to a runway end. Other approach lighting systems meeting the objectives are: omni-directional approach lighting (ODALs), medium intensity approach lighting system with sequenced flashers (MALSF), and high intensity approach lighting system with sequenced flashers for ILS category 1, 2, and 3 approaches (ALSF-I, ALSF-II, ALSF-III). Each lighting system serves a similar purpose but has a different configuration.

Precision approach path indicators (PAPIs) and runway end identifier lights (REILs) are minimum system objectives for all Key and Intermediate Airports. PAPIs are a series of four light boxes adjacent to the runway which when viewed from an approaching aircraft indicate when the airplane is on the proper glide path. The lights will appear as different colors depending if the airplane is too low, too high, or right on in the approach path. REILS are flashing lights at the end of the runway used to identify the end of a runway from the air. These systems provide additional navigational aids without requiring special equipment in the aircraft.



Landing Strips have the most basic approaches (visual) and only need the minimum navigation aids as required by FAA and MnDOT regulations. Minimum system objectives reflect these requirements. Each Landing Strip airport requires a wind cone (or wind sock). Those open at night also should have a rotating light beacon. A wind cone is an orange cone which rotates on a pole depicting the dominant wind direction. The wind cone allows pilots to visually see the direction of the wind near the runway from the air. Rotating beacons flash rays of light to help pilots locate the airport from the air. Intermediate and Key Airports also require both a wind cone and rotating beacon.

There are 13 system airports which do not have a rotating beacon, three do not have MALSRs, and one that does not have PAPIs even though system objectives indicate they should. **Table 5-6** summarizes the navigation system facility requirement deficiencies. At some airports, users would benefit from a more robust navigation system than the minimum system objectives specify. Some of these airports are noted in **Chapter 7: Investment Plan and System Recommendations** but must be reviewed on a case-by-case basis.

Table 5-6: Airports with Navigation System Needs

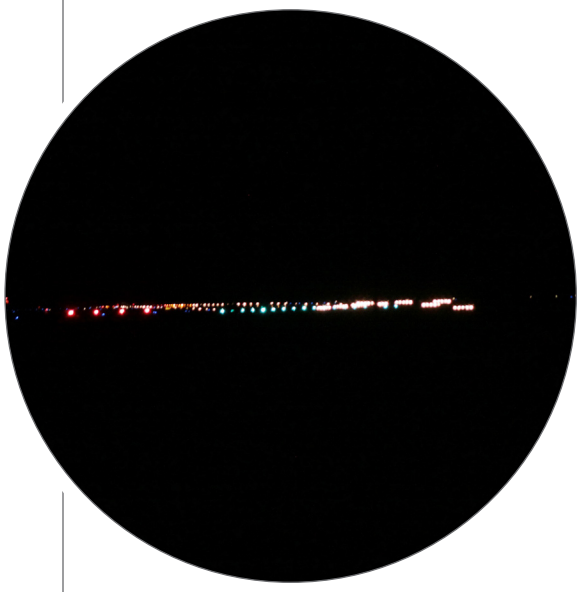
AIRPORT	IDENTIFIER	WIND CONE	ROTATING BEACON	PAPIS	RELS	MALSR
Baudette	BDE	-	-	-	-	X
Big Falls	7Y9	-	X	-	-	-
Bowstring	9Y0	-	X	-	-	-
Clarissa	8Y5	-	X	-	-	-
East Gulf Lake	9Y2	-	X	-	-	-
Ely	ELO	-	-	-	-	X
Hector	1D6	-	X	-	-	-
Karlstad	23D	-	X	-	-	-
Murdock	23Y	-	X	-	-	-
Paynesville	PEX	-	X	-	-	-
Pine River	PWC	-	X	-	-	-
Remer	52Y	-	X	-	-	-
Tower	12D	-	X	-	-	-
Waskish	VWU	-	X	-	-	-
Willmar	BDH	-	-	-	-	X
Winona	ONA	-	-	X	-	-

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Runway Lighting

Runway lighting helps pilots identify the edges of the runway while landing and taking off at night or during periods of low visibility. Depending on the type of aircraft using an airport at night and the existing runway approaches (e.g., precision, non-precision, visual), varying intensities of lights are required.

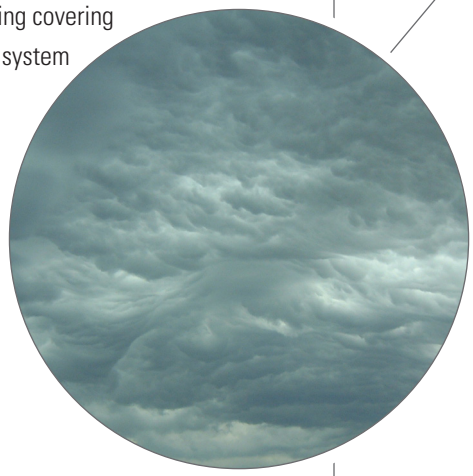
High intensity runway lights (HIRLs) provide the best view of a runway at night or during inclement weather and are the minimum system objective for all Key Airports with scheduled airline service. Medium intensity runway lights (MIRLs) provide less visibility than HIRLs, but provide sufficient visibility for aircraft with higher approach speeds. MIRLs are the minimum system objective for all Key Airports without airline service. Low intensity runway lights (LIRLs) provide the minimum amount of visibility for an airport open at night, and are the minimum system objective for all Intermediate Airports and lighted Landing Strips. All system airports currently meet the minimum system objectives defined for runway lighting.



Weather Reporting

Airports with weather reporting have one of two systems: an automated weather observation system (AWOS) or an automated surface observation system (ASOS). These two weather reporting systems gather and broadcast information critical to flight planning. Information broadcast includes temperature, dew point, visibility, cloud ceiling, wind direction, and wind speed. Individual airports, especially those served by airlines, may also employ Certified Weather Observers to verify weather conditions broadcast by the automated systems. The minimum system objective is for all Key Airports to have weather reporting systems. Intermediate Airports and Landing Strips should have them as needed to provide weather reporting covering the state. All airports in the system meet the minimum system objective. See **Chapter 6: Performance Report**.











Hangars

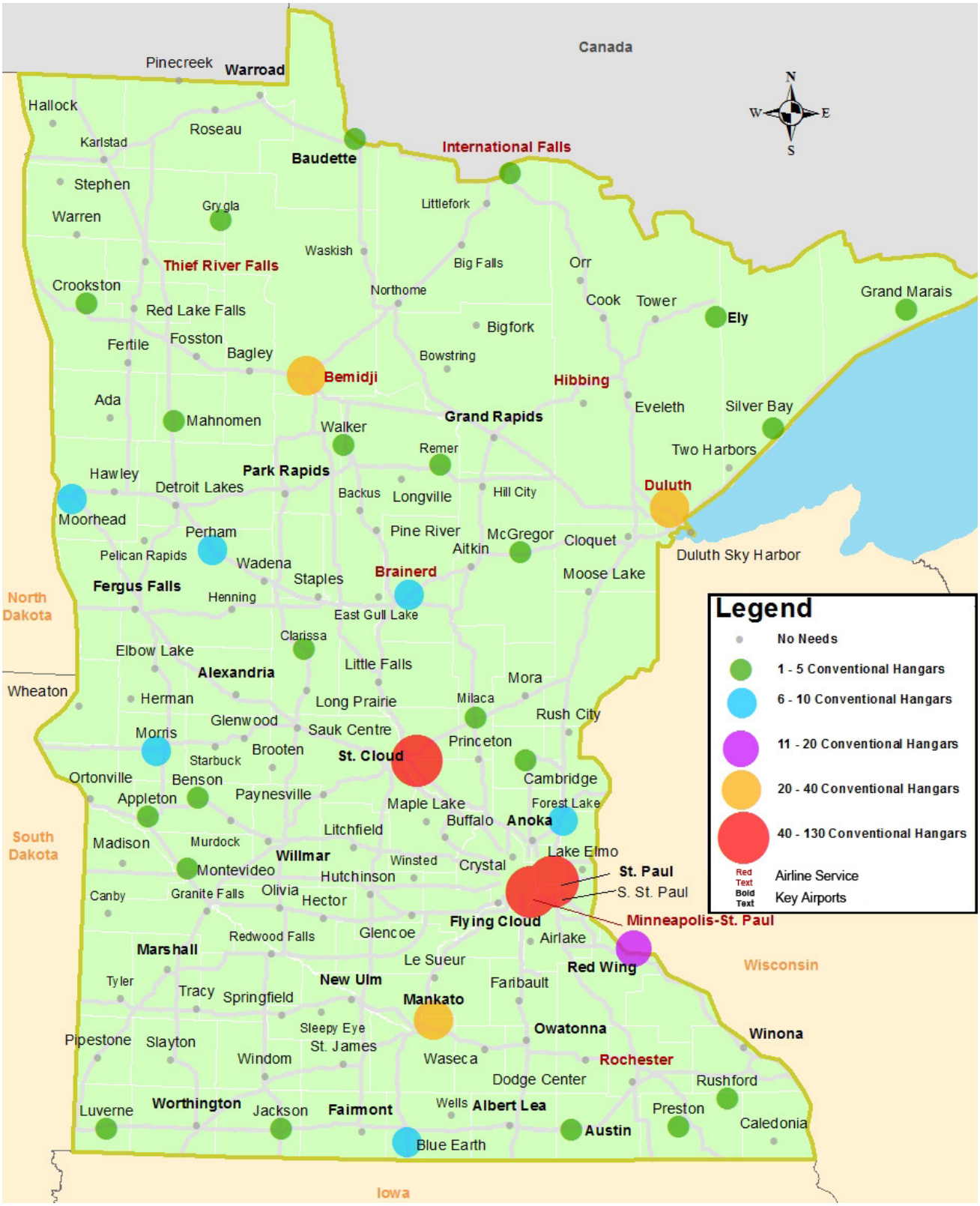
Hangars are buildings constructed specifically to store and protect aircraft and related equipment from the elements during Minnesota's variable weather conditions. There are two hangar facility types typically found at Minnesota airports: T-hangars and conventional hangars. Individual T-hangars are small structures which usually can accommodate just one aircraft – most likely a single engine piston (SEP) or multi-engine piston (MEP) aircraft. Because of their unique shape (shaped like the outline of an aircraft or a 'T' shape), they are compact in terms of their footprint but also offer only limited space inside the hangar. For aircraft owners of larger aircraft (turboprops or jets), conventional hangars are used in part because they can accommodate larger aircraft than a T-hangar. Some conventional hangars can also accommodate more than one aircraft.

The minimum system objective for hangars is that every based jet and turboprop has dedicated hangar space in addition to 95 percent of all SEP and MEP aircraft having hangar space. The objectives are the same for Key, Intermediate and Landing Strip airports, although Landing Strips are unlikely to have based high performance aircraft.

Funding for hangar construction can be different from funding for construction of the other airport facilities in that the funds may not come from the FAA Airport Improvement Program (AIP). The State Hangar Loan Revolving Account Program provides an 80 percent interest-free loan to state system airports for building new hangars. The loans are paid back in equal monthly installments over 10 years. Payment receipts are then loaned out again to other airports needing hangars.

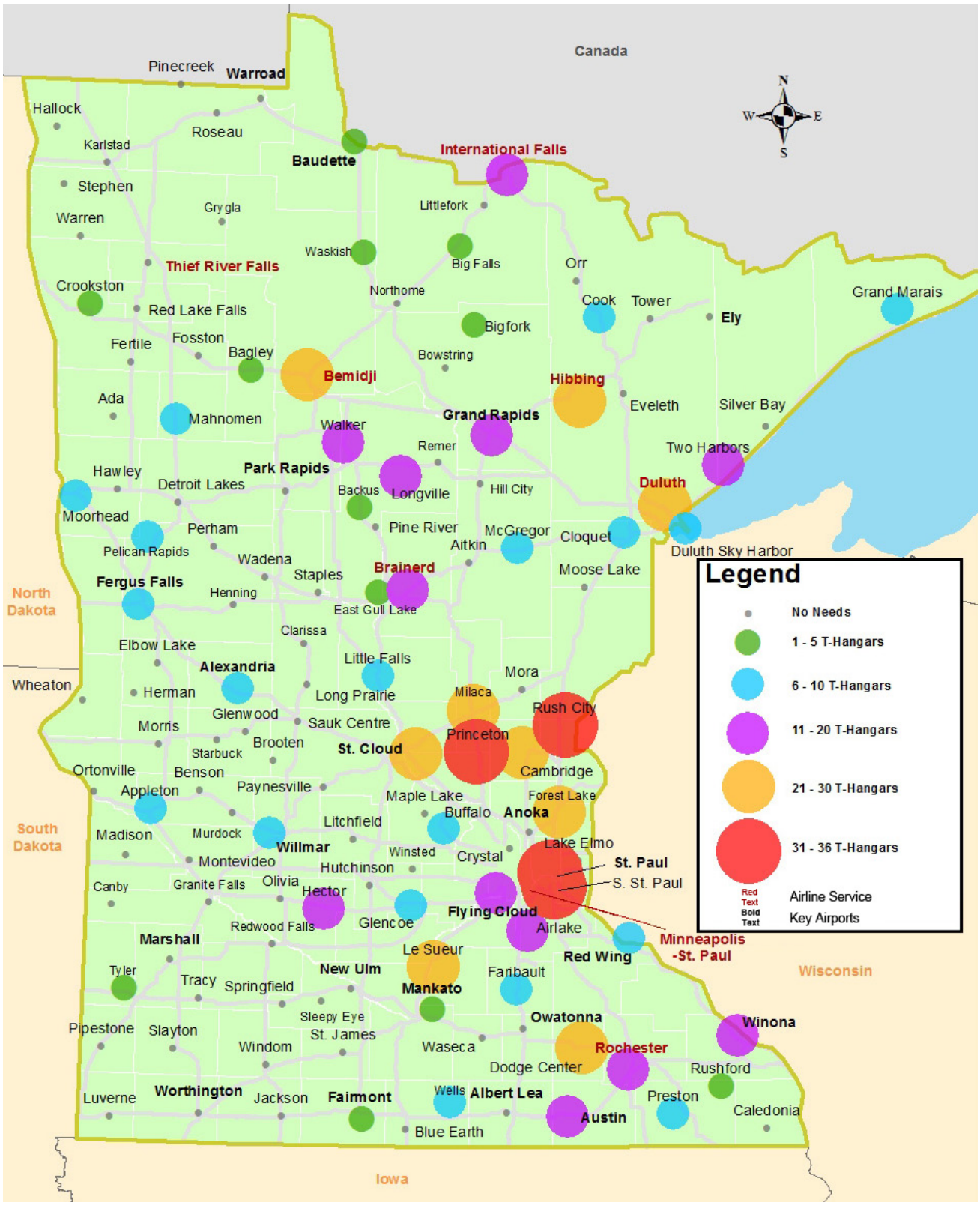
Over the next 20 years, as many as 69 airports may require additional hangars. **Figure 5-2** and **Figure 5-3** identify which airports in the system could benefit from additional aircraft storage space. **Appendix E: Airport Facility Needs Sheets and Report Cards** includes anticipated needs by airport.

Figure 5-2: Long-Term Conventional Hangar Needs



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Figure 5-3: Long-Term T-Hangar Needs



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Aprons

An apron provides aircraft parking for both based and transient (visiting) aircraft at airports. Based aircraft apron area is generally utilized by aircraft which are not stored in hangars. The minimum system objective is to have only five percent of based SEP and MEP utilizing the apron. Transient aircraft apron area is used by non-based aircraft. The minimum system objective is to have apron space available for all transient aircraft during the peak hour itinerant operations. For the purposes of this Plan, the peak hour itinerant operations occur on the average day of the peak month (ADPM) for each airport.

Although peak operations vary from airport to airport, it is assumed that 20 percent of an airport's total annual operations occur during the peak month. Peak hour operations were assumed to be 15 percent of the airport's average daily operations in the peak month.

Another component necessary in determining apron area facility requirements is accounting for varying aircraft sizes. **Table 5-7** shows the amount of apron area assumed for each aircraft category. These pavement areas include both the tie-down (parking position) area as well as the space necessary for maneuvering and taxiing the aircraft to a tie-down. The aircraft apron system needs are a factor of the minimum system objectives, the ADPM operations forecast, and the size requirements specified above.



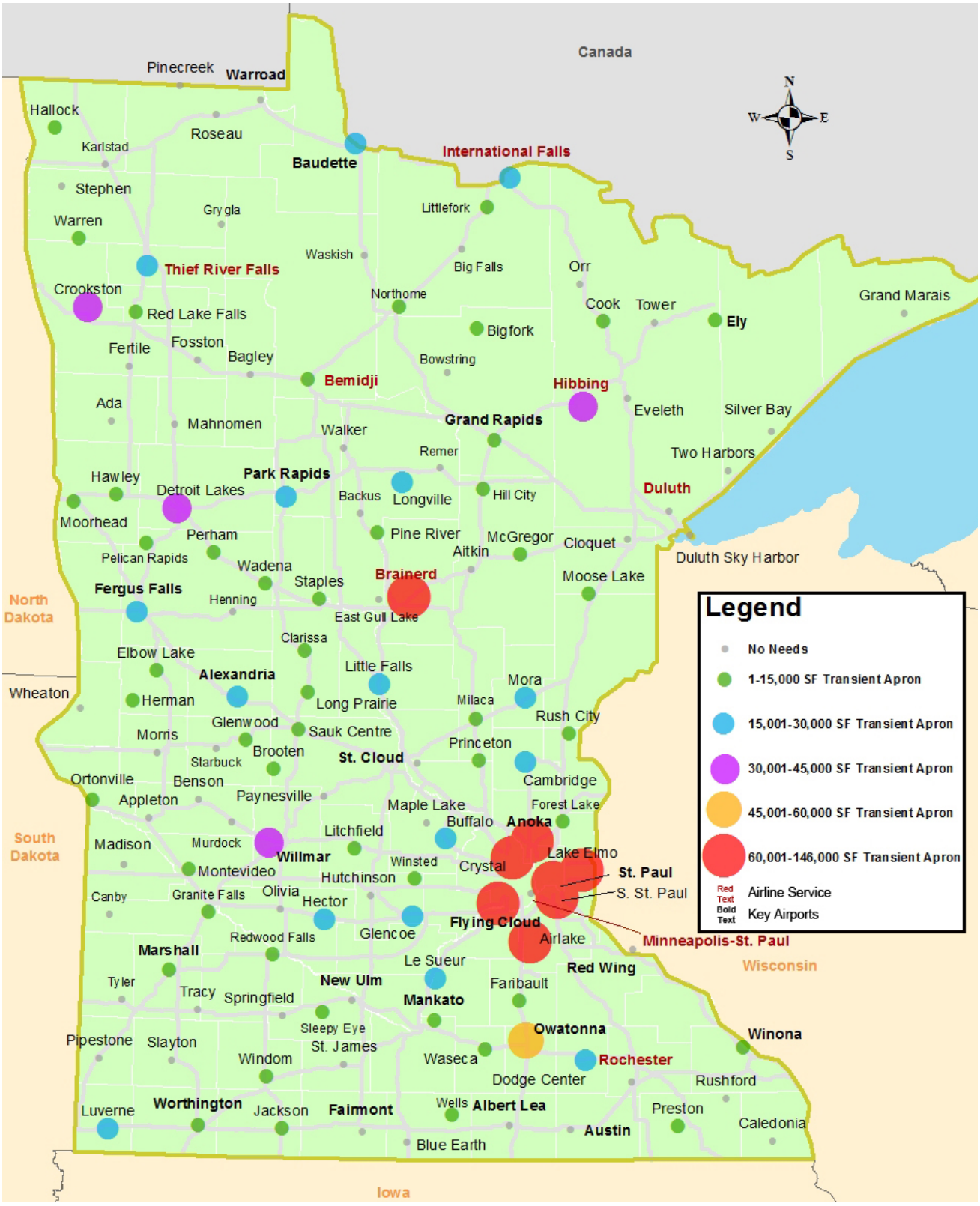


Table 5-7: Aircraft Apron Needs

AIRCRAFT	APRON SIZE
Single Engine Piston (SEP)	360 S.Y.
Light Sport Aircraft (LSA)	360 S.Y.
Multi-Engine Piston (MEP)	360 S.Y.
Turboprop (TP)	600 S.Y.
Military (MIL)	600 S.Y.
Jet	700 S.Y.
Other	360 S.Y.

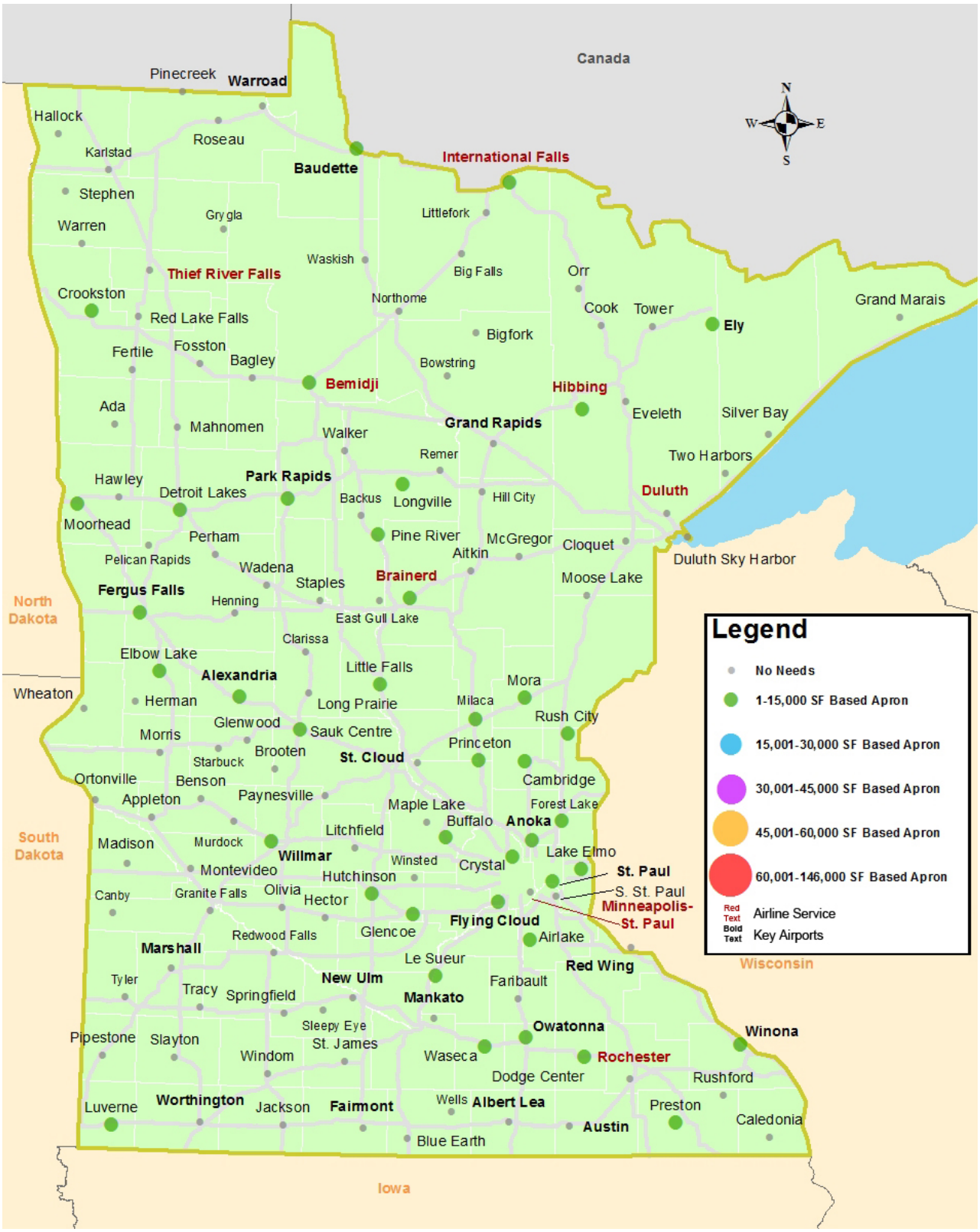
Future apron area recommendations are to accommodate the expected traffic increase over the next twenty years. In total, nearly 1.7 million additional square yards of apron may be required by 2030. Only 60,000 square yards of the 1.7 million are expected to accommodate based aircraft. **Figure 5-4** and **Figure 5-5** identify which airports could benefit from additional apron area **Appendix E: Airport Facility Needs Sheets and Report Cards** shows the breakdown of anticipated needs by airport.

Figure 5-4: Long-Term Transient Apron Needs



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Figure 5-5: Long-Term Based Apron Needs



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis







Airline Terminals, General Aviation/Administration Buildings & Restrooms

This analysis considers the following three airport building facility types: airline terminals, general aviation (GA)/administration buildings, and restrooms.

AIRLINE TERMINALS

Airline terminals exist to accommodate airline passengers and contain equipment specific to this function, such as ticketing counters, Transportation Security Administration (TSA) screening, baggage processing and rental car facilities. The minimum system objective for airline terminals is to have one airline terminal at each Key Airport with scheduled airline service. The eight airports with scheduled airline service have terminals and therefore meet the minimum system objective.

GENERAL AVIATION/ADMINISTRATION BUILDINGS

General Aviation (GA) buildings may vary greatly in terms of size and use. While some airports have one large GA building which a fixed-base operator (FBO – a commercial business operating at an airport offering services such as fueling or parking) can utilize to deliver its services, others have only small administration buildings to conduct airport business. Some of the largest airports in the system have two or more administration buildings to accommodate each of these functions. These buildings typically contain offices, a flight planning area with a computer for weather reporting, restrooms and a waiting area. The minimum system objective for GA/administration buildings is to have one at each Key Airport without airline service and one at each Intermediate Airport. Only seven airports do not have either a GA or administration building.

RESTROOMS

There must be one restroom at each airport in the system, either as a stand-alone facility or as part of another building. There are seven Landing Strips which did not report having a restroom on airport.

Table 5-8 below identifies the airports that do not meet the minimum system objectives for building facilities.

Table 5-8: Airline Terminal, GA/Administration Building & Stand-Alone Restroom Needs

AIRPORT	IDENTIFIER	AIRLINE TERMINAL	GA/ADMIN. BUILDING	STAND-ALONE RESTROOM
Airlake	LVN	-	X	-
Anoka	ANE	-	X	-
Bagley	7Y4	-	X	-
Clarissa	8Y5	-	-	X
Crystal	MIC	-	X	-
East Gull Lake	9Y2	-	-	X
Elbow Lake	Y63	-	X	-
Fertile	D14	-	-	X
Flying Cloud	FCM	-	X	-
Glenwood	GHW	-	X	-
Grygla	3G2	-	-	X
Karlstad	23D	-	-	X
Murdock	23Y	-	-	X
Northome	43Y	-	-	X

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Automobile Parking

Automobile parking requirements for pilots of based aircraft, airport employees and visitors have been determined as part of this analysis. The minimum system objective identifies one parking space for each based aircraft at every airport plus increases at Key and Intermediate Airports for employees and visitors. Individual airport characteristics should be considered and will ultimately guide development. There are 76 airports which may benefit from auto parking projects over the next 20 years. Airports that do not meet the minimum system objectives for parking are identified in **Appendix E: Airport Facility Needs Sheets and Report Cards**.



Perimeter Fencing



Airport perimeter fencing provides a deterrent to inappropriate access to the aircraft operations area (AOA) and provides wildlife control.

The FAA requires airports with airline service to have the entire airfield fenced. Minimum system objectives call for Key Airports without airline service to have full perimeter fencing since they experience significant levels of GA, cargo and air taxi activity.

At Intermediate Airports, perimeter fencing provides similar protections from inappropriate access. However, in many instances these airports are located away from population centers and so fencing the entire airfield may not be cost effective. For this reason, fencing the entire airfield at Intermediate Airports is desirable but not necessary.

For all Intermediate Airports and Landing Strips which are not fully fenced, perimeter fencing should exist at a minimum between the airfield and the landside at the airport access point and parking locations.



Seventy-six airports are identified as having inadequate perimeter fencing. Seventeen are Key Airports with airfields that are not fully fenced. Airports that could benefit from additional fencing are identified in **Appendix E: Airport Facility Needs Sheets and Report Cards**.

Fuel Facilities

On airport fuel facilities provide a high level of service to airport users. Two types of fuel may be available: 100 Low Lead (100LL) and Jet-A. The fuel facility minimum system objectives recommend 100LL at all airports with 24 hour service desirable at Intermediate and Key Airports. Additionally, Key Airports should provide Jet-A fuel. The 22 airports identified in **Table 5-9** may benefit from additional fuel capacity by 2030.

Table 5-9: Fuel Capacity Needs

AIRPORT	IDENTIFIER	FUEL
Airlake	LVN	X
Alexandria	AXN	X
Anoka	ANE	X
Baudette	BDE	X
Bemidji	BJI	X
Brainerd	BRD	X
Brooten	6D1	X
Cambridge	CBG	X
Ely	ELO	X
Fairmont	FRM	X
Glencoe	GYL	X
Hibbing	HIB	X
Holman Field	STP	X
Little Falls	LXL	X
Luverne	LYV	X
Milaca	18Y	X
Minneapolis-St. Paul	MSP	X
Ortonville	VVV	X
Park Rapids	PKD	X
Preston	FKA	X
Princeton	PNM	X

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis







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MinnesotaGO
A Collaborative Vision for Transportation

State Aviation System Plan

Chapter 6

PERFORMANCE REPORT

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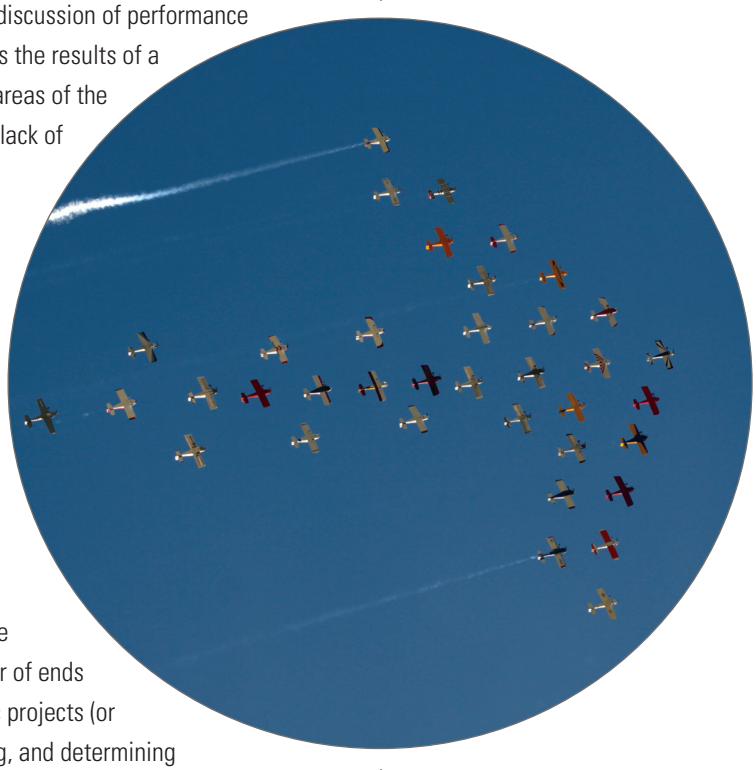
PERFORMANCE REPORT

This chapter outlines the eight performance measures and 15 system indicators developed to track progress toward meeting the goals presented in **Chapter 1: Introduction and System Goals**. Following the discussion of performance measures and indicators, the chapter also presents the results of a comprehensive "density analysis" through which areas of the state with specific performance deficiencies (e.g., lack of crosswind runways) are identified.



Performance Measures and Indicators

To analyze the performance measures and system indicators developed for this Plan, as well as for future iterations of the SASP, a GIS based tool was developed to produce up to the minute performance reports to be utilized as new projects are completed or as new GIS data become available and to run scenarios to achieve a number of ends including: evaluation of system impacts of specific projects (or events such as an airport closure), decision making, and determining individual airports' impacts on the system. This GIS tool will help MnDOT track how the measures and indicators change as new data becomes available and the system evolves over time.

It is important to note the difference between performance measures and system indicators. MnDOT has the ability, through investment, to directly impact system performance in a number of areas. For these areas, performance measures have been developed through which MnDOT will track progress toward meeting system goals. However, in some areas of performance analysis, MnDOT has limited or no ability to influence the outcome but expectations for transparency and information sharing still exist. These data sets are referred to as performance indicators, rather than measures. System indicators can be driven by market demand, local community growth, or other difficult to influence factors. They are designed to show trends and help describe how well the overall system is functioning. Over time indicators provide quantitative information for MnDOT authorities and decision makers.

The performance measures and system indicators are listed in **Figure 6-1**. Several of the measures and indicators have been used to track performance for a number of years and/or in previous system plans while others are newly established as part of this planning process. In some cases, an existing measure has been adjusted and in one case a previously abandoned measure has been brought back.

A 20-year historical perspective of SASP related performance measures is found in **Chapter 1: Introduction and System Goals**. The remainder of this chapter outlines each performance measure based on the following information:

Title: Name of each measure as referenced throughout this Plan

Measure: What is being measured

Relevance: Why the measure is relevant and important to the system

Target: Desired performance outcome

Performance: Review of each measure's current performance

Technical Description: Explains target development and its role in aviation

Source(s): Data used to develop targets or evaluate the measure

System indicators are outlined based on the following information:

Title: Name of each indicator as referenced throughout this Plan

Indicator: What is being tracked

Relevance: Why the indicator is relevant and important to the system

Trends: Description of current system trends in Minnesota

Source(s): Data used to develop targets or evaluate the measure

Individual airport performance measure report cards are included in **Appendix E: Airport Facility Needs Sheets and Report Cards** and will help airport communities understand if their airport meets individual measures and how their airport compares to the rest of the system. **Figure 6-1** presents a snapshot summary of the system's current performance measures and system indicators. The summary highlights that there are some areas where performance can be improved significantly and others where expectations are being met or exceeded. In some instances improvements can be made with little cost to the state while other improvements may require significant investments which are further outlined in **Chapter 7: Investment Plan and System Recommendations**.

Figure 6-1: Current Performance Measures and System Indicators Summary



ADEQUATE SAFETY ZONING ORDINANCES

Measure: Percent of system airports with an adequate State Safety Zoning Ordinance

Relevance: Airport safety zoning ordinances serve to protect people and property from aviation accidents by limiting land uses and population density around airports, particularly in aircraft approach areas beyond the ends of runways. Adopting an airport safety zoning ordinance also helps ensure that compatible land uses develop around an airport. Ideally the regulations adopted in the airport safety zoning ordinance are incorporated and enforced as a part of the community's comprehensive plan.

Target:

100% of system airports should have an adequate safety zoning ordinance adopted by a joint airport zoning board or equivalent authority

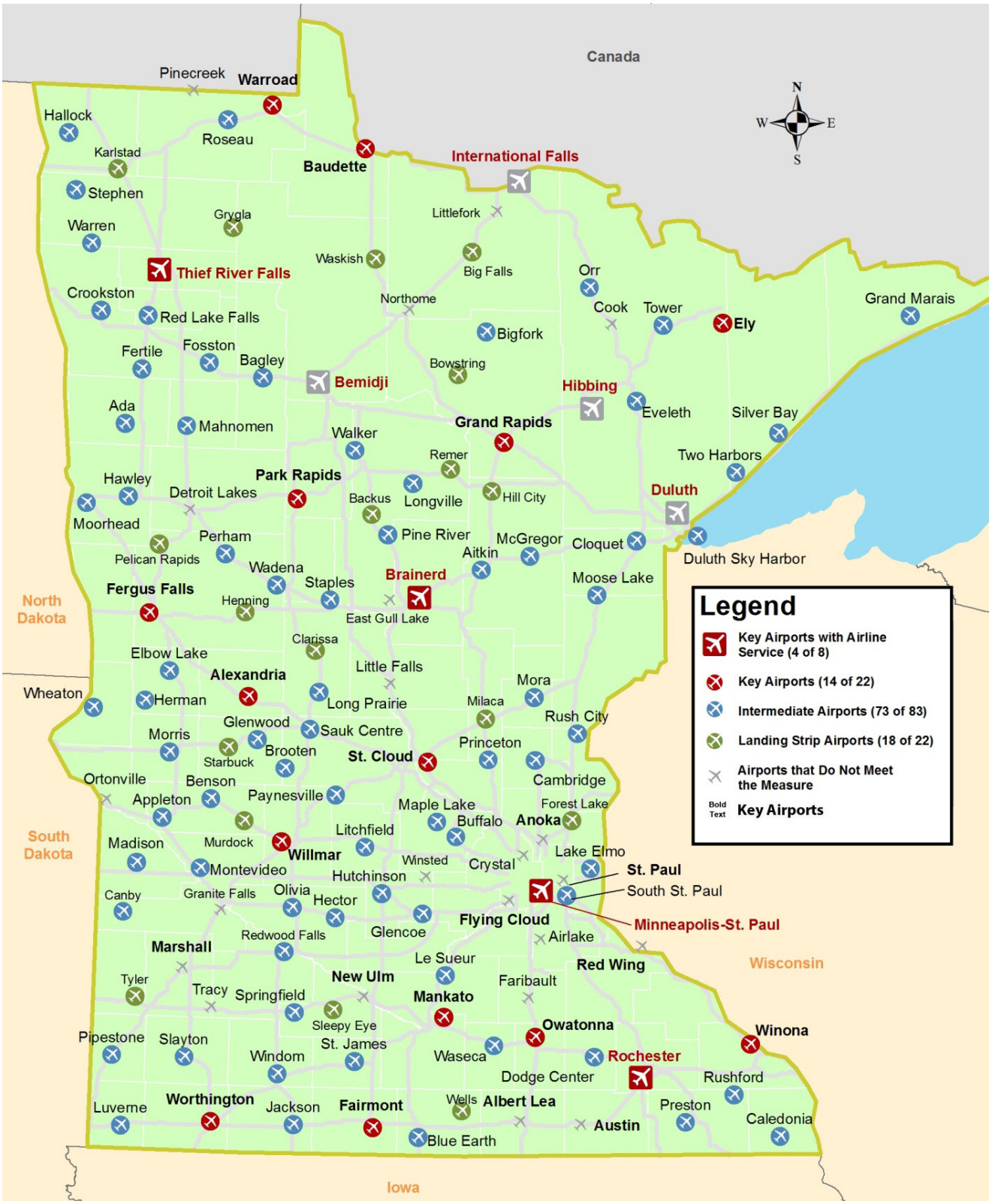
Performance:

81% of system airports meet the target

Airports with an adequate airport safety zoning ordinance are displayed in **Figure 6-2**. The 2006 SASP indicated that 88 percent of airports had an airport safety zoning ordinance adopted by a zoning authority. In addition, 8 percent of the airports indicated that a master plan or ALP review process was underway which would affect the area zoned or to be zoned. Only 4 percent of airports did not have an airport safety zoning ordinance.

This plan evaluated each ordinance to determine if: existing runways are protected by zoning, proposed improvements are protected by zoning, both, or neither. Some airports extended runways without a zoning authority concurrently updating the zoning ordinance, and although an ordinance was previously adopted, it did not protect for the additional infrastructure. The more detailed evaluation of this measure in this Plan led to a drop in performance percentage as compared to the 2006 Plan, even though a large majority of airports have some level of airport safety zoning protection in place.

Figure 6-2: Adequate Safety Zoning Ordinances



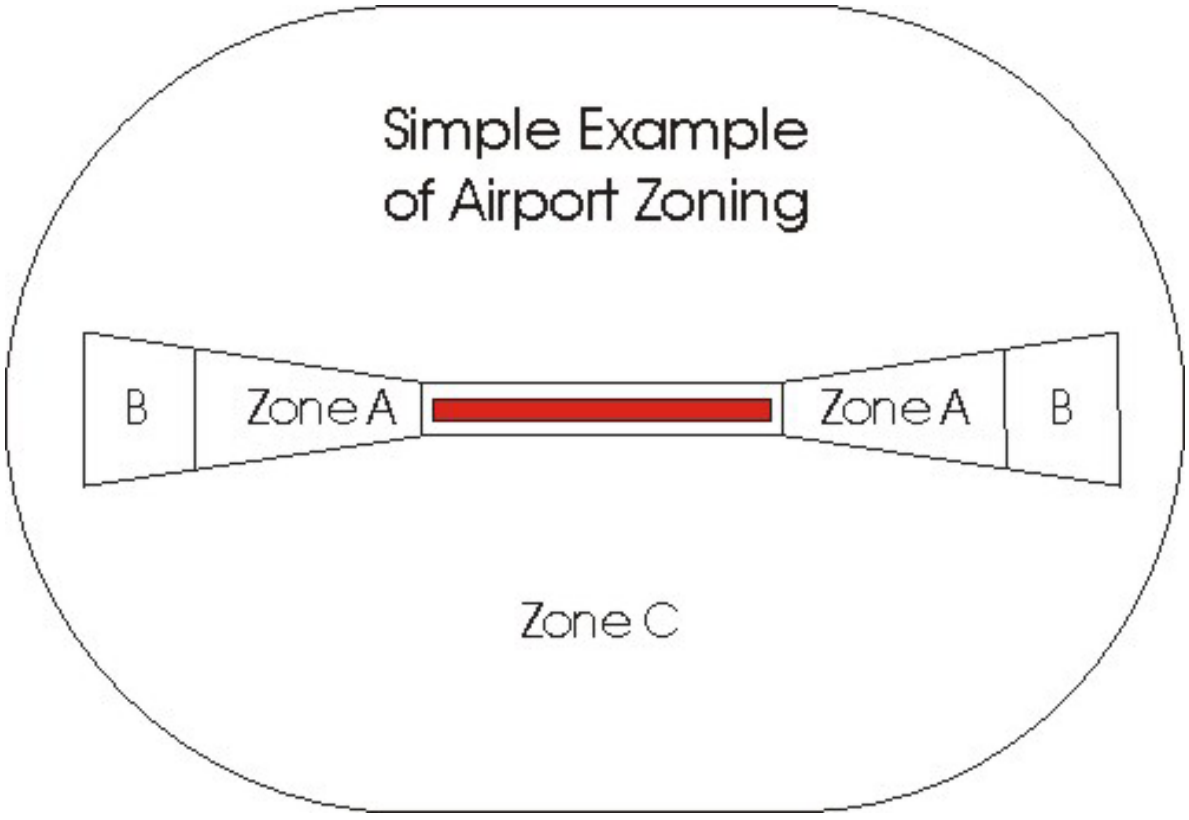
Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Technical Description: Minnesota Statutes Chapter 360 and Minnesota Administrative Rules, Chapter 8800 define the process, procedures, and standards a joint airport zoning board or equivalent authority must use to develop and adopt an airport safety zoning ordinance. One notable difference between airport zoning and other municipal zoning processes is that the board is likely to include representation from multiple jurisdictions. Airport communities in Minnesota have been allowed by statute to enact airport safety zoning since 1945. But, it wasn't until 1973 that the legislature made airport safety zoning a condition for receiving federal and state funds for airport development and maintenance.

To assist local governments in the airport zoning process, MnDOT Aeronautics publishes a model zoning ordinance and provides related technical assistance to local zoning authorities. Minnesota's zoning rules require three distinct safety zones (Zone A, Zone B, and Zone C) which restrict specific uses in the areas surrounding airports (see **Figure 6-3**). These zones apply to both existing and ultimate airport conditions (i.e. a planned for but not yet constructed runway must also be zoned). Additional airport zoning information can be found on the MnDOT Office of Aeronautics Airport Zoning webpage.

Source(s): MnDOT Office of Aeronautics 2011 SASP Inventory Survey, Airport Database, & MnDOT Analysis

Figure 6-3: Safety Zones



AIRPORT SURFACES CLEAR OF OBSTRUCTIONS

Measure: Percent of system airports that have no obstructions to protected airspace

Relevance: Obstructions in protected airspace are flight hazards and must be accounted for by the pilot during the two most critical phases of flight – take-off and landing. Obstructions raise the minimums of instrument approach procedures, when lower minimums are more desirable. This affects the amount of time an airport is accessible during inclement weather.

Target:

100% of system airports should be clear of obstructions to Federal Aviation Regulation (FAR) Part 77 approach and primary airspace surfaces

An airport meets the target if there are no obstructions to the FAR Part 77 primary or approach airspace surfaces or if the obstruction is already lighted with approved hazard lighting.

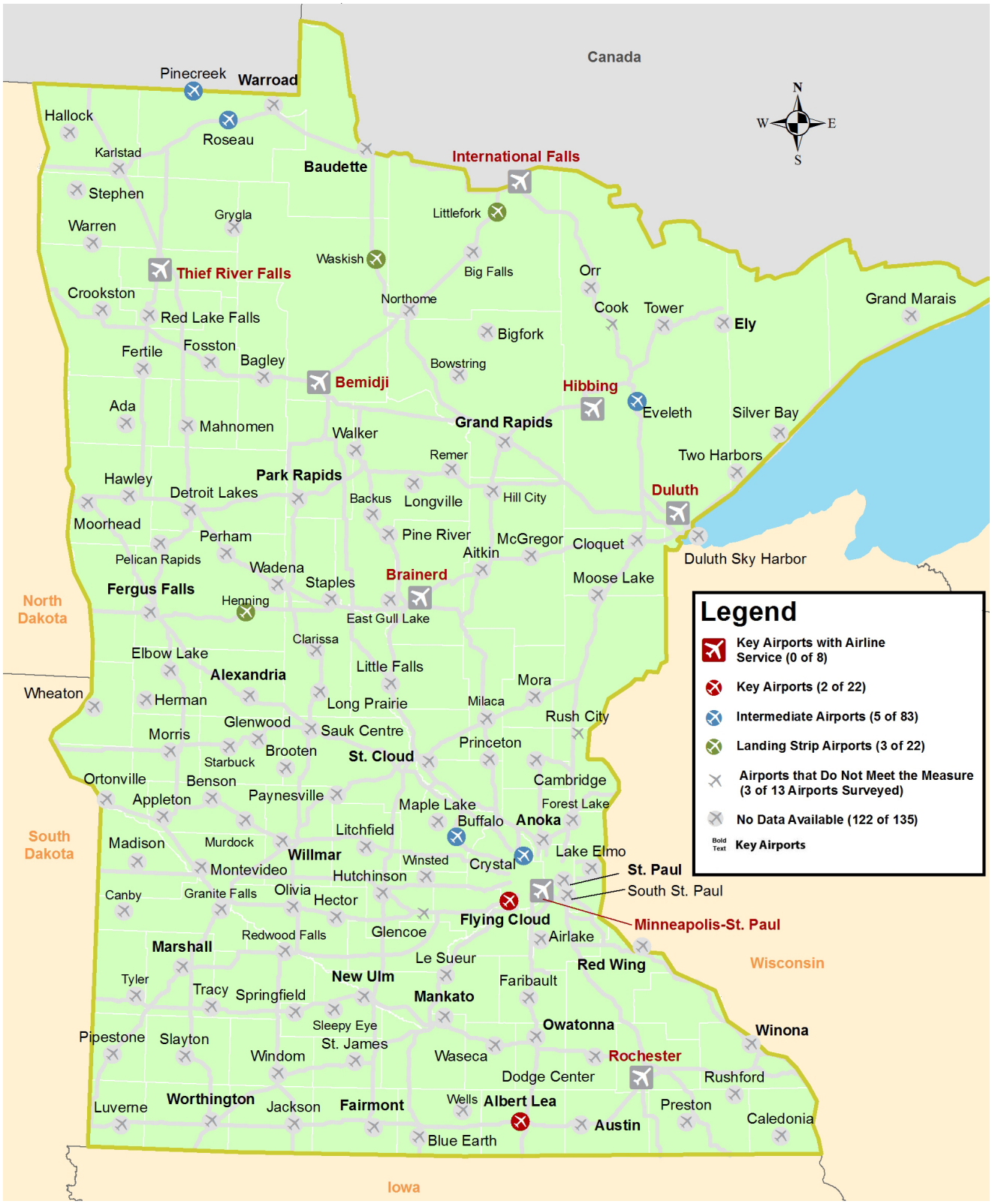
Obstructions to be mitigated or eliminated may include trees and vegetation, topography (such as the ground), buildings, roads and railroads. Methods for mitigating obstructions may include removal, alteration until no longer a hazard or addition of hazard lighting.

Performance:

Data collection in progress

All system airports are surveyed periodically. Since 2011, improvements in survey technology have allowed more detailed identification of obstructions. New detailed data exist for the 13 airports identified in **Figure 6-4**, of which three do not meet the measure (Cook, Glencoe, and Rush City). Surveying will continue with each airport surveyed on a three-year rotation basis. Obstructions identified are considered within the context of the airport to determine appropriate mitigation measures.

Figure 6-4: Airport Surfaces Clear of Obstructions



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

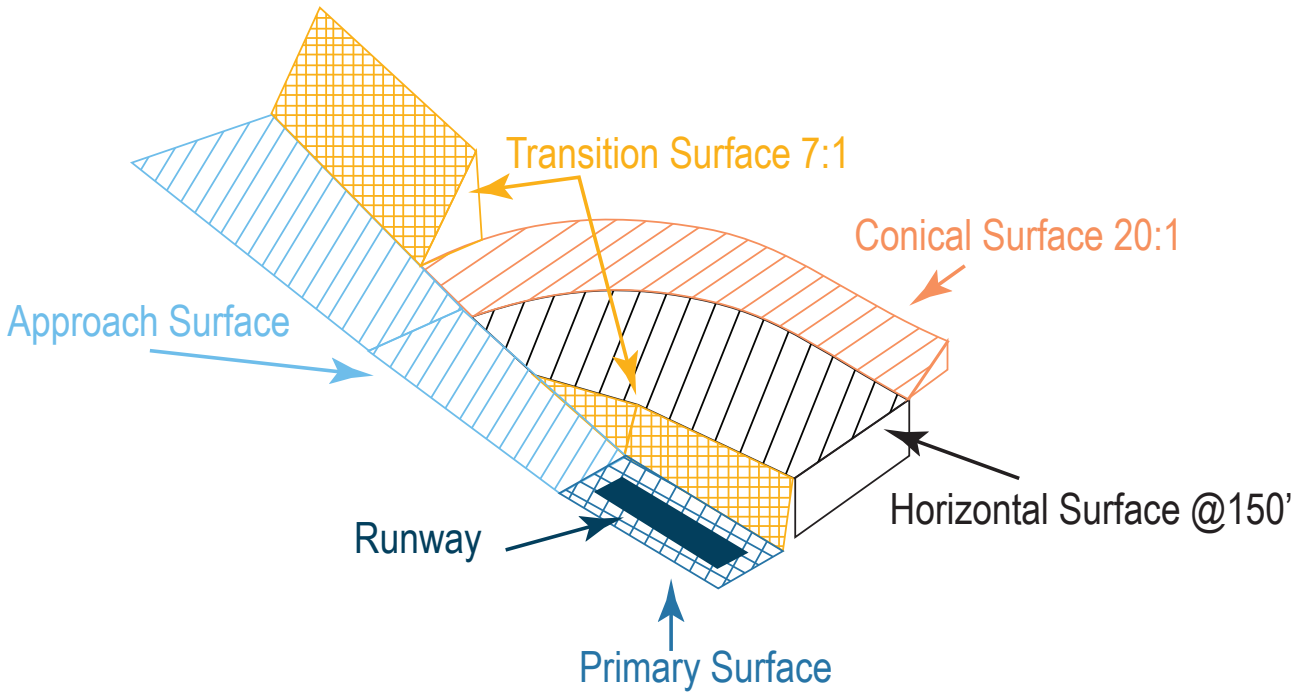
Technical Description: FAR Part 77 contains the obstruction standards for the National Airspace System (NAS). Part 77.19 is one of five criteria that defines height limits that if exceeded can adversely affect the safety and efficiency of the NAS. Part 77.19 defines numerous surfaces surrounding the airport that are used to evaluate the effect that obstacles can have on aircraft (see **Figure 6-5**). The two most relevant imaginary surfaces to this performance measure are the runways primary surface and the runway approach surface.

A runway's primary and approach surface dimensions are based on the type of approach to that runway. Visibility minimums are determined by visual approach requirements or instrument approach requirements by type (e.g., ILS, LPV, APV-2), the presence of approach lighting systems, and obstacles.

If there is an obstruction to a Part 77.19 surface, depending on the height and location, the obstruction can become a controlling obstacle in the development of an instrument approach procedure. The approach procedure will be designed with minimums set high enough to avoid the obstacle and an added margin of safety above it. If the obstruction did not exist, the aircraft could approach the runway closer to the ground, maximizing visibility in IFR conditions. Thus, a single obstruction can considerably degrade the usability of an airport if not mitigated.

Source(s): MnDOT Office of Aeronautics 2011 Airport Inspection Database

Figure 6-5: Airport Surfaces



ADEQUATE PROXIMITY TO WEATHER REPORTING

Measure: Percent of system airports that have a weather reporting station on-site or within 30 nautical miles

Relevance: Minnesota's continental climate provides a variety of quickly changing weather conditions from thunderstorms in Spring and Summer to ice storms in late Fall and Winter. Up-to-the-minute accurate weather reporting at airports helps pilots make good flight planning decisions.

One of the most common causes of aircraft accidents is continued flight into deteriorating weather conditions. A weather station at a local airport provides instant reporting of current conditions at that airport. Providing weather stations at several airports creates a reliable network of available weather information along any flight route and enhances the safety of the flight. However, not every airport needs a weather observation station. A distance of 30 nautical miles is considered adequate spacing.

Target:

100% of system airports should have weather reporting stations on-site or be within 30 nautical miles of an airport that has weather reporting on-site

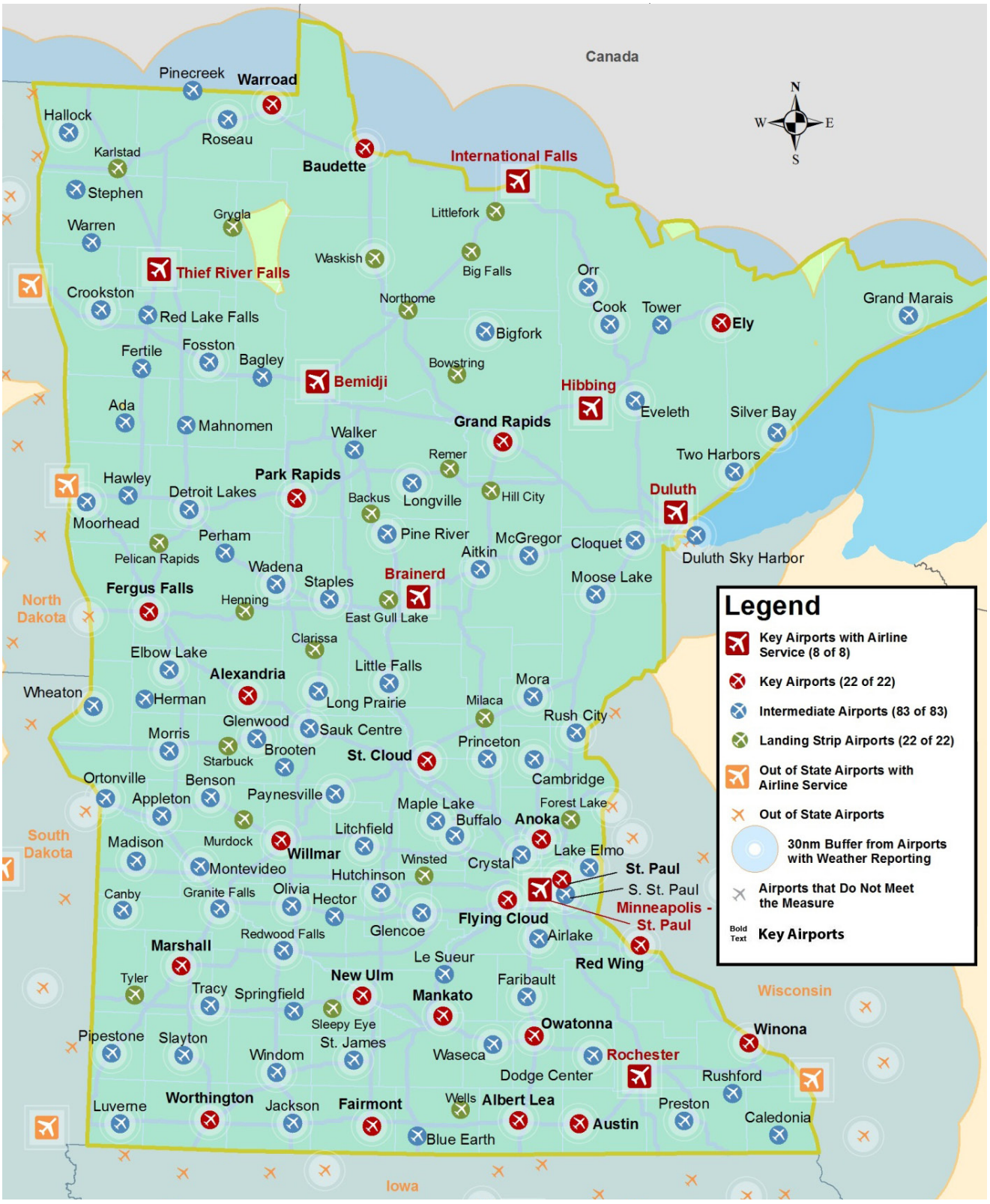
Performance:

100% of system airports meet the target

Every system airport either has weather reporting or is within 30 nautical miles of one that does. Only a very small area located near Upper and Lower Red Lake is not within 30 NM of weather reporting; however, there are no system airports in this area.

Figure 6-6 presents the results of the analysis for this measure.

Figure 6-6: Adequate Proximity to Weather Reporting



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Technical Description: Pilots need accurate, up-to-date weather data during all phases of flight but especially for the critical phases of flight, takeoff and landing. In addition to obtaining the forecast weather for the destination airport and while en route, it is safety critical that accurate weather forecasts are also available for surrounding airports when planning for an IFR alternate airport for landing. Currently, there are two types of weather reporting systems in use in the state: ASOS (Automated Surface Observing System) and AWOS (Automated Weather Observing System). Data typically gathered by these systems are shown in **Table 6-1**.

Table 6-1: Data Collected for Weather Reporting

Cloud ceiling (Height above the ground)
Visibility (Distance a pilot can see without a weather obstruction)
Wind direction and speed
Temperature and dew point
The presence of lightning (Thunderstorms)
The presence of precipitation, type of precipitation and precipitation accumulation
Snow depth

Sensors detecting these weather characteristics are located adjacent to the reporting station which broadcasts data on an airport specific radio frequency.

Source(s): MnDOT Office of Aeronautics 2011 SASP Inventory Survey, Airport Database, NOAA ASOS and AWOS Stations Lists, February 2012



EMERGENCY MEDICAL RESPONSE

Indicator: Percent of Hospitals with access to an instrument approach either on site or within 15 minutes drive time

Relevance: Emergency Medical Response within the state of Minnesota relies on air and ground transportation for moving accident victims to a hospital or for moving patients from a lower to a higher level trauma center hospital. In many cases, helicopters and fixed wing aircraft are used when it is determined that ground transportation may take too long due to the patient's condition or other factors. Moving of patients using helicopters or fixed wing aircraft may be negatively impacted by the following three aviation conditions.

Having only private approaches limits the flexibility to use multiple air ambulance providers during large scale emergency responses when the weather is poor. The percentage of hospital heliports with approved approaches is minimal within the state and private approaches are restricted to only certain service providers who have paid for development of the approach.

Ground travel time in excess of 15 minutes for an ambulance transferring a patient between a hospital and an airport with an instrument approach during inclement flying weather is undesirable. In many cases, transferring of patients between hospitals is accomplished by using a local airport when a heliport is not available at the hospital or the weather does not permit helicopter operations.

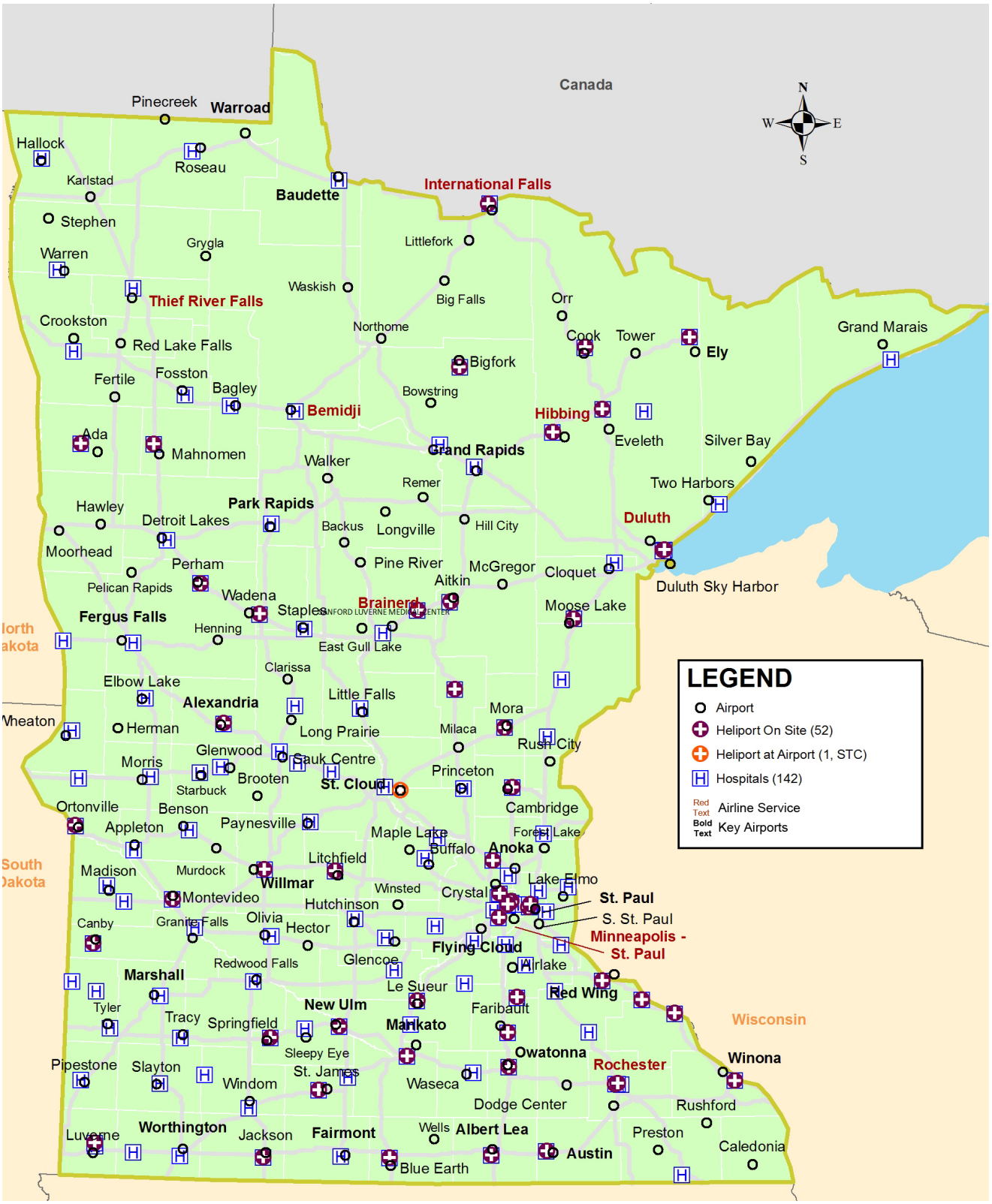
Access to hospitals north of MSP by aircraft flying across MSP airspace are hindered by current airspace restrictions.

Trends: Figure 6-7 shows those Hospitals in the state that have heliports. There are 142 hospitals in Minnesota and 53 of these have a heliport. All of the heliports in the state are private use, but some may grant users access if they request permission to do so prior to landing. Currently there are 15 hospitals with FAA-approved instrument approach procedures that allow special-use authorized helicopter operators to fly instrument approaches to and from medical facilities (see **Table 6-2**).

Table 6-2: Hospitals with FAA-Approved Private Instrument Procedures

Albert Lea Medical Center
Austin Medical Center
St. Mary's Hospital (Duluth)
District One Hospital
Lake City Medical Center
Immanuel - St. Joseph's Hospital (Mankato)
Abbot Northwestern Hospital (Minneapolis)
New Ulm Medical Center
Northfield Hospital
Fairview Red Wing Medical Center
St. Mary's Hospital (Rochester)
St. James Medical Center
St. Elizabeth Hospital (Wabasha)
Winona Community Memorial Hospital

Figure 6-7: Hospitals with Heliports



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

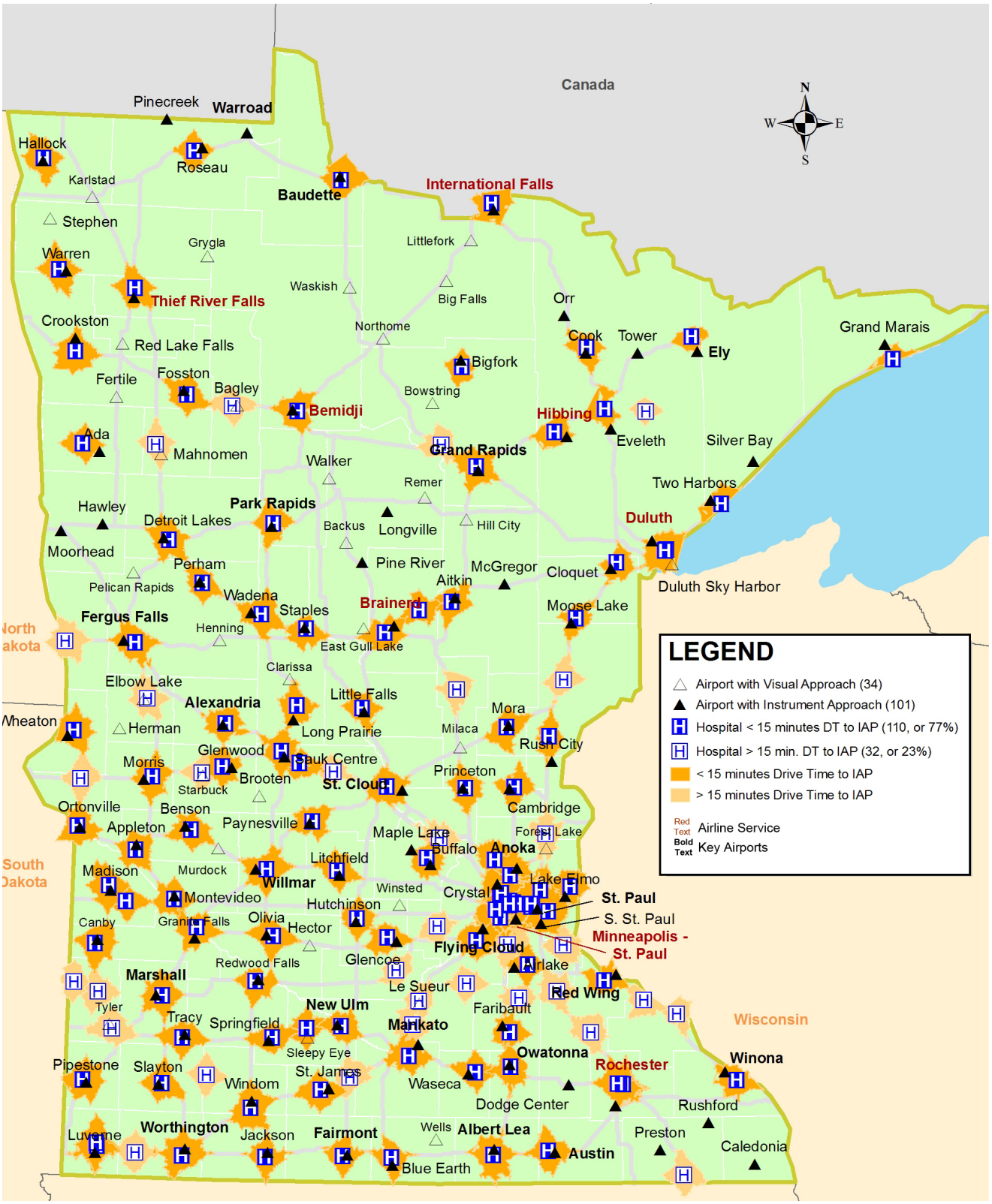
Hospitals within the state that need to transfer a patient to a higher level trauma center will use fixed wing aircraft at a local airport to either minimize total travel time between hospitals or avoid weather conditions such as icing that limit the use of a helicopter. Hospitals within 15 minutes of an airport with an instrument approach increase the reliability of using this method for transferring patients during both good and bad weather. An airport with an instrument approach will also allow a helicopter to land at that airport when weather is poor and the nearby hospital itself does not have a heliport with an instrument approach.

Figure 6-8 shows all of the hospitals in the state within 15 minutes drive times from the airports that also have at least one instrument approach procedure. Of the 142 hospitals in the state, 110 are 15 minutes drive time to an airport with an instrument approach. This equates to 77 percent of the hospitals in the state within 15 minutes drive time to an airport in the state with an instrument approach.

Crossing of MSP airspace takes more time and has become more difficult with the addition of runway 17-35. The increased time has a negative impact on the transferring of patients by helicopter from the southern Twin Cities area to hospitals north of MSP. Provision of a dedicated GPS route through the airspace would improve the ability to quickly transition through the airspace, reduce pilot and controller workload, and increase safety. It is recommended that this be further explored by MnDOT.

Source(s): Minnesota Department of Health (2003), Distributer Organization: State of MN Land Management Information Center (LMIC), Federal Aviation Administration (2012), Distributer Organization: AirNav

Figure 6-8: Hospitals Within 15 Minutes of an Airport with an Instrument Approach



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

AVIATION ACCIDENTS

Indicator: Total number of aviation related accidents in Minnesota

Relevance: Safety is a primary mission of MnDOT Aeronautics. Looking at trends in aviation accidents is one way to indicate how well the system is functioning relative to safety.

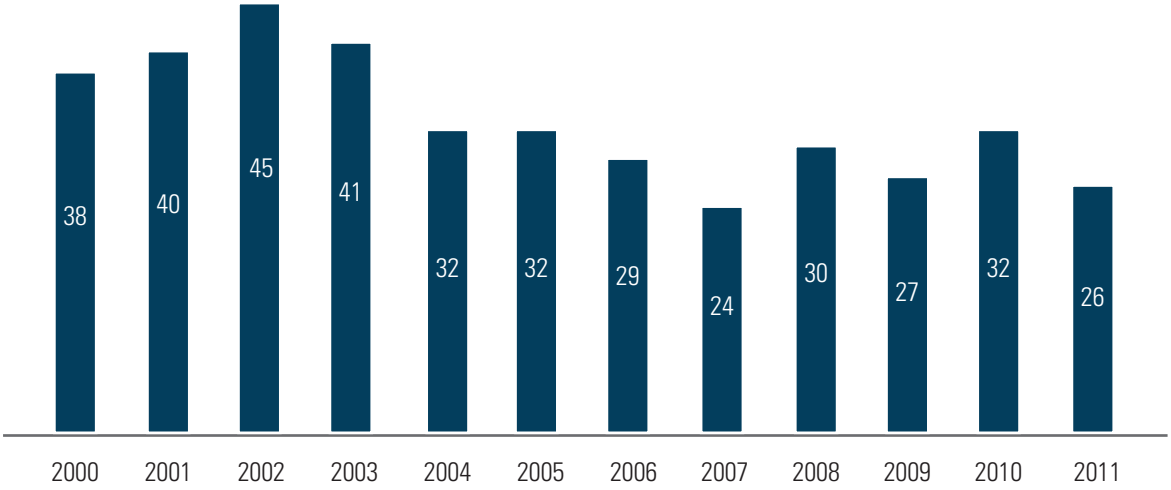
Trends: The MnDOT Office of Aeronautics strives to eliminate all accidents related to aviation. This is done through funding projects which enhance airport safety, restricting land use and construction near airports, and providing pilots and the public education on safe flying. MnDOT's website has links to safety seminars which are hosted at different system airports. These can be found at: http://www.dot.state.mn.us/aero/avoffice/events/fly-ins.html.

Accidents can be caused by a wide range of factors including aircraft equipment malfunctions, inattentive grounds crew members, and pilots attempting risky landings or flying in bad weather. Aviation accidents are investigated and reported first by the National Transportation Safety Board (NTSB) and then by MnDOT. These investigations allow MnDOT to track the location of accidents and also understand the reason for the crash. Using this data, MnDOT is able to identify common accident locations and look at means of mitigating potential problems.

Since 2000 there have been a total of 379 accidents related to aviation. The annual average for the first six years (2000-2005) was thirty-eight accidents. Within the last six years (2006-2011) the annual average has dropped to twenty-five. There were nine aviation accidents in 2011, which continues the decreasing trend in the number of aviation accidents from a high of 45 accidents in 2002. **Figure 6-9** shows historic aviation accident data.

Source(s): MnDOT Office of Aeronautics Aviation Accident Database

Figure 6-9: Annual Aviation Accidents



Source: MnDOT Office of Aeronautics Aviation Accident Database

AVIATION FATALITIES

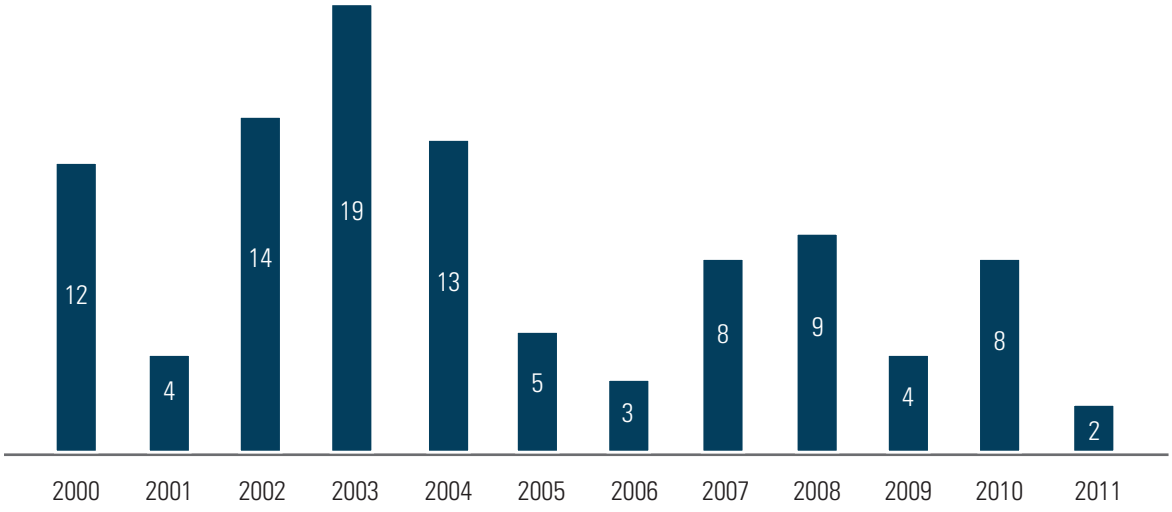
Indicator: The total number of aviation related fatalities in Minnesota

Relevance: This indicator also relates to the Minnesota Statewide Transportation Policy Plan regarding traveler safety. MnDOT strives to "create a culture for which…fatalities and serious injuries are no longer acceptable," and tracking fatalities will assist them in reaching this goal.[23]

Trends: Similar to other modes of transportation, fatalities in aviation are often the result of human error or equipment malfunction. Understanding trends in fatalities may assist in creating new policies or educating the public on problematic areas in the system. There were two aviation fatalities in 2011. The number of aviation fatalities has fluctuated over the past six years, ranging between two and nine fatalities per year from 2006 through 2011. Overall, there's been a slight trend of decrease since 2000. **Figure 6-10** shows historic aviation fatality data for the state.

Source(s): MnDOT Office of Aeronautics Aviation Accident Database

Figure 6-10: Annual Aviation Fatalities



Source: MnDOT Office of Aeronautics Aviation Accident Database

[23] http://www.minnesotatzd.org/index.html

ADEQUATE APPROACHES TO AIRPORTS

Measure: Percent of system airports with adequate approaches appropriate for their airport classification

Relevance: An approach is an invisible pathway in the sky guiding an aircraft from the air to the runway. There are three types of approaches: precision instrument, non-precision instrument and visual. The more precise the approach, the more information a pilot can use to get their aircraft to the runway. Weather is the number one factor that determines if an airport can be used at any given time. Instrument approaches allow airports to be more accessible under a variety of weather conditions thereby creating a safer system and improving accessibility across the state.

Target:

100% of system airports should have appropriate approaches

Key Airports: All have at least one precision instrument approach to the primary runway[24] AND a non-precision instrument approach[25] with vertical guidance on the opposite runway end.

Intermediate Airports: All have at least one runway end with a non-precision instrument approach with vertical guidance.

Landing Strips: Visual approaches are appropriate.

Performance:

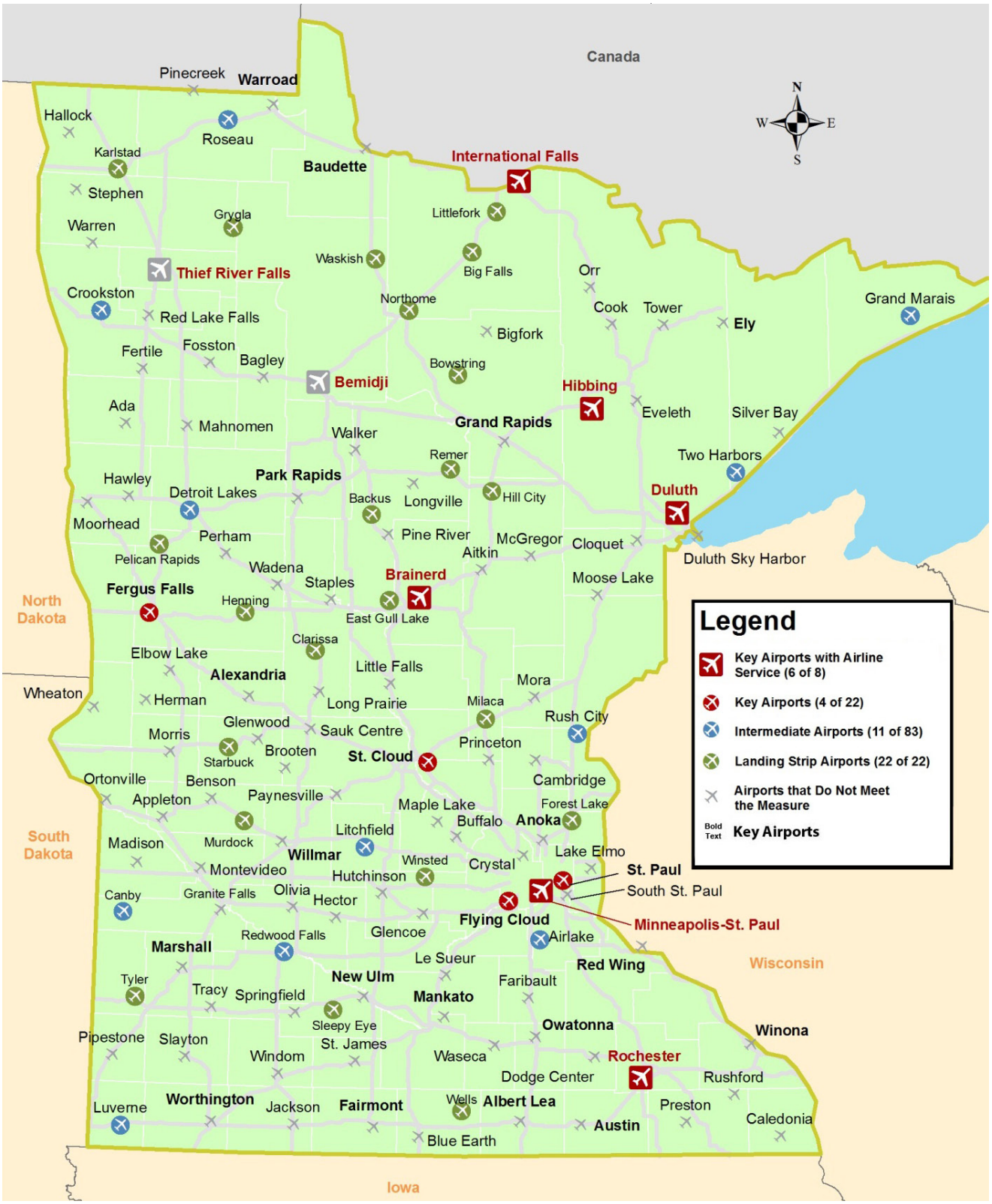
32% of system airports meet the target

Thirty-two percent of system airports have approaches appropriate for their airport classification. Further breakdown by classification shows that 33 percent of Key Airports, 13 percent of Intermediate Airports, and all Landing Strips meet the measure. The majority of airports that do not meet the measure have the necessary approaches, but have high cloud ceiling or visibility minimums which prevent them from being fully utilized. High minimums are due to obstructions in the approach area, either manmade (e.g., buildings or cell towers), or natural (e.g., trees or terrain). **Figure 6-11** identifies the system airports which meet or do not meet the target.

[24] An ILS approach, which is a precision approach developed using a ground based navigation system and requiring system-specific avionics installed in the aircraft, OR a LPV approach, which is an approach procedure with vertical guidance (performance level 1, or APV-1), developed using the global navigation satellite system (GNSS) along with the wide area augmentation system (WAAS), also requiring system-specific avionics installed in the aircraft.

[25] A performance level 2 lateral navigation/vertical navigation (LNAV/VNAV) approach. This is computed using either the aircraft's onboard WAAS avionics or through the aircraft's barometric vertical (Baro-VNAV) avionics.

Figure 6-11: Adequate Approaches to Airports



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Technical Description: There are two major categories of flight rules which are dependent on weather conditions, visual flight rules (VFR) conditions and instrument flight rules (IFR) conditions. In VFR meteorological conditions, pilots fly by sight. In IFR conditions, pilots fly using instruments in the aircraft.

All licensed pilots are allowed to operate during VFR conditions. According to FAA rules, the cloud ceiling must be more than 1,000 feet above the ground, and visibility must be at least three miles. The aircraft must remain 500 feet below any overhead clouds, 1,000 feet above any underlying clouds, and 2,000 feet laterally from any adjacent clouds. Because approximately 90 percent of the weather in the state is VFR conditions, the system is open to all pilots most of the time, except where the winds are too strong.

The remaining ten percent of the time, when the weather is below the VFR conditions into IFR conditions, an airport is not usable unless; the pilot is instrument rated, the airport has an instrument approach procedure and there is adequate proximity to an airport that will qualify as an alternate airport that can be used for landing. Additionally, either an on-airport weather reporting station, or one nearby, will increase the accuracy of weather forecasting. With these procedures and equipment in place, the airport may be usable most of the time.

On a system-wide basis, a vertically guided instrument approach procedure has the greatest impact for improving access during IFR conditions. Vertically guided instrument approach procedures allow instrument-rated pilots equipped with the proper avionics to navigate by instruments both to and from the airport, except for the final segment of an instrument approach, which is done visually. While it is possible to navigate by lateral guidance (i.e., non-precision) alone, the incorporation of electronic or computed vertical guidance into an instrument approach procedure is needed to provide a constant glide path angle; stabilize the descent rate, and decrease landing minimums. Following vertical guidance helps to avoid obstacles within known tolerances and will allow pilots to descend to lower altitudes while relying only on instruments. Airports can remain open more often with vertically guided instrument flight procedures in place.

FAA studies have shown that vertically guided approaches enhance safety by decreasing the likelihood of undershooting or overshooting the landing threshold and controlled flight into terrain (CFIT) or into obstacles. Moreover, many airlines will not allow their aircraft to make an approach without vertical guidance even under clear weather conditions.

Finally, the importance of vertically guided instrument approach procedures led the International Civil Aviation Organization (ICAO) to pass a safety resolution encouraging its members to implement vertically-guided approaches to all runways by 2016. The FAA also was working to publish vertically-guided instrument approach procedures to most runways at NPIAS airports by the end of 2010.

Ideally, a runway with an ILS precision approach or LPV (APV-1) approach has an approach lighting system and an approach area clear of obstructions. When these conditions are met, the approaches will have the lowest possible minimums - the height at which a pilot either can see the runway or aborts the landing. When these conditions are not met, either due to the lack of an approach lighting system or due to the existence of controlling obstacles in the approach area, then the decision height and visibility for either the ILS or LPV (APV-1) will increase significantly.

Raising the instrument approach procedure minimums increases the percentage of time that the airport is unusable due to weather conditions (i.e., cloud ceiling and visibility).

Source(s): FAA Aeronautical Informational Manual (AIM), FAA ILS and Area Navigation (RNAV/GPS) Master Listings, U.S. Terminal Procedure Publications (TERPS),FAA's NextGen Implementation Plan (March, 2011), EUROCONTROL RNAV Approach Task Force (RATF) (2009).



ADEQUATE PROXIMITY TO ALTERNATE AIRPORT

Measure: Percent of system airports within 50 nautical miles of an airport that serves as an alternate for an Instrument Flight Rules (IFR) flight plan

Relevance: When the weather is forecast to be less than required for Visual Flight Rules (VFR) flight, a pilot must list an alternate airport on the flight plan. The type of instrument approach available at the alternate airport affects the minimum weather required for using the airport as an alternate. Since the weather often is similar at airports surrounding the destination airport, the best alternate airports are those with precision approaches (ILS) and Terminal Area Forecasts (TAF).[26] In planning the flight, the pilot must include enough fuel to fly from the destination to the alternate and have an additional number of minutes fuel use in reserve as specified by the regulations. The further the alternate is from the destination, the more fuel the aircraft must carry. At some point the aircraft weight or fuel capacity reaches an upper limit and the flight must be canceled.

Planning for an alternate airport improves the safety of the flight because the pilot is required to plan for the possibility of not being able to land at the destination. The act of choosing the alternate requires the pilot to check weather forecasts for the surrounding area and to ensure that they carry enough fuel to allow them to proceed to an alternate airport. Having airports within 50 nautical miles of the destination airport that have a precision approach (ILS) improves the safety of all flights since the weather will sometimes develop differently than forecast and other situations, such as a short notice closure of the destination airport may require flights to be diverted, even in the best of weather.

While most airports can be used as an alternate airport, airports with precision approaches give the lowest alternate minimums. When a TAF is not available within five miles of the airport the Area Forecast must be used to determine if the airport will meet the weather minimums. Since the Area Forecast covers a much broader area the forecast generally includes worse weather and is less reliable than a TAF. Airports with an ILS and a TAF make the best alternates.

Ensuring that system airports with instrument approaches have an alternate airport nearby is critical to providing a reliable system. Weather is difficult to predict, but providing airports that can be used as alternates in proximity to system airports allows for more reliable flight scheduling.

[26] A Terminal Area Forecast is a weather forecast specifically for the localized area around the airport for which the forecast is issued.

Target:

100% of system airports should have an IFR alternate airport within 50 nautical miles

Performance:

87% of system airports meet the target

The majority of system airports are within 50 nautical miles of an IFR authorized alternate airport. There are five Key Airports, ten Intermediate Airports, and two Landing Strips which are outside of the 50 nautical miles minimum. One important point of this performance measure is that an alternate airport cannot be an alternate for itself. One of the five Key Airports, Brainerd Lakes Regional Airport, is an authorized alternate but is not within 50 NM of an alternate for itself.

The full results of the analysis are presented in **Figure 6-12**.

Technical Description: An alternate airport must be designated in an IFR flight plan. An alternate airport for landing is used as a backup to the destination airport in the event that at the time of arrival the ceiling and visibility minimums have fallen below the published approach procedure minimums. In such a case, the aircraft will need to divert to the planned alternate. The pilot must have enough fuel to be able to fly to their intended destination, then to their alternate, and then still have 45 minutes of reserve fuel.

For an airport to be considered an alternate airport under this measure the airport must meet the three criteria listed in **Table 6-3**.

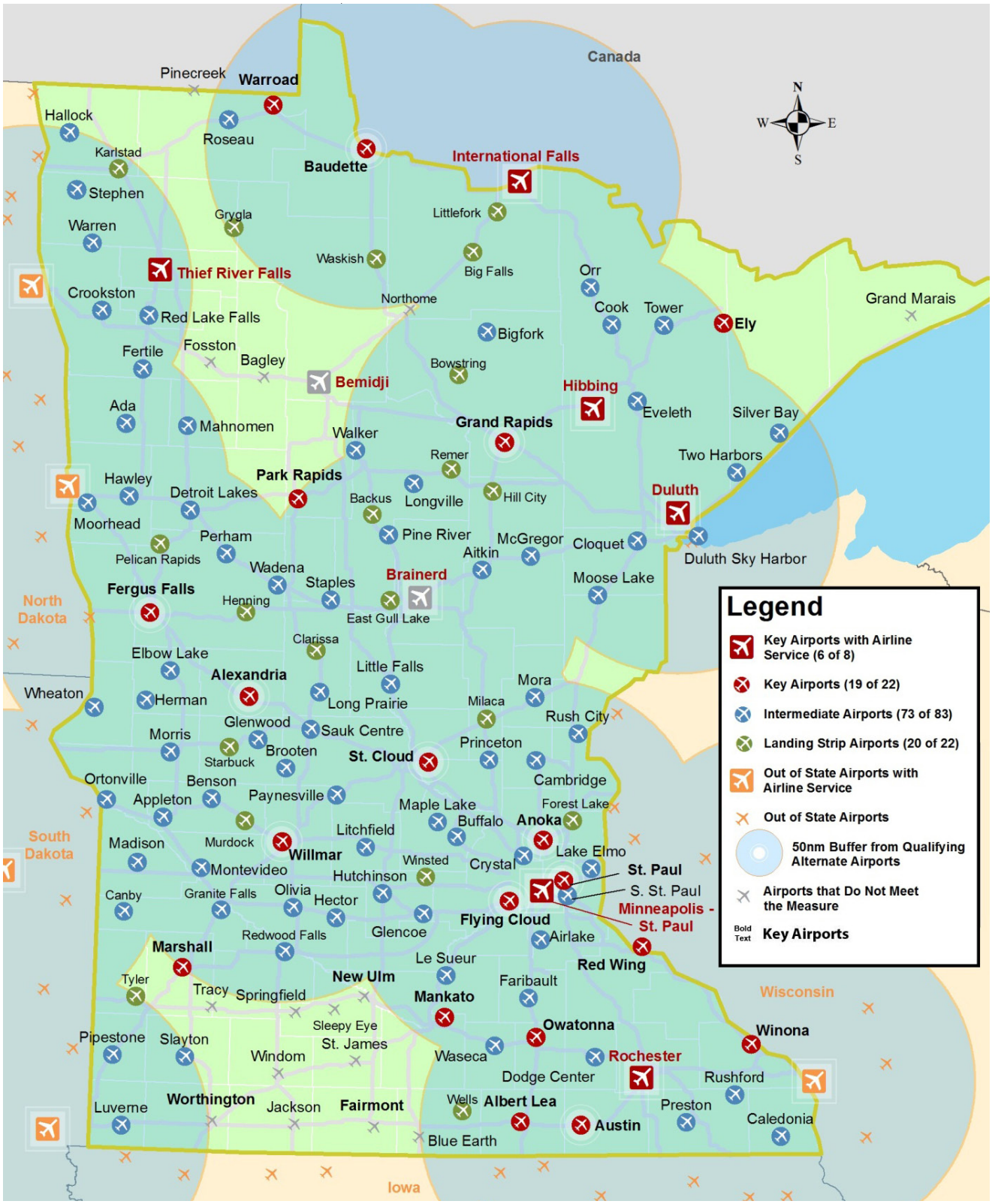
Table 6-3: Alternate Airport Criteria

Airport must have an ILS. An ILS consists of electronic equipment to guide an aircraft to the runway vertically (a glide slope) and laterally (localizer).
The airport's ILS must be monitored at all times. A dedicated ground telephone line continually monitors the ILS to ensure it is operating properly and notifies pilots if it goes offline.
The airport needs a weather reporting station on-site.

Other approaches (LPVs) are considered to be authorized alternates by the FAA, but because the equipment required to use these approaches is not standard or widely used at this time they are not considered in this analysis.

Source(s): FAA ILS RNAV/GPS Master Listing, FAA Terminal Procedures Publications, FAR Part 91.169 IFR flight plan; information required.

Figure 6-12: Adequate Proximity to Alternate Airport



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

AIRPORT USABILITY

Indicator: Percent of time that pilots can use an airport is primarily dependent upon weather conditions

Relevance: The purpose of this indicator is to show the annual percentages of time that Minnesota's airports are usable by pilots based upon the weather conditions that pilots are able to fly within. Not all pilots, nor aircraft, nor airports, are trained and/or equipped so as to be usable in every weather condition. What is shown here is an attempt to classify weather conditions according to four categories, three of which are based upon the type of approach a pilot uses at an airport, and the fourth of which is based upon the weather conditions for when airports are not usable due to weather conditions.

Trends: To determine airport usability, weather data for the most recent ten-year period was gathered from the National Climatic Data Center (NCDC) for one airport from each of the eight MnDOT Districts to represent the percentages of time weather falls into these three approach types: visual, non-precision instrument (NPI), and precision instrument (PI).

Visual approaches are made during visual meteorological conditions (VMC), which is when cloud ceilings are equal to greater than 1,000 feet above the ground and the visibility is at least three statute miles. Under VMC, pilots operate their aircraft according to the FAA Visual Flight Rules (VFR) and for the most part come and go freely from all public use airports by relying on visual references during all phases of flight. In this way, airports are usable most of the time because most of the time the weather is permitting VFR operations.

When either the cloud ceilings drop below 1,000 feet and/or the visibilities become less than three miles, the weather changes to instrument meteorological conditions, or IMC, and pilots must operate according to instrument flight rules (IFR). To operate in IMC according to IFR, a pilot must be instrument-rated by the FAA, which requires training, and the plane must be equipped with the necessary instrumentation to fly without any visual reference. Often, if the cloud ceilings and/or visibility are not too low the airport can be used with a NPI approach, which provides only lateral guidance. For the SASP, it was assumed that a typical NPI approach covers ceiling minimums as low 381 feet above the airport and visibility minimums of 1¼ mile, or 381-1¼.

Typically for very poor weather conditions, use of a PI approach is with ceiling and visibility minimums ranging from 380-1 down to 200-½ is needed to use the airport, as a PI allows for a precise, steady vertical navigation (e.g., clearing obstacles or terrain). The ceiling and visibility minimums, or 200-½, are the lowest that pilots can fly with visual reference to the runway (except for MSP and DLH). When the weather is below that, aircraft are grounded and airports are essentially closed.

Table 6-4 shows the annualized usage for each approach type broken out for each of the MnDOT Districts. **Figure 6-13** provides the information visually. **Table 6-5** through **Table 6-12** give a breakdown of each airport by District and the percent of time, in general, that airport is usable based on the best instrument approach at the airport. This data shows that District 3 has the greatest amount of time when the weather is below VFR minimums and airport usage in that district is the lowest.

The FAA continues to publish satellite-based PI flight procedures (i.e., with vertical guidance) that will increase the usability of Minnesota's airports during times of low ceilings and low visibilities.

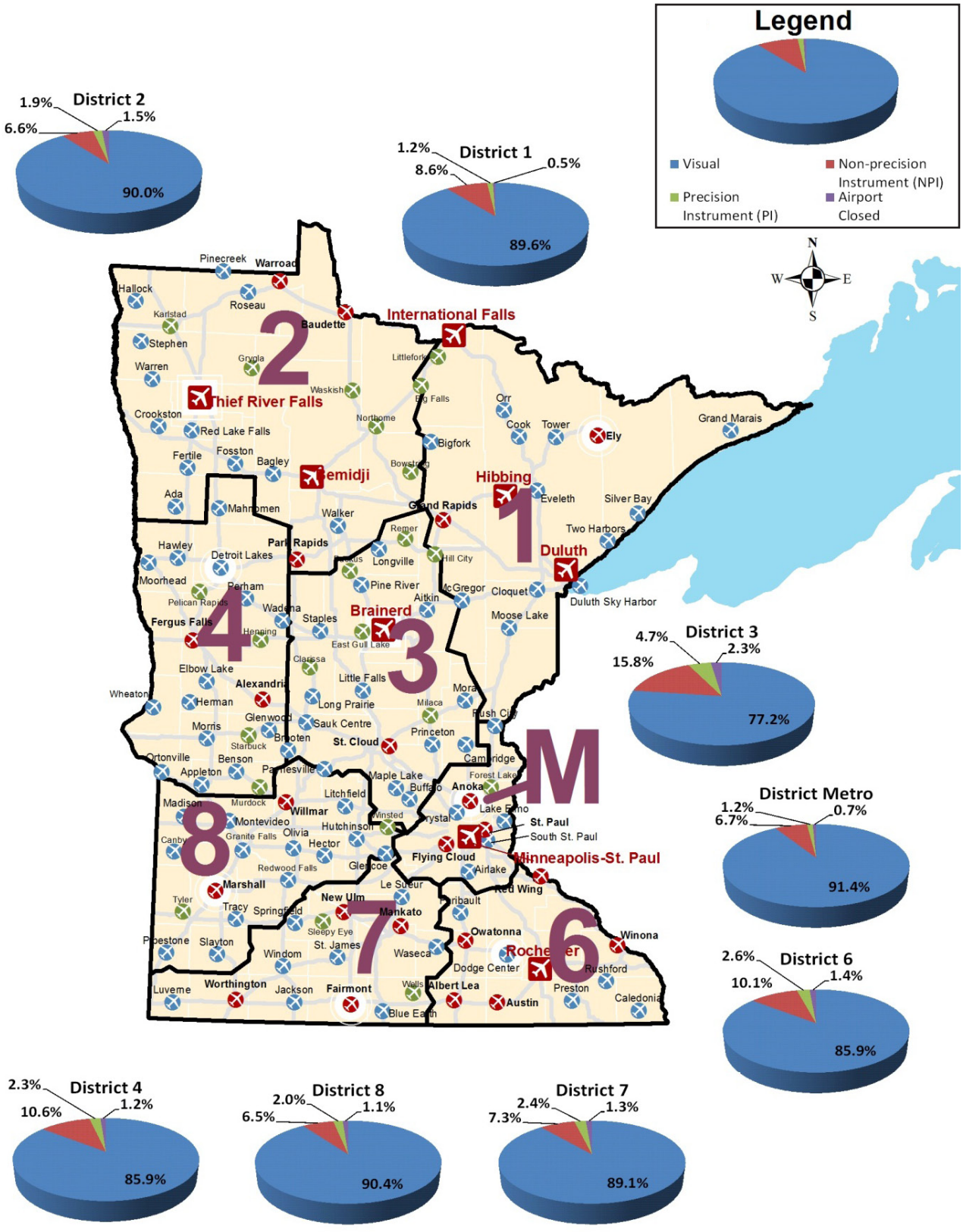
Source(s): The National Climatic Data Center (NCDC) S3505 Integrated Surface Data, Hourly Global, Station Summaries

Table 6-4: Annualized Usage for Each Approach Type by District[27]

MnDOT DISTRICT	APPROACH TYPE							AIRPORT BELOW WEATHER MINIMUMS		
	VISUAL		BASIC NON-PRECISION INSTRUMENT (NPI)		PRECISION INSTRUMENT (PI)					
	DAYS	%	DAYS	%	DAYS	HOURS	%	DAYS	HOURS	%
1	327.1	89.61%	31.5	8.63%	4.4	107	1.22%	2.0	48	0.54%
2	328.6	90.03%	24.2	6.62%	6.8	164	1.87%	5.4	129	1.48%
3	281.9	77.24%	57.6	15.78%	17.2	413	4.72%	8.2	198	2.26%
4	313.7	85.94%	38.8	10.63%	8.3	199	2.28%	4.2	101	1.15%
Metro	333.6	91.40%	24.5	6.71%	4.4	104	1.19%	2.6	61	0.70%
6	313.4	85.86%	37.0	10.14%	9.6	232	2.64%	5.0	119	1.36%
7	325.1	89.06%	26.6	7.28%	8.7	208	2.38%	4.7	112	1.28%
8	329.8	90.37%	23.8	6.51%	7.2	174	1.98%	4.2	100	1.14%

[27] Sky Conditions Assumptions:
Visual = Cloud Ceilings > 1,000 feet and Visibility > 3 miles
Basic NPI = 381 feet < Cloud Ceilings < 1000 feet and/or 1 mile < Visibility < 3 miles
PI = 200 feet < Cloud Ceilings < 380 feet and/or 1/2 mile < Visibility < 1 mile
Airport Below Weather Minimums = Cloud Ceilings < 200 feet and Visibility < 1/2 mile

Figure 6-13: Annual Percentage of Airport Usability by Approach Type



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Table 6-5: Best Approach Usability Summary - District 1

AIRPORT	IDENTIFIER	CLASS	BEST APPROACH	USABILITY
Duluth	DLH	Key	PI	99.46%
Grand Rapids	GPZ	Key	PI	
Hibbing	HIB	Key	PI	
International Falls	INL	Key	PI	
Ely	ELO	Key	PI	98.24%
Two Harbors	TWN	Key	NPI	
Tower	12D	Intermediate	NPI	
Silver Bay	BFW	Intermediate	NPI	
Orr	ORB	Intermediate	NPI	
Moose Lake	MZH	Intermediate	NPI	
McGregor	HZX	Intermediate	NPI	
Grand Marais	CKC	Intermediate	NPI	
Eveleth	EVM	Intermediate	NPI	
Cook	CQM	Intermediate	NPI	
Cloquet	COQ	Intermediate	NPI	
Bigfork	FOZ	Intermediate	NPI	
Duluth Sky Harbor	DYT	Intermediate	Visual	89.61%
Big Falls	7Y9	Landing Strip	Visual	
Littlefork	13Y	Landing Strip	Visual	

Source: Weather data from Ely Municipal Airport AWOS from 6/1/2002 to 6/1/2012

Table 6-6: Best Approach Usability Summary - District 2

AIRPORT	IDENTIFIER	CLASS	BEST APPROACH	USABILITY
Bemidji	BJI	Key	PI	98.52%
Park Rapids	PKD	Key	PI	
Thief River Falls	TVF	Key	PI	
Warroad	RRT	Key	PI	
Baudette	BDE	Key	NPI	96.65%
Crookston	CKN	Intermediate	NPI	
Fosston	FSE	Intermediate	NPI	
Hallock	HCO	Intermediate	NPI	
Pinecreek	48Y	Intermediate	NPI	
Roseau	ROX	Intermediate	NPI	
Twin Valley	D00	Intermediate	NPI	
Warren	D37	Intermediate	NPI	
Bagley	7Y4	Intermediate	Visual	90.03%
Fertile	D14	Intermediate	Visual	
Red Lake Falls	D81	Intermediate	Visual	
Stephen	D41	Intermediate	Visual	
Walker	Y49	Intermediate	Visual	
Bowstring	9Y0	Landing Strip	Visual	
Grygla	3G2	Landing Strip	Visual	
Karlstad	23D	Landing Strip	Visual	
Northome	43Y	Landing Strip	Visual	
Waskish	VWU	Landing Strip	Visual	

Source: Weather data from Thief River Falls Regional Airport AWOS from 6/1/2002 to 6/1/2012

Table 6-7: Best Approach Usability Summary - District 3

AIRPORT	IDENTIFIER	CLASS	BEST APPROACH	USABILITY
Brainerd	BRD	Key	PI	97.74%
St. Cloud	STC	Key	PI	
Aitkin	AIT	Intermediate	NPI	93.02%
Buffalo	CFE	Intermediate	NPI	
Cambridge	CBG	Intermediate	NPI	
Little Falls	LXL	Intermediate	NPI	
Long Prairie	14Y	Intermediate	NPI	
Longville	XVG	Intermediate	NPI	
Maple Lake	MGG	Intermediate	NPI	
Mora	JMR	Intermediate	NPI	
Pine River	PWC	Intermediate	NPI	
Princeton	PNM	Intermediate	NPI	
Sauk Centre	D39	Intermediate	NPI	
Staples	SAZ	Intermediate	NPI	
Brooten	6D1	Intermediate	Visual	77.24%
Backus	7Y3	Landing Strip	Visual	
Clarissa	8Y5	Landing Strip	Visual	
East Gull Lake	9Y2	Landing Strip	Visual	
Hill City	07Y	Landing Strip	Visual	
Milaca	18Y	Landing Strip	Visual	
Remer	52Y	Landing Strip	Visual	

Source: Weather data from FAA Airways AWOS Brainerd, MN from 6/1/2002 to 6/1/2012

Table 6-8: Best Approach Usability Summary - District 4

AIRPORT	IDENTIFIER	CLASS	BEST APPROACH	USABILITY
Alexandria	AXN	Key	PI	98.85%
Fergus Falls	FFM	Key	PI	
Appleton	AQP	Intermediate	NPI	96.57%
Benson	BBB	Intermediate	NPI	
Detroit Lakes	DTL	Intermediate	NPI	
Glenwood	GHW	Intermediate	NPI	
Hawley	04Y	Intermediate	NPI	
Moorhead	JKJ	Intermediate	NPI	
Morris	MOX	Intermediate	NPI	
Ortonville	VVV	Intermediate	NPI	
Perham	16D	Intermediate	NPI	
Wadena	ADC	Intermediate	NPI	
Wheaton	ETH	Intermediate	NPI	
Elbow Lake	Y63	Intermediate	Visual	85.94%
Herman	06Y	Intermediate	Visual	
Mahnomen	3N8	Intermediate	Visual	
Henning	05Y	Landing Strip	Visual	
Murdock	23Y	Landing Strip	Visual	
Pelican Rapids	47Y	Landing Strip	Visual	
Starbuck	D32	Landing Strip	Visual	

Source: Weather data from Detroit Lakes Minicipal Airport-Wething Field AWOS from 6/1/2002 to 6/1/2012

Table 6-9: Best Approach Usability Summary - Metro District

AIRPORT	IDENTIFIER	CLASS	BEST APPROACH	USABILITY
Anoka	ANE	Key	PI	99.30%
Flying Cloud	FCM	Key	PI	
St. Paul Downtown	STP	Key	PI	
Minneapolis-St. Paul	MSP	Key	PI	
Airlake	LVN	Intermediate	PI	
Crystal	MIC	Intermediate	NPI	98.11%
Lake Elmo	21D	Intermediate	NPI	
Rush City	ROS	Intermediate	NPI	
South St. Paul	SGS	Intermediate	NPI	
Forest Lake	25D	Landing Strip	Visual	91.40%

Source: Weather data from Minneapolis-Anoka County/Blaine Airport AWOS from 6/1/2002 to 6/1/2012

Table 6-10: Best Approach Usability Summary - District 6

AIRPORT	IDENTIFIER	CLASS	BEST APPROACH	USABILITY
Austin	AUM	Key	PI	98.64%
Owatonna	OWA	Key	PI	
Red Wing	RGK	Key	PI	
Rochester	RST	Key	PI	
Albert Lea	AEL	Key	NPI	96.00%
Winona	ONA	Key	NPI	
Dodge Center	TOB	Intermediate	NPI	
Faribault	FBL	Intermediate	NPI	
Houston	CHU	Intermediate	NPI	
Preston	FKA	Intermediate	NPI	
Rushford	55Y	Intermediate	NPI	

Source: Weather data from Dodge Center Municipal Airport AWOS from 6/1/2002 to 6/1/2012

Table 6-11: Best Approach Usability Summary - District 7

AIRPORT	IDENTIFIER	CLASS	BEST APPROACH	USABILITY
Fairmont	FRM	Key	PI	98.72%
Mankato	MKT	Key	PI	
Worthington	OTG	Key	PI	
New Ulm	ULM	Key	NPI	96.34%
Blue Earth	SBU	Intermediate	NPI	
Jackson	MJQ	Intermediate	NPI	
Luverne	LYV	Intermediate	NPI	
Springfield	D42	Intermediate	NPI	
St. James	JYG	Intermediate	NPI	
Waseca	ACQ	Intermediate	NPI	
Windom	MWM	Intermediate	NPI	
Le Sueur	12Y	Intermediate	Visual	89.06%
Sleepy Eye	Y58	Landing Strip	Visual	
Wells	68Y	Landing Strip	Visual	

Source: Weather data from Fairmont Municipal Airport AWOS from 6/1/2002 to 6/1/2012

Table 6-12: Best Approach Usability Summary - District 8

AIRPORT	IDENTIFIER	CLASS	BEST APPROACH	USABILITY
Marshall	MML	Key	PI	98.86%
Willmar	BDH	Key	PI	
Canby	CNB	Intermediate	NPI	96.88%
Glencoe	GYL	Intermediate	NPI	
Granite Falls	GDB	Intermediate	NPI	
Hutchinson	HCD	Intermediate	NPI	
Lac Qui Parle	DXX	Intermediate	NPI	
Litchfield	LJF	Intermediate	NPI	
Montevideo	MVE	Intermediate	NPI	
Olivia	OVL	Intermediate	NPI	
Paynesville	PEX	Intermediate	NPI	
Pipestone	PQN	Intermediate	NPI	
Redwood Falls	RWF	Intermediate	NPI	
Slayton	DVP	Intermediate	NPI	
Tracy	TKC	Intermediate	NPI	
Hector	1D6	Intermediate	Visual	90.37%
Tyler	63Y	Landing Strip	Visual	
Winsted	10D	Landing Strip	Visual	

Source: Weather data from Marshall-SW MN Regional Airport AWOS from 6/1/2002 to 6/1/2012

POPULATION TO A KEY AIRPORT

Indicator: Percent of population that is within 40, 60, and 90 minutes surface travel time to a Key Airport

Relevance: Access to Key airports is an important indicator in measuring system performance. Key airports, in general, provide the most and best services of all the airports in the state. Convenient and reasonable access to the state's primary airports is necessary to adequately serve the state's population. Accessibility can be measured by determining the percentage of the state's population that is within established drive times from Key Airports.

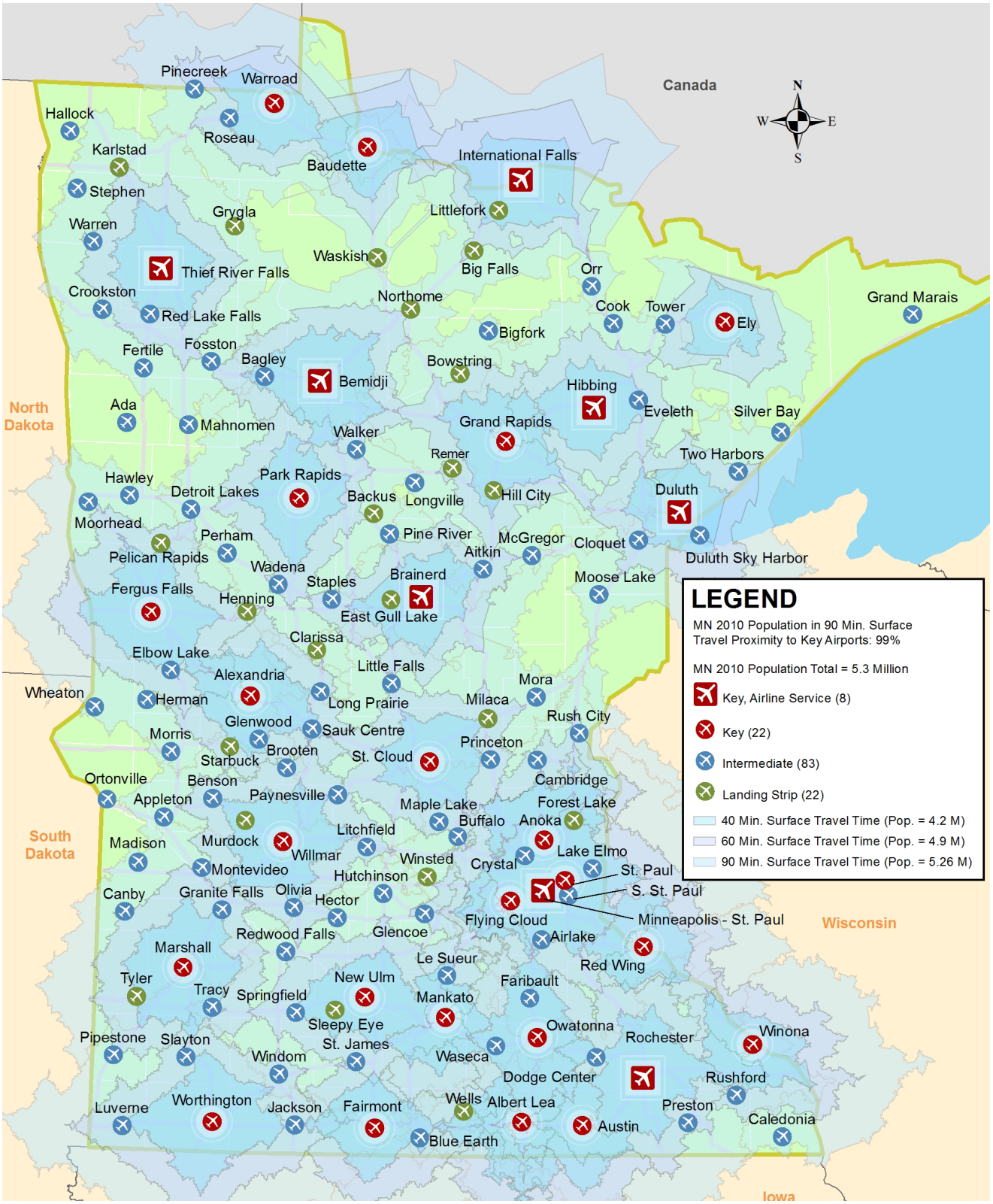
Trends: Population to a Key Airport shows a density analysis for three levels of service (LOS). The percentages of population that are within 40, 60, and 90 minutes surface travel time to a Key Airport are shown in **Table 6-13**. The geographic area of the state covered by 40, 60, and 90 minutes surface travel time to a Key Airport is shown in **Figure 6-14**.

Table 6-13: Percent of Population Within 40, 60, 90 Minutes Surface Travel Time to a Key Airport

SURFACE TRAVEL TIME	% POPULATION
40 Minutes	79.2%
60 Minutes	92.5%
90 Minutes	99.2%

Source(s): MnDOT Office of Aeronautics 2011 SASP Inventory Survey and Airport Database

Figure 6-14: Population to a Key Airport



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

POPULATION TO A PAVED AND LIGHTED RUNWAY

Indicator: Percent of the population that is within 30 minutes surface travel time to a paved and lighted runway

Relevance: Paved and lighted runways are one of the most important components of an airport system. A paved and lighted runway allows for a broader range of aircraft utilization, especially during periods of reduced visibility. An airport with a paved and lighted runway that is 3,200 feet or longer can support at least an LNAV/VNAV (APV-2) approach with visibility minimums less than one mile. Local businesses that have access to a paved and lighted runway with visibility minimums of less than one mile, along with access to aircraft equipped with APV-2-capable avionics, have both convenient and uninterrupted ability to transport goods and services into and out of such airports in nearly all weather conditions.

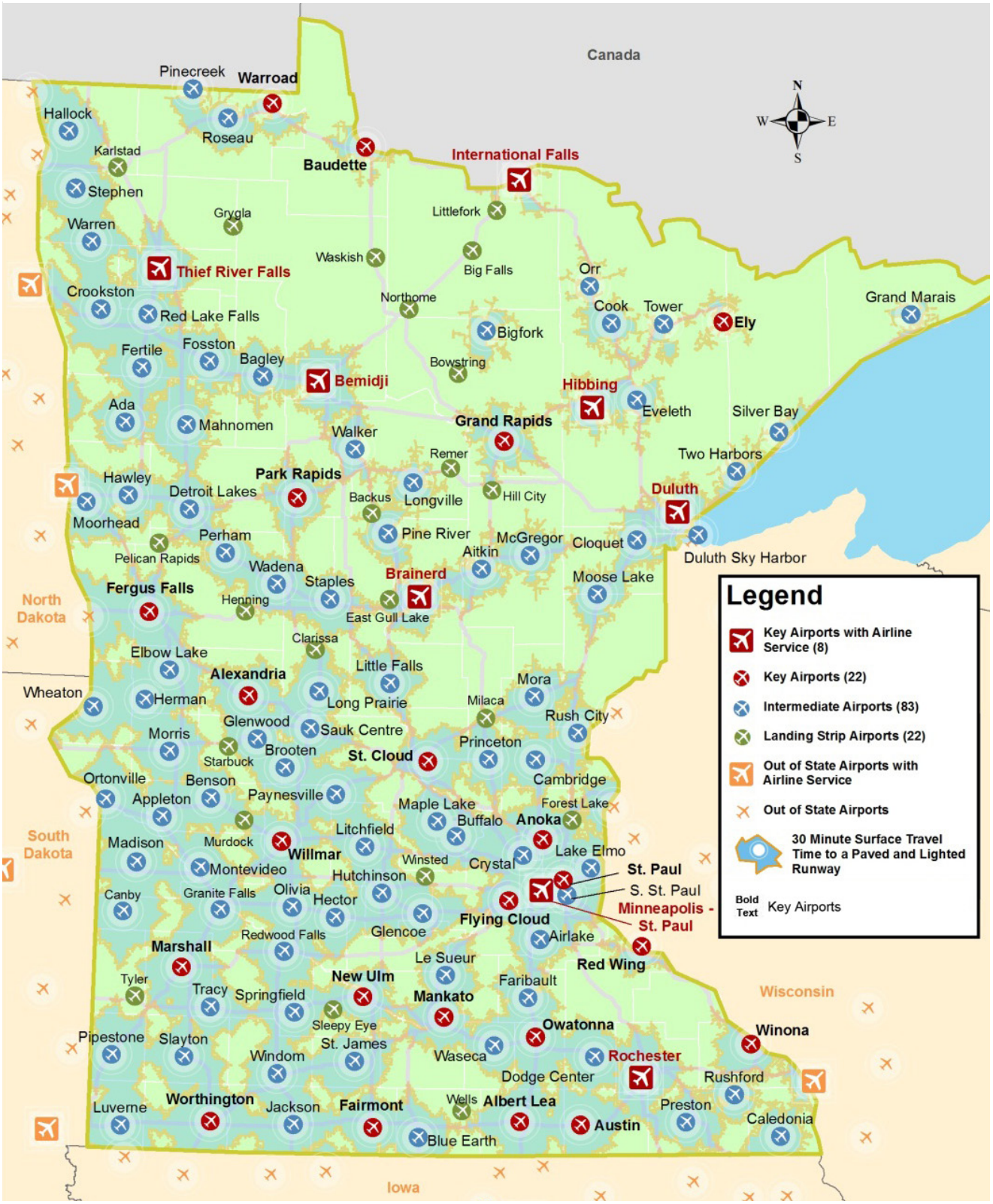
Trends: Many businesses and individuals in the state depend on the aviation industry for economic competitiveness. Convenient access to an airport which can accommodate basic transport aircraft indicates a level of convenience to pilots and local business.

Seventy-one percent of the state's population is within 30 minutes surface travel time to a paved and lighted runway. **Figure 6-15** shows 30 minute drive times around airports with paved and lighted runways in the state.

Source(s): MnDOT Office of Aeronautics 2011 SASP Inventory Survey and MnDOT Office of Capital Programs and Performance Measures Highway Classification GIS Files



Figure 6-15: Population to a Paved and Lighted Runway



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

LEVEL 1 AND 2 REGIONAL TRADE CENTER PROXIMITY TO KEY AIRPORTS

Indicator: Percent of Level 1 and 2 Regional Trade Centers (RTCs) that are within 30 minutes surface travel time to a Key Airport

Relevance: Regional Trade Center (RTC) Analysis was developed in 1963 at the Center for Urban and Regional Planning (CURA), University of Minnesota, by John R. Borchert and Russell B. Adams, to classify communities according to a hierarchy of trade center levels, which are based on community size and community economic diversity. Due to advancing technology, RTC analysis methodology has undergone two revisions by CURA, in 1990 and 1999, by expanding the scope economic activity and focusing on larger trade center levels. In 2003 MnDOT did their own update by making further adjustments in geographic aggregations and demographic and business data concluding in the RTC hierarchy levels used in this analysis.

The number of Primary (Level 1 – Primary Wholesale/Retail Center) and Secondary (Level 2 – Secondary Wholesale/Retail Center) Regional Trade Centers (RTCs) within 30 minutes surface travel time to a Key Airport indicates how convenient it is for large population and business centers to have accessible transportation for goods and services utilizing jet and turboprop aircraft.

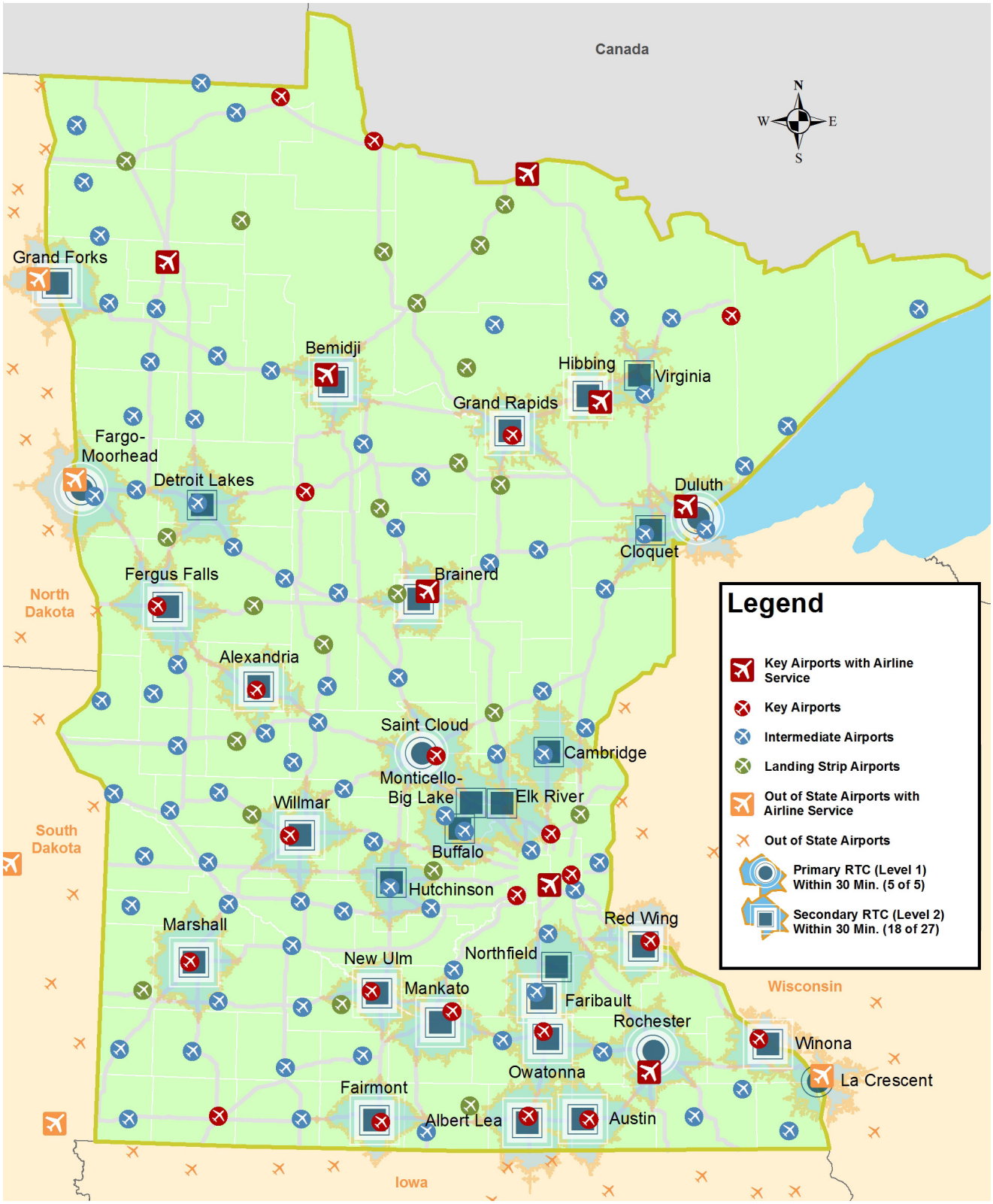
Trends: One hundred percent of the state's Primary RTCs and 67 percent (19 out of 27) Secondary RTCs are within 30 minutes surface travel time to a key airport. **Table 6-14** lists the Level 1 and 2 RTCs that are within 30 minutes drive time of a Key Airport. **Figure 6-16** shows the RTC proximity to Key Airports.

Source(s): Trade Centers of the Upper Midwest 2003 Update, SRF Consulting Group, Inc. and MnDOT. MnDOT Office of Aeronautics 2011 SASP Inventory Survey and MnDOT Office of Capital Programs and Performance Measures Highway Classification GIS Files

Table 6-14: Level 1 and 2 Regional Trade Center Proximity to Key Airports

WITHIN 30 MINUTES		OUTSIDE 30 MINUTES	
RTC	LEVEL	RTC	LEVEL
Duluth	1	Buffalo	2
La Crescent	1	Cambridge	2
Moorhead	1	Cloquet	2
Rochester	1	Detroit Lakes	2
St. Cloud	1	Elk River	2
Albert Lea	2	Hutchinson	2
Alexandria	2	Monticello	2
Austin	2	Northfield	2
Bemidji	2	Virginia	2
Brainerd	2		
East Grand Forks	2		
Fairmont	2		
Faribault	2		
Fergus Falls	2		
Grand Rapids	2		
Hibbing	2		
Mankato	2		
Marshall	2		
New Ulm	2		
Owatonna	2		
Red Wing	2		
Willmar	2		
Winona	2		

Figure 6-16: RTC Level 1 and 2 Proximity to Key Airports



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

LEVEL 3 REGIONAL TRADE CENTER PROXIMITY TO KEY & INTERMEDIATE AIRPORTS

Indicator: Percent of Level 3 RTCs that are within 30 minutes surface travel time to at least one Key or Intermediate Airport

Relevance: The number of Shopping (Level 3) RTCs within 30 minutes surface travel time to at least one Key or Intermediate Airport indicates how convenient it is for moderate sized population and business centers to have accessible transportation for goods and services using multiengine aircraft.

Trends: Level 3 RTCs require regular shipments, some of which are from air transports. This indicates the level of service these communities have to adequate airport facilities.

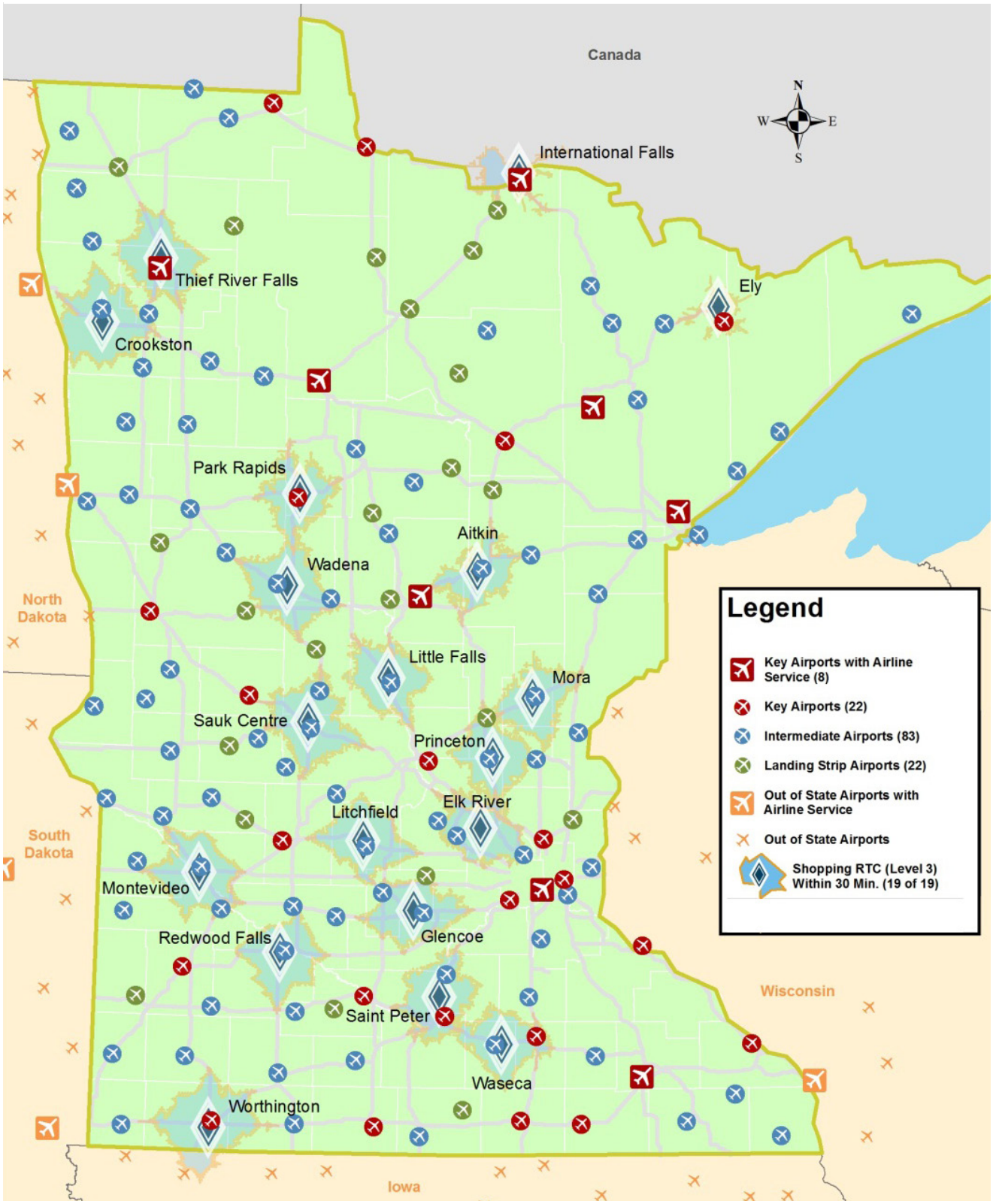
One hundred percent of Shopping RTCs are within 30 minutes surface travel time to at least one Key or Intermediate airport. **Table 6-15** lists the Level 3 RTCs that are within 30 minutes drive time of a Key or Intermediate Airport. **Figure 6-17** shows the RTC proximity to Key and Intermediate Airports.

Table 6-15: Level 3 Regional Trade Center Proximity to Key and Intermediate Airports

WITHIN 30 MINUTES		OUTSIDE 30 MINUTES	
RTC	LEVEL	RTC	LEVEL
Aitkin	3	NONE	
Crookston	3		
Elk River	3		
Ely	3		
Glencoe	3		
International Falls	3		
Litchfield	3		
Little Falls	3		
Montevideo	3		
Mora	3		
Park Rapids	3		
Princeton	3		
Redwood Falls	3		
St. Peter	3		
Sauk Centre	3		
Thief River Falls	3		
Wadena	3		
Waseca	3		
Worthington	3		

Source(s): MnDOT Office of Aeronautics 2011 SASP Inventory Survey and MnDOT Office of Capitol Programs and Performance Measures Highway Classification GIS Files

Figure 6-17: RTC Level 3 Proximity to Key and Intermediate Airports



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

POPULATION TO AN AIRLINE SERVICE AIRPORT

Indicator: Percent of the population that is within 60 minutes surface travel time to an airport with scheduled airline service

Relevance: It is important for residents of the state to have access to airports with scheduled airline service. The population that is within an hour's drive of an airport with airline service indicates how convenient it is for the general public to reach destinations outside of the state.

Trends: Airports with airline service are often near major population centers, so the density needs for this service are fairly well met.

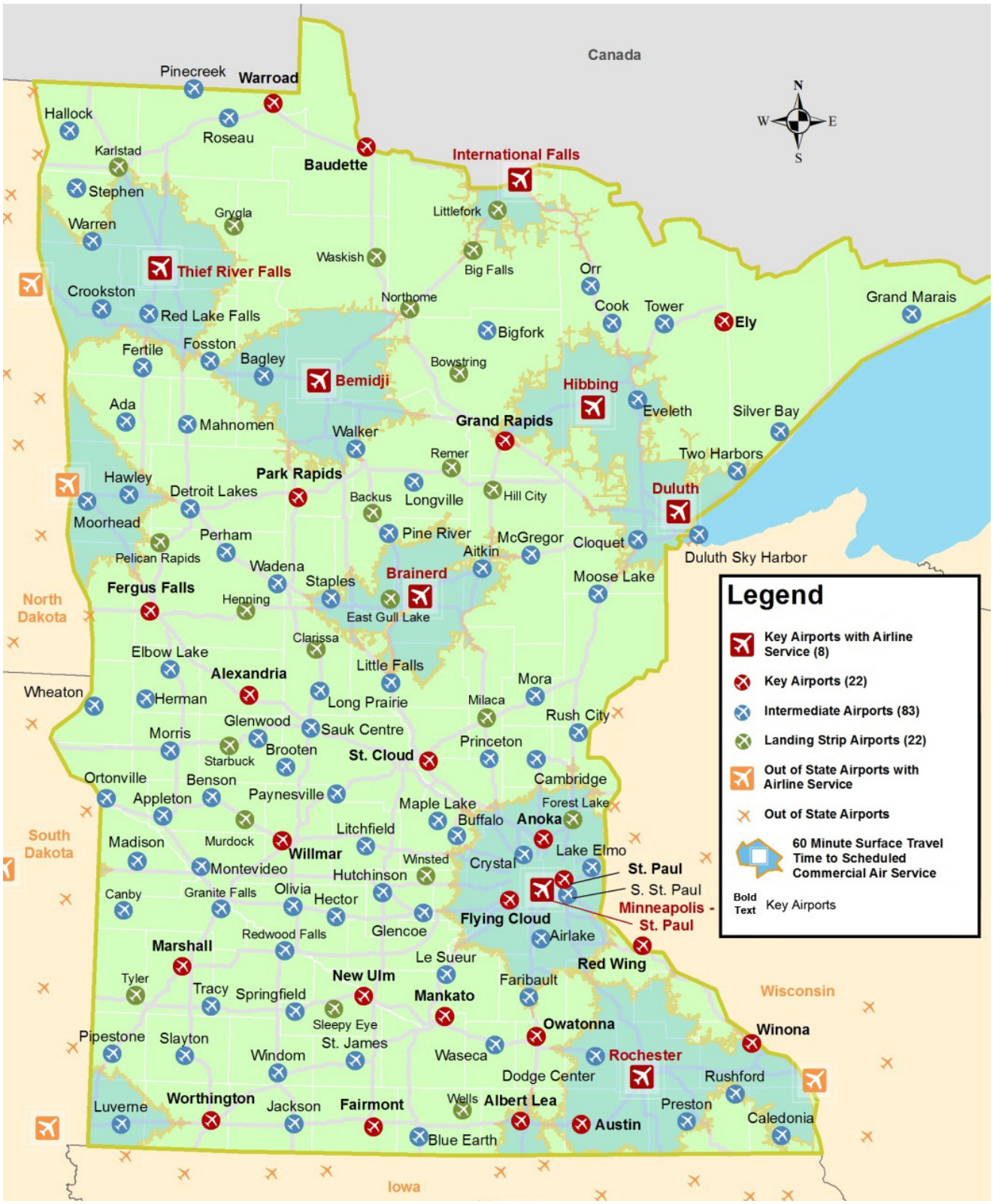
GIS analysis indicates that 72 percent of the state's population is within 60 minutes surface travel time of an airport with airline service. **Figure 6-18** shows 60 minute drive times around the Scheduled Commercial Air Service Airports that serve the state. This drive time analysis assumes the user is able to travel to and from airports at posted speed limits.

Source(s): MnDOT Office of Aeronautics 2011 SASP Inventory Survey and MnDOT Office of Capital Programs and Performance Measures Highway Classification Graphic Information System (GIS) Files





Figure 6-18: Airline Service Airport Access



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

NON-STOP AIRLINE SERVICE MARKETS

Indicator: Total number of non-stop markets served from Minnesota

Relevance: Non-stop markets indicate both the level of convenience to the people of Minnesota and the market destination demand of other airports. In addition to domestic non-stop markets, Minnesota's airports offer access to international non-stop destinations from MSP. This indicator relates to the Mobility goal of the system plan.

Trends: Providing convenient access to other regions of the country as well as international destinations increases the quality of life of the people of Minnesota. Non-stop flights within the state allow out-state communities to connect to the rest of the country and the world via MSP. Non-stop flights also attract and retain businesses by providing easy access to the markets they serve. Direct flights help businesses in the state stay economically competitive.

According to the 2011 Annual Report to the Legislature prepared by the Metropolitan Airports Commission there were 138 non-stop markets served by MSP in 2011 - 118 domestic and 20 international. Non-stop markets have been relatively stable. Between 2004 and 2008 there were approximately 123 domestic and between 15 and 20 international. Since 2008 they have been slightly lower at approximately 113 domestic and 20 international. The 112 current domestic non-stop destinations are shown on **Figure 6-19**. International non-stop destinations in 2011 are shown in **Table 6-16.**

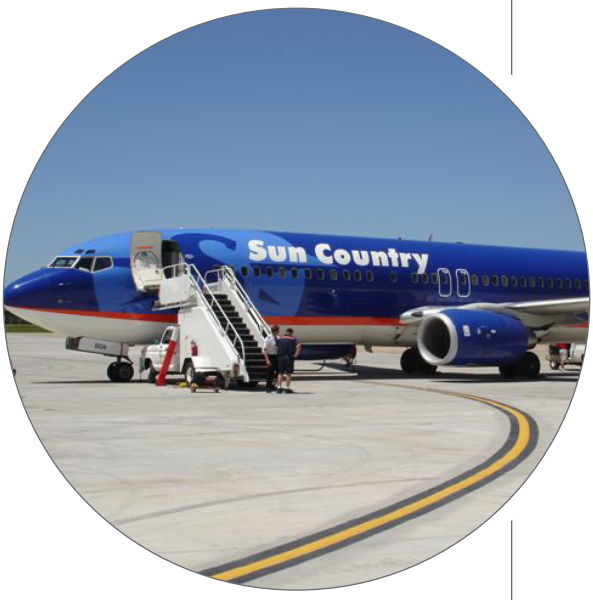
Table 6-16: International Non-Stop Destinations from MSP

Canada (Toronto, Winnipeg, Edmonton, Calgary, Vancouver, Saskatoon, Regina, Montreal)
Mexico (Cancun, Puerto Vallarta, Mexico City, San Jose del Cabo, Mazatlan, Cozumel)
Caribbean (Montego Bay)
Europe (Amsterdam, Paris, London, Reykjavik)
Asia (Tokyo)

Although the number of non-stop markets has been relatively stable in recent years, there has been a shift in the types of markets served. The number of international and long-haul domestic markets has increased while the number of very short-haul non-stop markets has decreased. For example, during the past twenty years MSP has gained non-stop service to long-haul markets such as Albuquerque, Ft. Lauderdale, New Orleans, and Raleigh-Durham. It has lost service to short-haul markets such as St. Cloud, Fairmont, Mankato, and Worthington. Over time, the average range of mainline and regional aircraft has increased making long-haul markets more accessible. At the same time, the small aircraft that are most suitable for short-haul markets have become less cost-effective, as fuel prices and regulatory requirements increased.

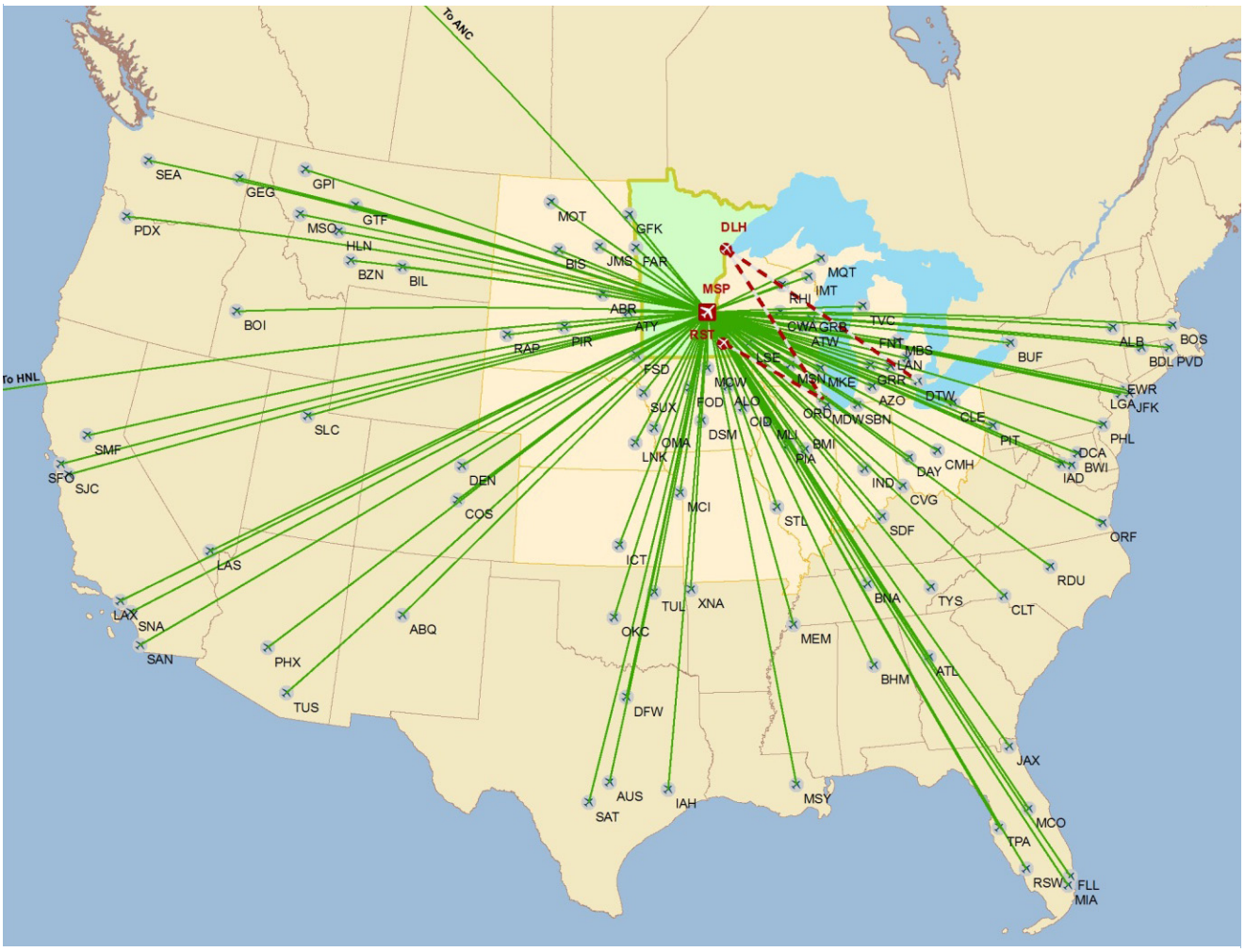
Many of the remaining short-haul non-stop markets rely on Essential Air Service (EAS) program subsidies to remain viable. Therefore, any measures that the state and communities can take to boost traffic and maintain the EAS program will help retain short-haul non-stop service to MSP.

The Legislative Report also compares Minneapolis-St. Paul International Airport to other major metropolitan areas in terms of the number of non-stop markets served by each airport per population of the Metropolitan Statistical Area. Only residents of the Denver metropolitan area enjoy air service to more non-stop markets per capita than do people in the Twin Cities.



Source(s): Federal Research and Innovative Technology Administration (RITA) – Bureau of Transportation Statistics (BTS) T-100 data, Official Airline Guide

Figure 6-19: Domestic Non-Stop Airline Service Markets from Minnesota



Source: HNTB





ORIGINATING PASSENGERS

Indicator: Total number of originating passengers departing from Minneapolis-St. Paul International Airport (MSP)

Relevance: Originating passengers are those that begin the air portion of their trip at the airport. This measurement can indicate the demand for and health of passenger air travel in the state. Many factors determine the number of passenger originations. The overall strength of the economy determines the income available for business and leisure travel. The strength of the business and tourist industry helps determine the attractiveness of Minnesota to visiting passengers. The availability of convenient non-stop air service determines the accessibility of Minnesota for passenger travel to and from the state. Average air fares determine the affordability of air travel for leisure and business passengers. Airport amenities and security policies affect the convenience and comfort of air travel relative to other transportation modes.

Trends: The number of people travelling from and arriving into the state is important because those travelers impact several economic indicators. These indicators include, but are not limited to, the types and health of local businesses, the desirability of the state's leisure market, and population growth in the state.

There were approximately 7.2 million originating passengers at MSP in 2010. According to the MSP 2020 Improvements draft Environmental Assessment, between 1990 and 2010 the average annual growth rate for domestic originations was 2.5%. The period of record is shorter for international originations; they grew at a 2.9 percent annual rate between 2001 and 2010 (see **Table 6-17**).

Source(s): RITA-BTS T-100 data

Table 6-17: Historical Originating Passengers at MSP

YEAR	DOMESTIC ORIGINATORS	COMBINED INTERNATIONAL	TOTAL
1990	4,284,240	-	-
1991	4,288,090	-	-
1992	4,414,590	-	-
1993	4,511,050	-	-
1994	4,598,270	-	-
1995	5,021,830	-	-
1996	5,411,820	-	-
1997	5,750,780	-	-
1998	5,736,650	-	-
1999	6,365,610	-	-
2000	7,225,020	-	-
2001	6,603,320	544,189	7,147,509
2002	6,207,930	502,422	6,710,352
2003	6,390,140	499,471	6,889,611
2004	7,074,980	595,452	7,670,432
2005	7,609,360	618,977	8,228,337
2006	7,643,820	654,297	8,298,117
2007	7,703,380	709,046	8,412,426
2008	7,065,580	718,963	7,784,543
2009	6,987,990	644,281	7,632,271
2010	7,084,400	706,128	7,790,528
AVERAGE ANNUAL GROWTH RATE			
1990-2010	2.5%	-	-
2001-2010	0.8%	2.9%	1.0%

Source: USDOT, Origin-Destination Survvey and HNTB analysis

ANNUAL FLIGHT DELAY AT MSP

Indicator: Annual delay at the Minneapolis-St. Paul International Airport (MSP)

Relevance: Delays at airports impact the economy and cost airlines and passengers both time and money. Annual delay often results when demand exceeds capacity and is therefore an indicator of the adequacy of the facilities at MSP. Delays can also be caused by other factors such as weather and construction projects, among others. Delay can be reduced by airfield and capacity improvements such as the implementation of the NextGen Air Traffic Management System. All other things equal, an increase in traffic will increase delay and in that respect delay can be considered a positive indicator of increased demand for air service and a growing economy. Delay is an important indicator that needs to be monitored as it reveals major trends that may be occurring. Major changes in this indicator should call for an examination of what is happening, and if some sort of action needs to be taken.

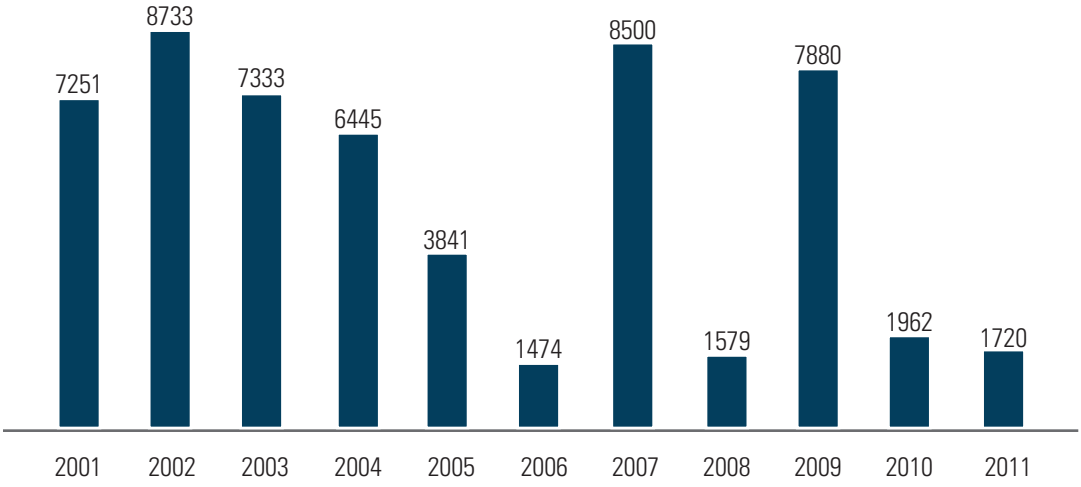
Trends: As the busiest airport in the state, MSP serves as a connecting hub for Delta Air Lines as well as the primary departure/arrival location for many Minnesotans. Average annual delay is an indicator of congestion. Keeping flights departing on time helps reduce overall costs of flying and maximizes operational efficiency at MSP and other airports.

The annual number of delayed flights at MSP appears to be following an overall decreasing trend over the last decade, owing in part to a precipitous drop in delays during the years 2004 through 2006 when the new runway became operational (see **Figure 6-20**). However, the past few years have shown a slow upturn in the number of delays. There were significant spikes in 2007 and 2009 as a result of runway closures for reconstruction. The number of aircraft delayed at MSP is expected to gradually increase in the future as the number of aircraft operations increases.

Compared to other large hub US airports, MSP ranked 14th overall in 2011 for highest average delay per operation. The average delay per operation was 4.6 minutes. In 2010 MSP ranked 11th.

Source(s): 2011 Metropolitan Airports Commission (MAC) annual report to the legislature

Figure 6-20: Annual MSP Flights Delayed



Source: 2011 MAC annual report to the legislature

UP-TO-DATE PLANNING DOCUMENTS

Measure: Percent of System Plan airports with Up-to-Date Planning Documents.

Relevance: Master Plans and Long Term Comprehensive Plans (LTCPs) document the anticipated needs of an airport over a specific planning period. They provide supporting documentation as to the purpose and appropriate timing of proposed development. Airport Layout Plans (ALPs) provide guidance, or a "blueprint", for future growth and illustrate the existing conditions. Keeping these planning documents current provides FAA, MnDOT and the airports the information needed to document and prepare for future growth.

Target:

100% of system airports have up-to-date federal and state approved planning documents that exhibit existing and future development

Up-to-date is defined for each airport classification below:

Key Airports: All should have an ALP and Master Plan/LTCP updated or revisited at least every seven years.

Intermediate Airports: All should have an ALP and Master Plan/LTCP updated or revisited at least every 15 years.

Landing Strips: All should have an ALP.

Performance:

10% of system airports meet the target

The majority of system airports have these planning documents, but many have not been updated within the targeted timeframe. **Figure 6-21** displays the state's current performance in this measure.

Technical Description: ALPs, Master Plans and Long Term Comprehensive Plans identify airport design standards as well as highlight airport improvements to meet forecasted needs. These plans are based on FAA standards and policies. While it is important that these planning documents are tailored to each individual airport, some common elements of each plan for Minnesota's airports are shown in **Table 6-18**.

Table 6-18: Common Plan Elements

MASTER PLANS/LTCPS	ALPS
Inventory of existing conditions	Existing airport layout
Aviation forecasts	Future airport layout
Facility requirements	Wind data (Wind rose)
Airport development alternatives	Terminal/Facility plan
Environmental considerations	Airport airspace maps
Recommended alternative	Airport land use
Capital improvement program	Airport property map
	Airport zoning map

NPIAS airports must keep ALPs current in order to be eligible for federal funding. Up-to-date planning documents allow the state to better assess project funding needs across the system.

Source(s): MnDOT Office of Aeronautics 2011 SASP Inventory Survey and Airport Database



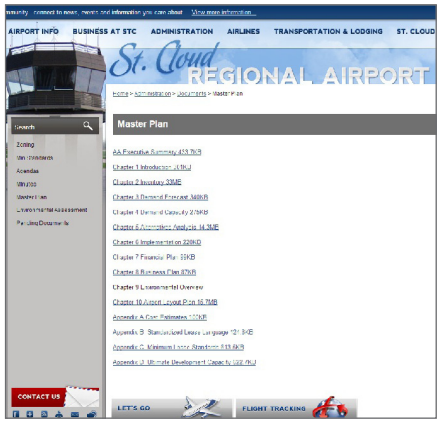


Figure 6-21: Up-to-date Planning Documents



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

24/7 FUELING AT AIRPORTS

Indicator: Percent of airports within 50 nautical miles (NM) of an airport with fueling available 24/7

Relevance: The percent of airports within 50 NM of an airport with around-the-clock fuel availability is a measure of convenience and safety. Having convenient access to fuel allows pilots to plan more efficient routes, carry less fuel, and succumb to fuel exhaustion less often. This results in less fuel consumption and increased safety margins.

Trends: Access to fuel plays a role in activity levels at airports and also may influence the likelihood of a pilot basing their aircraft at a particular airport. There are 110 airports in the state that provide 24/7 fueling.

Figure 6-22 depicts those airports with 24/7 fuel service available (shown with a halo around the airport icon). It also shows 50 NM radius coverage around those airports. Any pilot located in or travelling to any system airport will be able to find a 24-hour fueling facility within 50 NM of their destination airport.

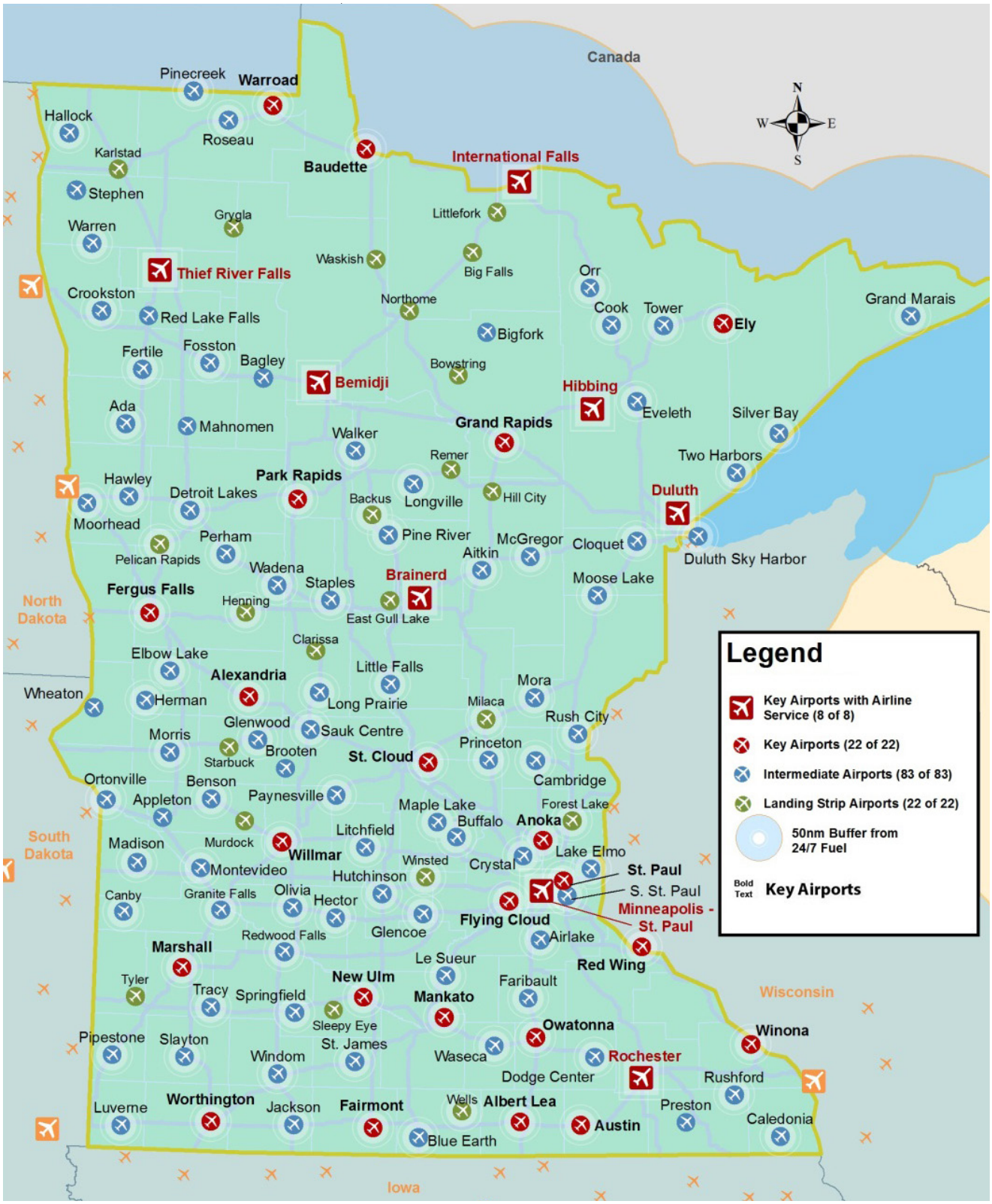
One hundred percent of the state's airports are within 50 NM of an airport that has fueling service available 24 hours a day seven days a week.

Source(s): MnDOT Office of Aeronautics 2011 SASP Inventory Survey and Airport Database





Figure 6-22: Airports with 24/7 Fuel and Buffer



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

MAINTENANCE & REPAIR AT AIRPORTS

Indicator: Percent of airports that are within 50 NM of an airport that has aircraft maintenance and repair facilities

Relevance: The number of airports within 50 NM of an airport with aircraft maintenance and repair facilities indicates the convenience aircraft owners have to repair and maintain their aircraft.

Trends: Access to maintenance facilities is a factor in activity levels at airports and also increases the likelihood of a pilot basing their aircraft at a particular airport. Easy access to aircraft or aviation repair facilities enables a higher quality of flying for pilots traveling to or from the state. If a maintenance facility is not located at an airport, it is important to have a facility close enough so a mechanic can drive to the airport without service and make emergency repairs so the aircraft can be quickly ferried to an airport where complete repairs can be made.

All pilots located at or destined to any of the system plan airports have access to maintenance and repair facilities within 50 NM miles of their base or destination airport. **Table 6-19** shows those airports that reported having maintenance and repair service.

All of the system plan airports are within 50 NM miles of an airport that has aircraft maintenance and repair facilities. **Figure 6-23** shows airports that have maintenance and repair services and a 50 NM radius around these airports.

Source(s): MnDOT Office of Aeronautics 2011 SASP Inventory Survey and Airport Database



Photo Credit: USAF photo, 2012-2013

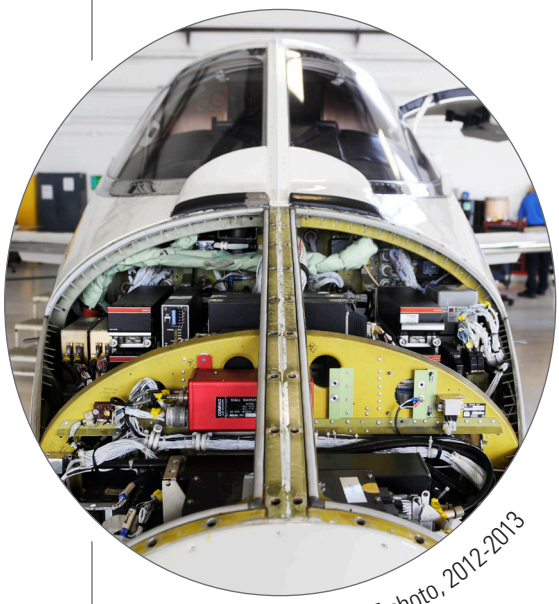


Photo Credit: USAF photo, 2012-2013

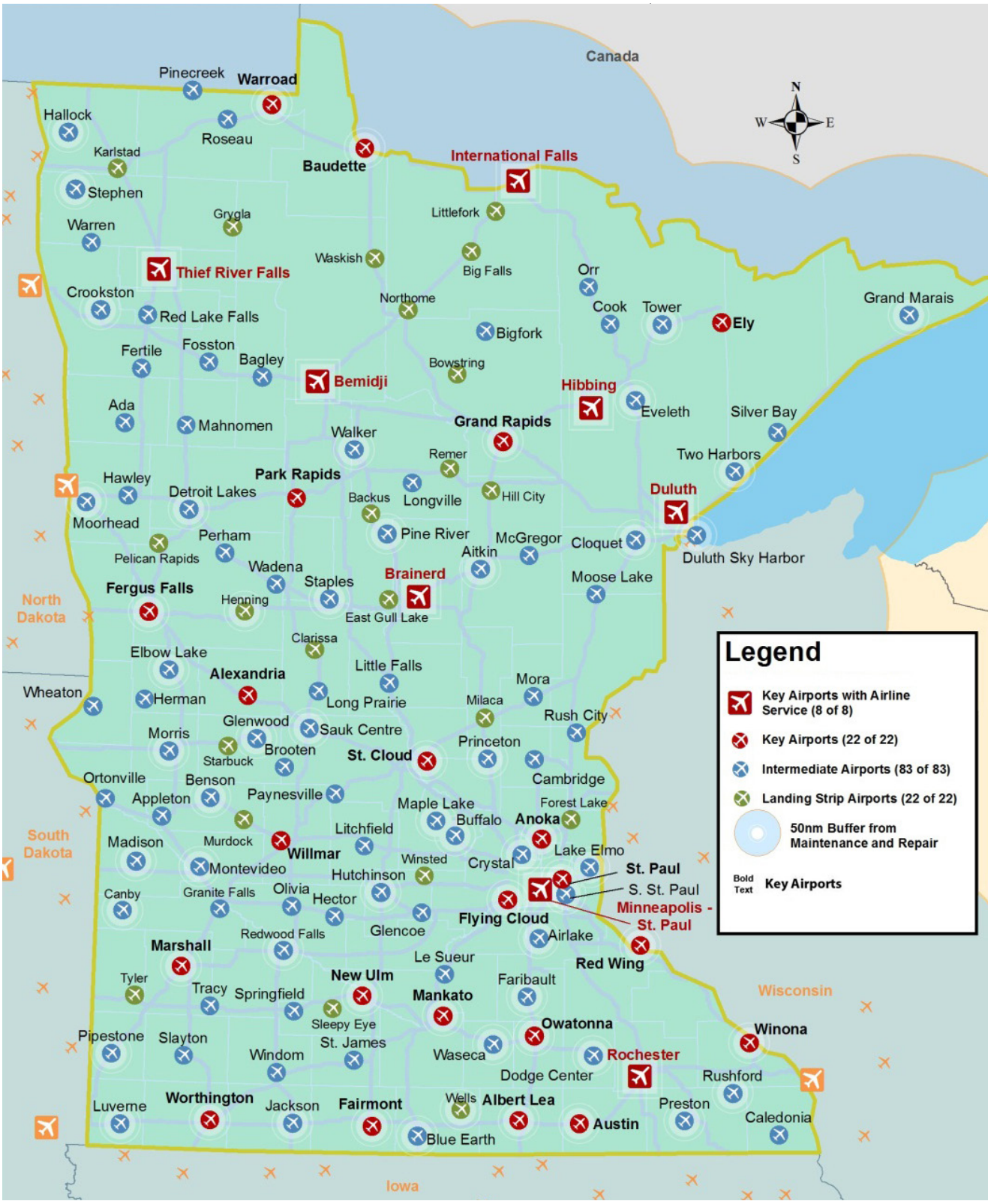


Photo Credit: USAF photo, 2012-2013

Table 6-19: Airports in Minnesota with Maintenance and Repair Service

Henning Municipal Airport	Chisholm-Hibbing Municipal - Range Regional Airport
Tower Municipal Airport	Falls International Airport
Lake Elmo Airport	Moorhead Municipal Airport
Rushford Municipal Airport	Airlake Airport
Wells Municipal Airport	Luverne Municipal Airport
Waseca Municipal Airport	Maple Lake Municipal Airport
Albert Lea Municipal Airport	Crystal Airport
Aitkin Municipal Airport - Steve Kurtz Field	Jackson Municipal Airport
Anoka County - Blaine Airport	Mankato Regional Airport - Sohler Field
Austin Municipal Airport	Southwest Minnesota Regional Airport - Marshall/Ryan Field
Benson Municipal Airport	Morris Municipal Airport
Baudette International Airport and Seaplane Base	Minneapolis-St. Paul International Airport
Bemidji Regional Airport	Montevideo/Chippewa County Airport
Brainerd Lakes Regional Airport	Winona Municipal Airport
Buffalo Municipal Airport	Worthington Airport
Grand Marais/Cook County Airport	Owatonna Degner Regional Airport
Crookston Municipal Airport - Kirkwood Field	Princeton Municipal Airport
Canby Municipal Airport - Myers Field	Pipestone Municipal Airport
Cloquet/Carlton County Airport	Pine River Regional Airport
Sauk Centre Municipal Airport	Red Wing Regional Airport
Stephen Municipal Airport	Warroad International Memorial Airport
Duluth International Airport	Rochester International Airport
Detroit Lakes Municipal Airport - Wething Field	Redwood Falls Municipal Airport
Lac Qui Parle County Airport	Staples Municipal Airport
Duluth - Sky Harbor Airport and Seaplane Base	Blue Earth Municipal Airport
Eveleth Virginia Airport	South St. Paul Municipal Airport - Richard E. Fleming Field
Faribault Municipal Aiport	St. Cloud Regional Airport
Flying Cloud Airport	St. Paul Downtown Airport
Fergus Falls Municipal Airport - Einar Mickelson Field	Dodge Center Municipal Airport
Preston/Fillmore County Airport	Thief River Falls Regional Airport
Fairmont Municipal Airport	Two Harbors Municipal - Richard B. Helgeson Airport
Glenwood Municipal Airport	New Ulm Municipal Airport
Grand Rapids/Itasca County Airport - Gordon Newstrom Field	Walker Municipal Airport
Hutchinson Municipal Airport	Elbow Lake Municipal - Pride of the Prairie Airport
Hallock Municipal Airport	

Figure 6-23: Airports with Maintenance and Repair and Buffer



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

POPULATION TO SCHEDULED CARGO SERVICE

Indicator: Percent of population that is within 60 minutes surface travel time to scheduled cargo service

Relevance: Airports that have air cargo activities provide economic support to the communities they serve. Fourteen airports in the state reported having cargo service. The percentage of population within an hour travel indicates the level of service provided to the citizens of Minnesota and local business who use cargo companies to ship goods.

Trends: The population within an hour of an airport with air cargo activity indicates how convenient it is for large shipping companies to get packages to and from their intended national and international destinations. The greater the convenience to the shipping companies the lower the cost to the consumers.

Table 6-20 lists the airports in Minnesota that reported having cargo service.

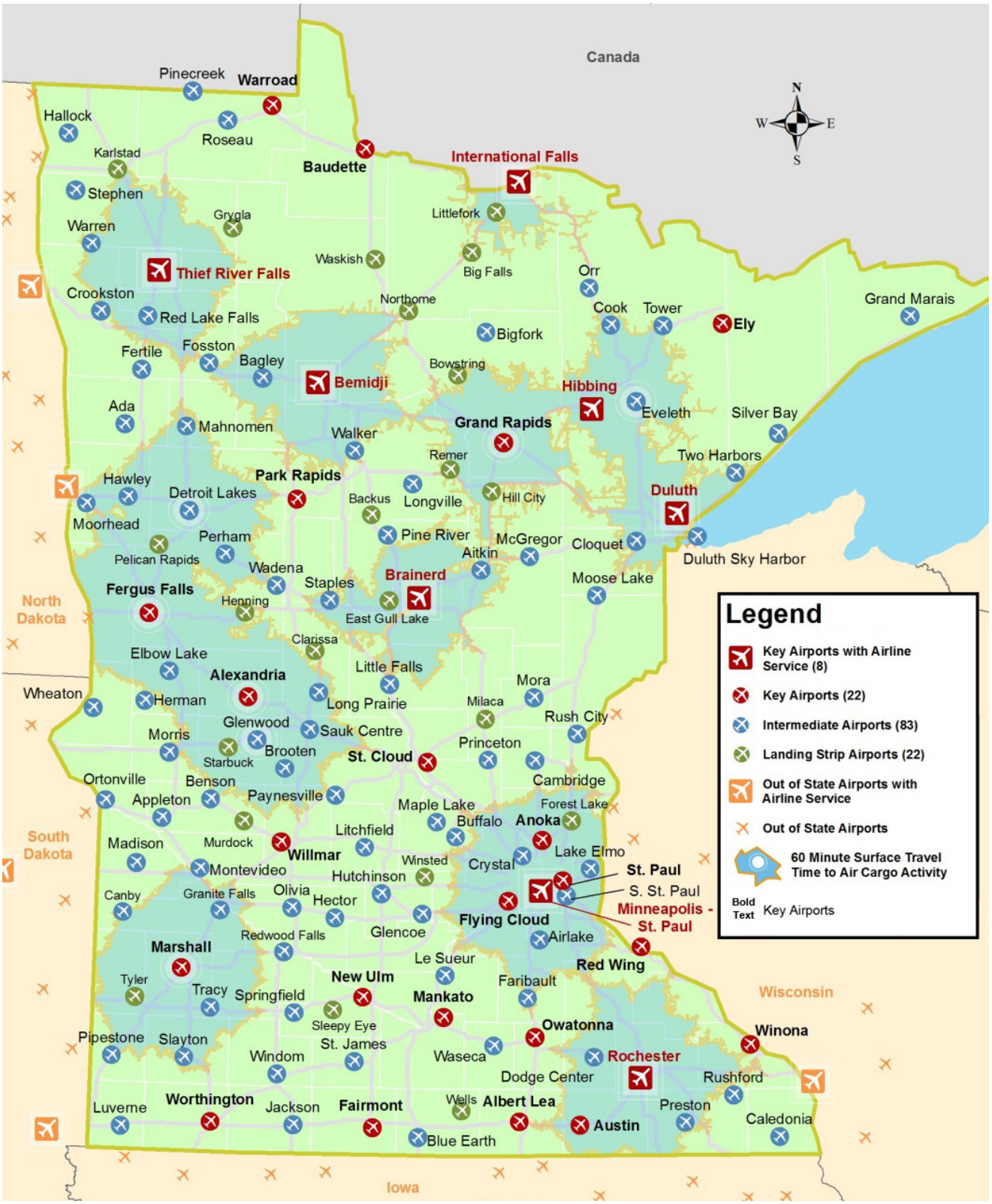
Table 6-20: Cargo Service Airports

Alexandria Municipal Airport
Bemidji Regional Airport
Brainerd Lakes Regional Airport
Duluth International Airport
Detroit Lakes Municipal Airport - Wething Field
Eveleth Virginia Airport
Fergus Falls Municipal Airport - Einar Mickelson Field
Glenwood Municipal Airport
Grand Rapids/Itasca County Airport - Gordon Newstrom Field
Falls International Airport
Southwest Minnesota Regional Airport - Marshall/Ryan Field
Minneapolis-St. Paul International Airport
Rochester International Airport
Thief River Falls Regional Airport

Seventy-five percent of the state's population is less than or equal to 60 minutes surface travel time to scheduled air cargo service. **Figure 6-24** shows 60 minute drive times around the Scheduled Cargo Service Airports within the state.

Source(s): MnDOT Office of Aeronautics 2011 SASP Inventory Survey and MnDOT Office of Capital Programs and Performance Measures Highway Classification GIS Files

Figure 6-24: Cargo Service Airports



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

UP-TO-DATE NAVIGATION SYSTEMS

Measure: Percent of system airports with navigation systems that are up to date.

Relevance: Navigation systems at or near airports provide guidance for pilots operating in the airspace system. As navigation systems age or become outdated, finding usable replacement parts may be difficult. As new sophisticated systems, like GPS, become available the old systems are used less frequently.

Through diligent documentation of the type and model of navigation systems across the state, replacement parts can be procured as necessary and replacement of outdated systems can be considered. Major repair or replacement can be planned as systems near the end of their usable life.

Target:

100% of system airports should have up-to-date navigation aids appropriate for its classification

Performance:

Data collection in progress

MnDOT is in the process of surveying system airports to determine the age and condition of existing navigation systems.

Technical Description: Navigation systems are ground based electronic systems or visual guidance lighting systems. The advent of GPS has made it possible to replace most ground based electronic systems. Ground based equipment will likely continue to serve as a necessary backup system for GPS, and is also important because some aircraft are not equipped with the avionics required to utilize GPS.

MnDOT is responsible for the functionality and repair of the electronic and visual navigation systems described below.

ILS (Instrument Landing System): a ground based precision system (i.e. electronic vertical guidance) used during approach and landing. The ILS includes three primary components; a glide slope antenna for vertical guidance, a localizer antenna for lateral guidance, and an outer marker or low power distance measuring equipment to mark the beginning of the final descent.

VOR (Very High Frequency Omni-directional Range): a non-precision system providing azimuth information for low and high altitude routes and airport instrument approaches. Using two VORs, a location on a map can be determined where two radials, one from each VOR, intersect.

Approach Lighting Systems: lighting increases early identification of runway environment for landing purposes.

- ALSF: High-intensity Approach Lighting System with Sequenced Flashers
- MALSF: Medium-intensity Approach Lighting System with Sequenced Flashers
- MALSR: Medium-intensity Approach Lighting System with Runway alignment indicator lights
- ODALS: Omni-Directional Approach Lighting System
- REIL: Runway End Identifier Lights

Approach Path Indicators: systems that provide a visual reference to the glide path.

- PAPI: Precision Approach Path Indicator
- VASI: Visual Approach Slope Indicator

NDB (Non-Directional Beacon): radio transmitter at a known location

Wind Cone: tube used to indicate wind direction and speed

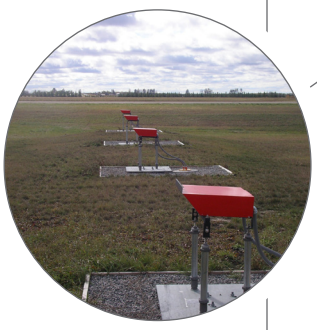
Rotating Beacon: used to identify the location of an airport at night

Source(s): MnDOT Office of Aeronautics 2011 SASP Inventory Survey and Airport Database, FAA Order 6850.2B, Visual Guidance Lighting Systems, FAA Order 6750.16D, Siting Criteria for Instrument Landing Systems









PAVEMENT CONDITION INDEX (PCI)

Measure: Runway and Parallel Taxiway Pavement Conditions within PCI Targets

Relevance: Maintaining good runway and taxiway pavement condition reduces the potential for damage to aircraft and also can minimize costs over the course of the pavement's usable life. Loose pavement can become dislodged during aircraft operations and taken into jet aircraft engines causing considerable damage. Pavement condition is monitored on a zero to100 rating scale known as a pavement condition index (PCI) with a score of zero indicating a runway or taxiway has the worst possible pavement and a score of 100 indicating the best possible pavement.

MnDOT currently collects PCI data for pavements at all system airports with paved runways with the exception of nine airports which prepare their own PCI reports. The nine airports include seven owned and operated by the Metropolitan Airports Commission (MAC), Duluth International Airport, and Rochester International Airports. These airports use different methodologies to evaluate pavements and are not included in this analysis.

Target:

The targets are outlined below:

Key Airports: Eighty-five percent of primary runway pavements (weighted by area) are in "very good" or "excellent" condition (PCI of 70 or greater).

All Paved Airports: Eighty-four percent of all runway and parallel taxiway pavements (weighted by area) are in at least "good" condition (PCI of 55 or greater) and no more than four percent of all runway and parallel taxiway pavements (weighted by area) are in "poor" condition (PCI of 40 or less).

Performance:

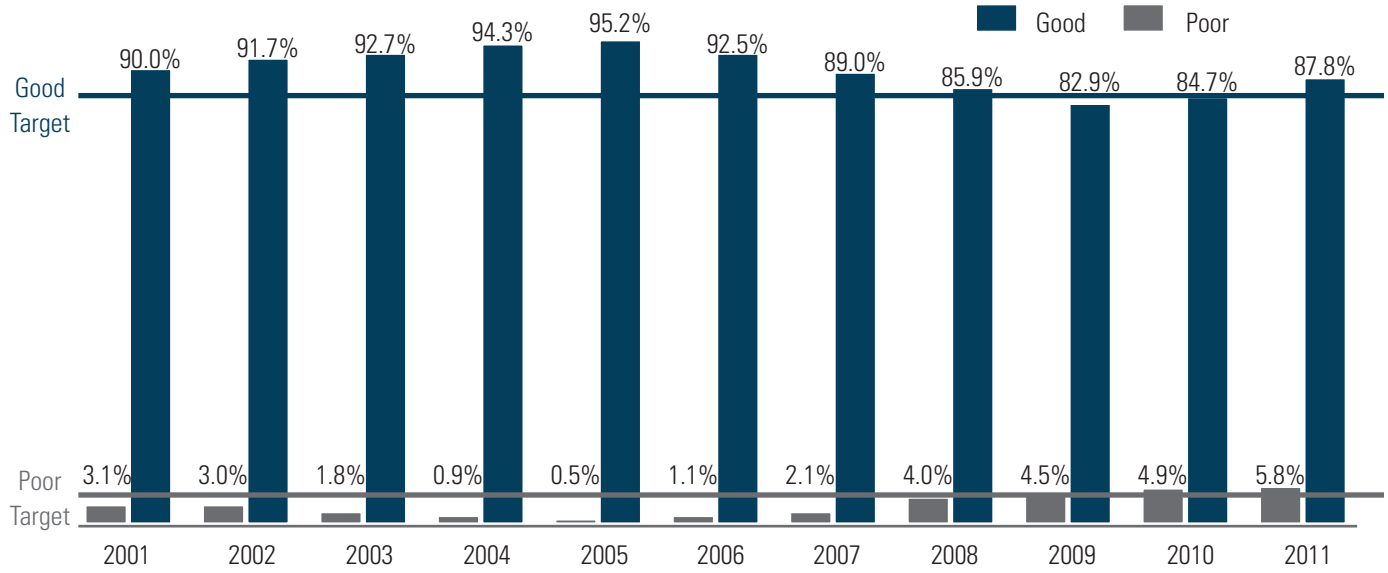
77% of Key Airport primary runways meet the target PCI value of 70 or greater;
87.8% of runways and parallel taxiways at all paved airports have a PCI value of 55 or greater;
5.8% of runways and parallel taxiways at all paved airports are rated at a PCI of 40 or less

Minnesota airports have met the target for the percentage of airport pavements in good or better condition for the past two years, following just one year where the target was not met. Since 2009, the target for the percentage of airport pavements in poor or worse condition has not been met. In 2011, the percent of all runway and parallel taxiways in poor condition exceeds the threshold by the largest margin since any time in the last ten years. The increase in poor pavement condition may be attributed to airports whose local units of government are not eligible to receive federal funding and have limited local funds available. The 2010 Legislature provided special bond funds for airport runway rehabilitation. As a result, 14 airport runways across the state will be rehabilitated over the next two years, likely resulting in a dramatic decrease in the number of runways in poor condition.

Current and historic data for this measure are displayed in **Figure 6-25**. It is important to note when comparing the data across years that two methodology changes have been adopted with the 2011 data. First, for all paved airports the threshold for pavements in "good" condition was moved from greater than or equal to 56 to greater than or equal to 55. This adjustment was made to increase consistency with the pavement reports completed every three years for each airport. Second, 2011 data do not include all taxiway pavements, but rather only those pavements considered parallel taxiways. This adjustment was made to better identify and measure the pavements with the greatest impact on safety.

Airport specific PCI information for runways and parallel taxiways are shown on the individual airport's data sheets included in **Appendix E: Airport Facility Needs Sheets and Report Cards**.

Figure 6-25: Runway and Taxiway Pavement Condition[28]



[28] 2011 data is for all runway but only parallel taxiway pavements. Pre-2011 good pavements were measured at >= 56 while 2011 is >= 55.

Technical Description: The FAA provides guidance for evaluation of airport pavements. PCI values are assigned based on a visual inspection of the conditioin of the pavement. These values assist engineers in determining the stage and rate at which pavements are degrading. New pavements are rated between a 95 and 100 on the PCI scale. Pavements which degrade beyond a certain PCI rating are unable to be effectively repaired through routine maintenance and must be rehabilitated, which can be costly. If pavements are allowed to degrade even more pavements must be completely reconstructed due to the behavior of the pavement and subgrade. As the pavement conditions deteriorate water and ice can cause damage beyond that of normal wear and tear. Each progression of degradation repair is significantly more burdensome on Federal and State funds.

With properly timed maintenance and repair, pavement rehabilitations and other costly repairs, though eventually unavoidable in the lifecycle of pavements, can be delayed and costs may be minimized. Occasionally pavement reconstructions are necessary, however, to modernize outdated facilities and lower overall life-cycle costs moving forward, which is less costly in the long-term compared to repeated rehabilitation of pavements designed decades ago. It is also worth noting that airport pavements constructed using Federal funds are required to be maintained through the FAA's grant assurance program.

Source(s): MnDOT Office of Aeronautics 2011 MnDOT PCI Report







Density Analysis

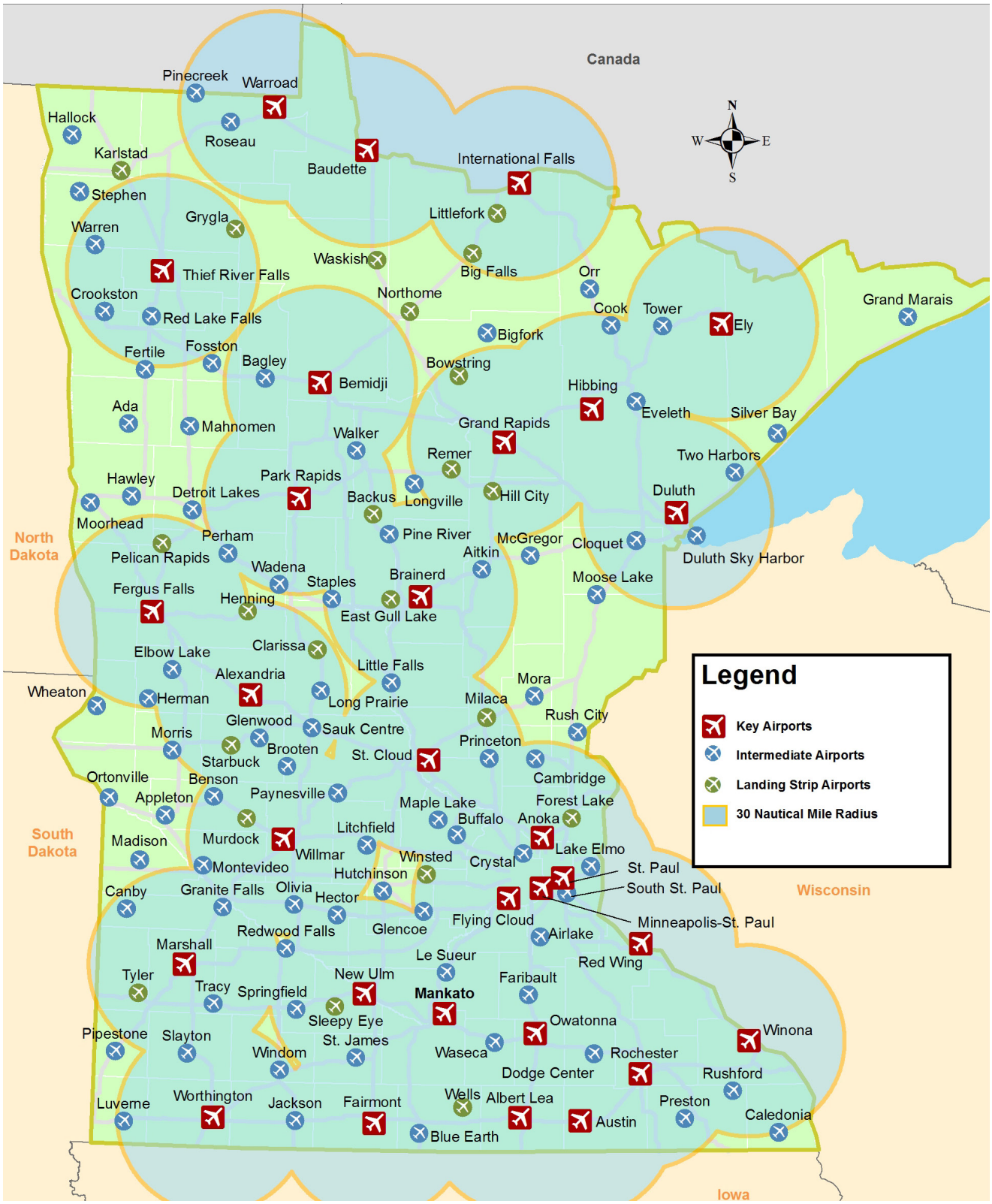
As noted at the beginning of this chapter, in addition to the performance measures and indicators used to track performance, additional analyses were performed to assist in determining the statewide density of a few critical airport facilities. These analyses help measure access to the air transportation system and also could serve as tool for selecting certain facilities to receive for funding. Key Airport density, crosswind runway location density and available hangar density were analyzed and are presented below.

KEY AIRPORT DENSITY

This analysis determines the density of Key Airports and how much of the state is within 30 nautical miles (NM) of one of these airports. The 30 NM buffer represents less than 30 minutes flying time for even the slowest aircraft and generally represents less than an hour's vehicle drive time assuming a typical road network. **Figure 6-26** shows that these airports are fairly well dispersed across the state and that a large portion of the state and its population is within 30 NM of a Key Airports. From a system standpoint the state appears to have an adequate number of Key Airports with a higher density in the south. Establishment of a new Key Airport would require that a community provide a strong business case that it is needed and justified.



Figure 6-26: Airport Density Analysis



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

CROSSWIND RUNWAY DENSITY

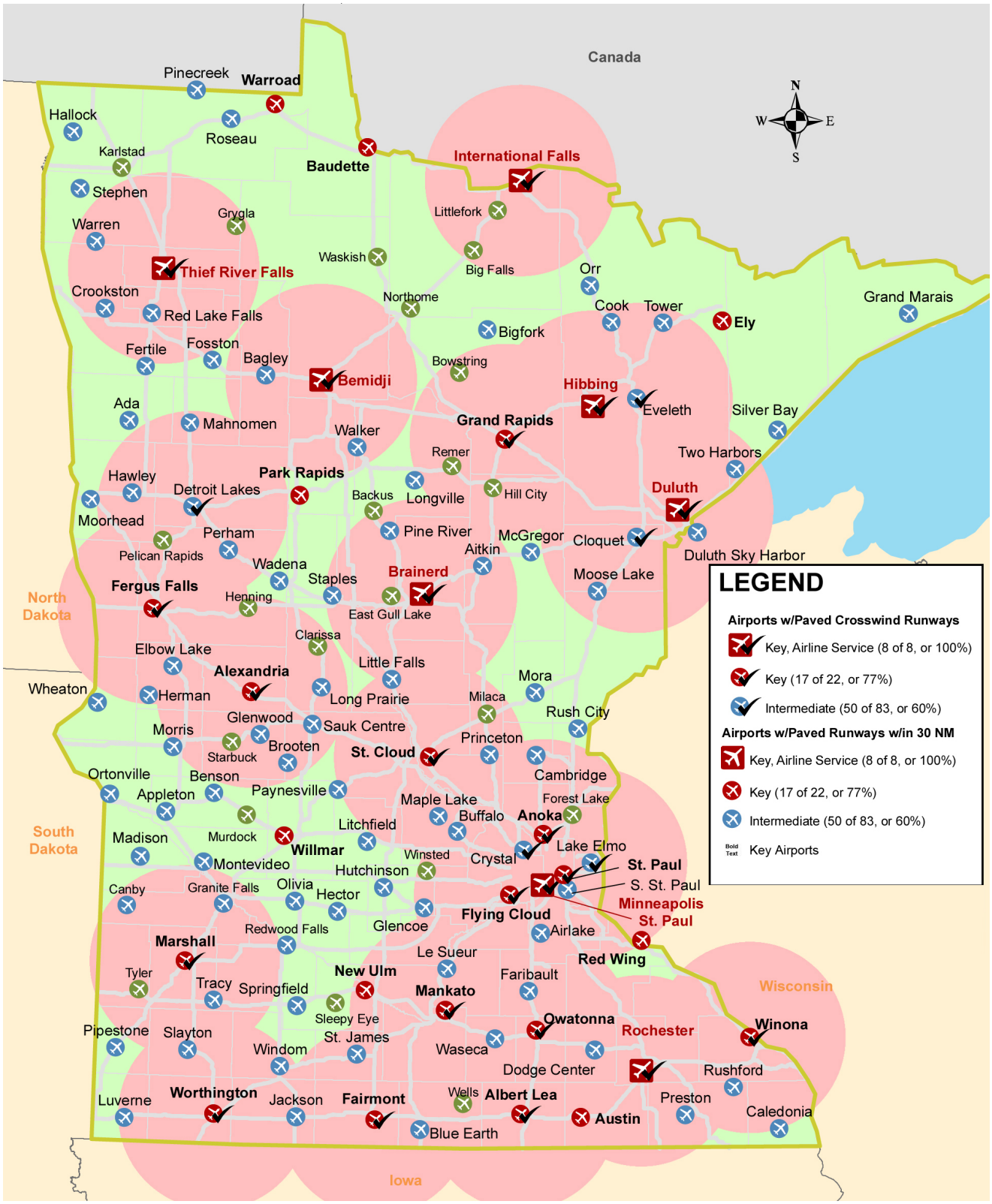
Crosswinds are often a contributing factor in small airplane accidents. Primary runways are generally aligned with the prevailing winds at the airport 's location but there are times when winds are not blowing from the direction of the primary runway and it is during those times that a crosswind runway is desired. Wind conditions affect all airplanes in varying degrees. Generally, the smaller the airplane, the more it is affected by wind, particularly crosswind.

The FAA standards for airport design recommend a crosswind runway be provided for large airplanes when the effective crosswind is more than 20 knots for 5 percent or more of the time. The standards for small airplanes are 10.5 knots. This illustrates the increased sensitivity that small airplanes have to crosswinds. Crosswind runways provide additional wind coverage when winds are not in the direction of the primary runway. A measure of providing a paved and lighted crosswind runway within 30 miles of any airport has been established for performing density analysis. Thirty nautical miles roughly equates to approximately 20 minutes of flying time for those aircraft that are most sensitive to crosswinds. This is 67 percent of the required daytime fuel reserve of 30 minutes and about 50 percent of the required nighttime fuel reserve of 45 minutes.

All eight Key Airports with airline service either have a paved crosswind runway or are within 30 NM of a paved crosswind runway. Seventeen of the 22 other Key Airports, 50 of the 83 Intermediate Airports and 17 of the 22 Landing Strip Airports have or are within 30 NM of a paved crosswind runway. As a result, 68 percent of the airports are within 30 NM of a paved crosswind runway.

Figure 6-27 identifies those airports with paved crosswind runways and a 30 NM buffer. As evidenced by the figure, the state is well covered in the Twin Cities Metropolitan Area as well as the southern part of the state. Adding a crosswind runway at an airport where gaps in coverage exist could improve safety and reduce accidents.

Figure 6-27: Crosswind Runway Density Analysis



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

AVAILABLE HANGAR DENSITY

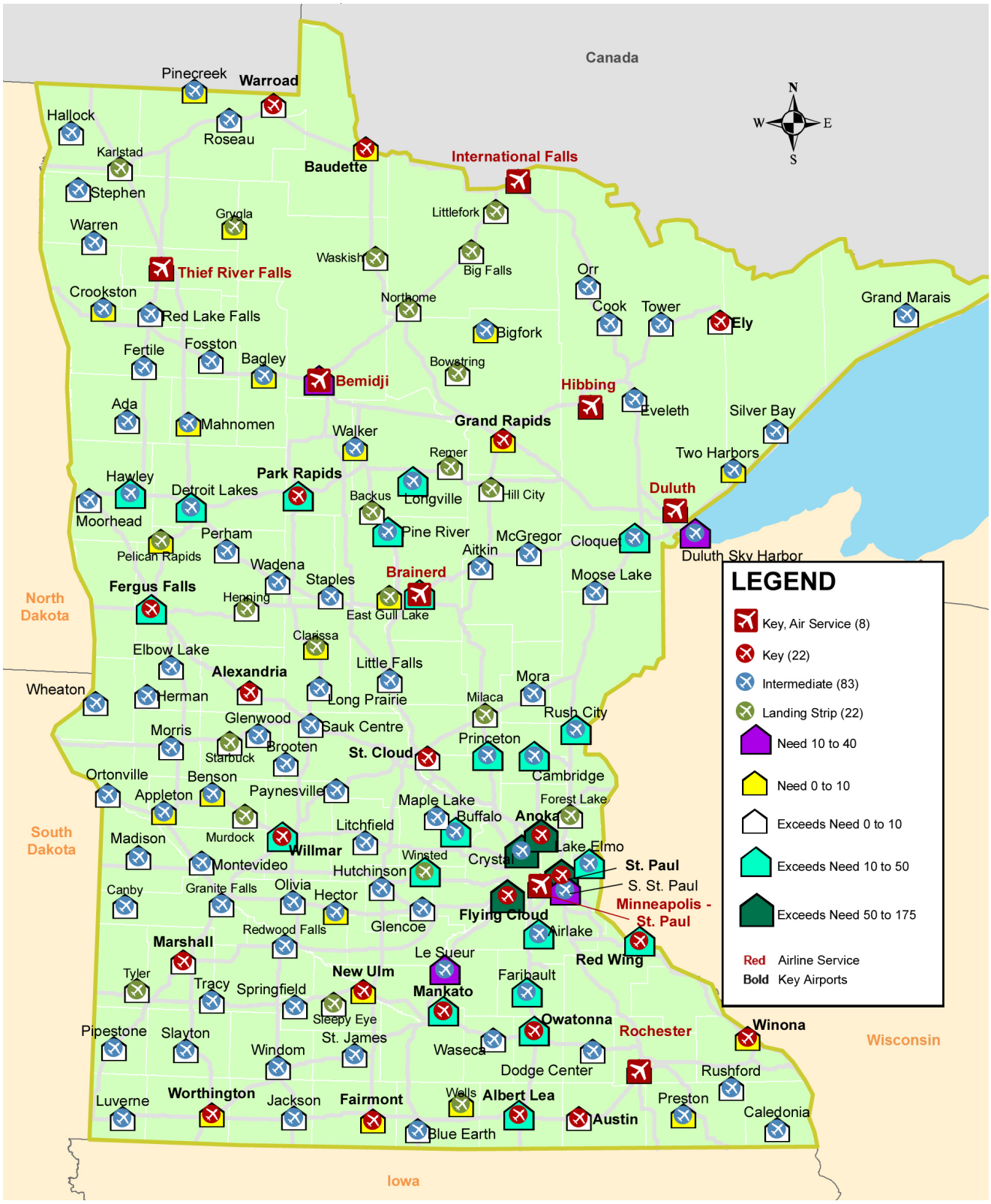
There are two primary types of airplane hangars, conventional and T-hangars. Conventional hangars typically can accommodate one or more aircraft whereas T-hangars are individual units designed to hold just one aircraft at a time.

A hangar density analysis was conducted to identify areas of the state where there exists an excess of hangars and where there may be a shortage. Hangar space was estimated based upon the number of T-Hangar units and conventional hangar square footage and is provided on the individual airport facility sheets contained in **Appendix E: Airport Facility Needs Sheets and Report Cards**.

Hangar needs for 2010 and 2030 were compared to the existing facilities as identified during the inventory stage of the planning process. **Figure 6-28** shows hangar needs and hangar excess in 2010 and 2030. One example of how this analysis can be applied considers two airport such as Albert Lea and Austin which both have been identified as having an excess of hangars. However, nearby Preston and Wells airports are both identified as needing additional hangars. One option for consideration would be having aircraft owners consider storing their aircraft at a nearby airport where there is available space, rather than making the large investments necessary to construct a new hangar. It is noted, however, that many factors are considered when aircraft owners choose where to store their aircraft.



Figure 6-28: Available Hangar Density Analysis



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

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MinnesotaGO
A Collaborative Vision for Transportation

State Aviation System Plan

Chapter 7

INVESTMENT PLAN AND SYSTEM RECOMMENDATIONS

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INVESTMENT PLAN AND SYSTEM RECOMMENDATIONS



Investments in Minnesota airports over the next 20 years should be based on a reasonable analysis of the needs previously identified in **Chapter 5: Airport Facility Requirements** and the amount of funding that is expected to be available. In order to plan for these investments, estimated costs have been developed to meet the needs for each airport. Methods used to develop these costs, the resulting estimated system costs, current funding sources, the project prioritization process, and airport funding alternatives are presented in this chapter.

It should be emphasized that the individual airport costs identified in **Appendix E: Airport Facility Needs Sheets and Report Cards** are estimates, and should only be used for system level airport funding information, rather than as a precise funding plan for an individual airport. In addition, it is noted that the amount of funds anticipated to be available over the next 20-years is significantly less than the needs identified. Therefore, the distribution of funding must be done in a way that maximizes the value of each dollar spent. Diverse aviation functions must be taken into account to ensure the aviation system is properly funded and preserved for its users. This Plan is not an implementation plan or a programming document; projects listed in this Plan are not guaranteed funding.

Developing Costs

To quantify the monetary needs of the aviation system, various sources of information were used. **Chapter 5: Airport Facility Requirements** and **Chapter 6: Performance Report** presented future airport needs based on minimum system objectives and performance measures. The then current (2012) Capital Improvement Program (CIP) for each airport was combined with the needs determined by this Plan to develop cost estimates. CIPs identify projects individual airports intend to achieve in the next five years to meet their own priorities.

Total cost estimates were split into time frames as follows:

- **Short–term** (four years including 2012-2015) investment plan values include project costs from each airport's CIP plus projects that were recognized as a high priority but not indicated on an airport's CIP (i.e. planning and zoning projects required in advance of receiving funding for other identified short-term projects). Because 2012 CIPs became available mid-way through the SASP planning process, the short-term does not include 2011 costs, and is four years in length.
- **Mid-term** (five years including 2016-2020) investment plan estimates consist of costs for safety and preservation projects that will meet the objectives and measures described in Chapters 5 and 6, but which are not identified on an airport's 2012 CIP. These costs were allocated to the mid-term planning periods because of the lead time necessary to complete them.
- **Long-term** (ten years including 2021-2030) investment plan values consist of costs for infrastructure planning and preservation as well as facility expansion to meet demands based on individual airports' long-term forecasts.

Costs reported for each airport in **Appendix E: Airport Facility Needs Sheets and Report Cards** do not include an inflation factor, but an annual inflation factor of four percent (4%) was used to develop the cost summaries by project type and planning period presented later in this chapter. The Metropolitan Council is responsible for aviation planning for the Twin Cities Metro Area Airports (TCMA). Only short-term costs were included for TCMA airports, excluding MSP which is not included in any SASP cost estimates.

Cost estimates for improvements that were not in a 2012 CIP, were prepared based on industry standard units of measurement. Unit costs for specific types of improvements were established based on a blend of MnDOT average bid prices, and costs from recent airport construction projects. Unit costs and the assumptions used in cost determination are presented in **Appendix F: Unit Cost Assumptions**. A construction cost index factor was developed and applied to eight regions across the state to account for regional cost fluctuations. See **Figure 7-1**.

Figure 7-1: Cost Index Regions

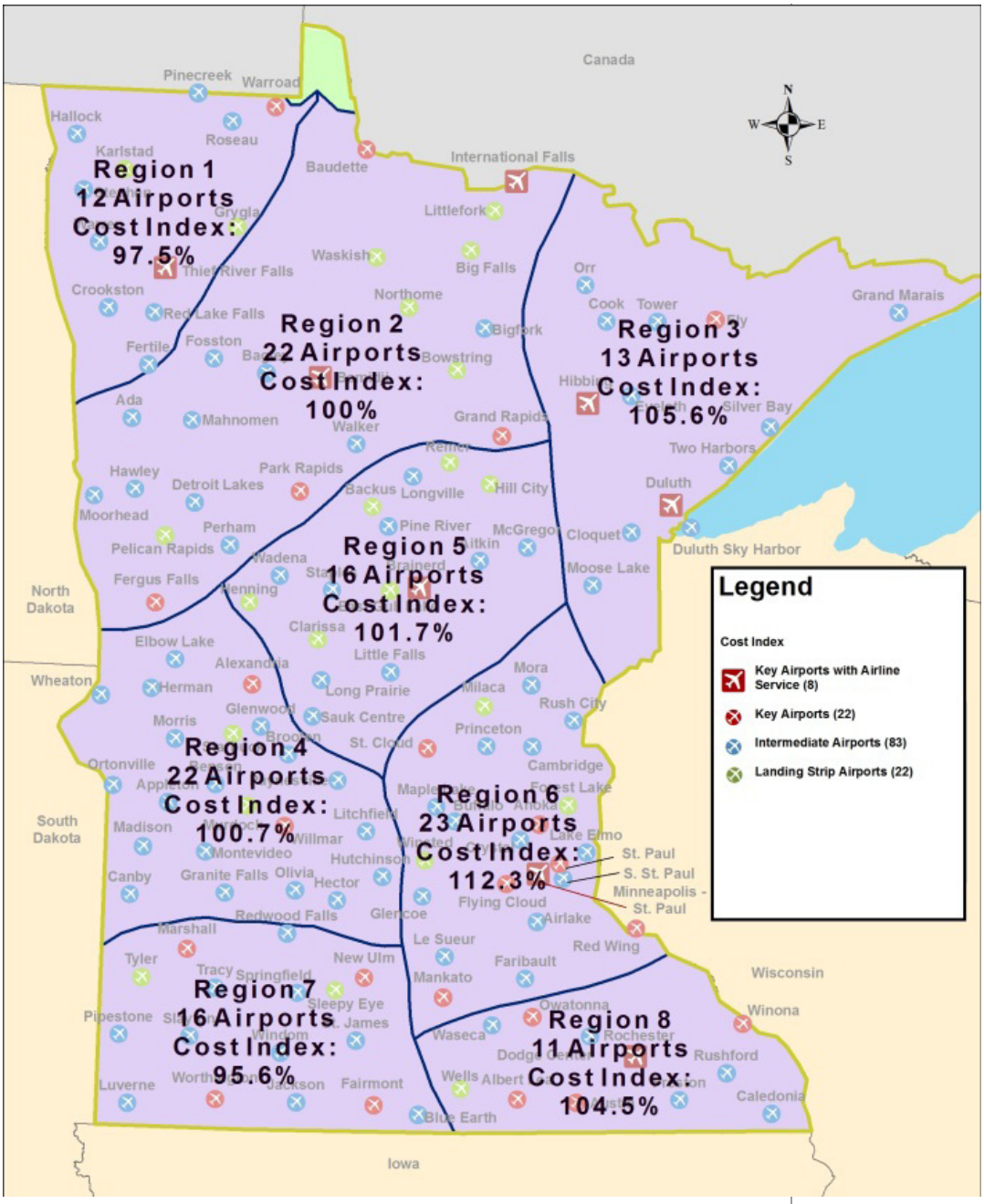


Table 7-1 lists cost index factors associated with each region. Project specific assumptions were used to finalize unit prices for each improvement. Identified improvements for each airport and associated cost estimates are included in **Appendix E: Airport Facility Needs Sheets and Report Cards**.

Table 7-1: Construction Cost Index Factors

REGION	ASSOCIATED CITY	CONSTRUCTION COST INDEX FACTOR
1	Thief River Falls	0.975
2	Bemidji	1.000
3	Duluth	1.056
4	Willmar	1.007
5	Brainerd	1.017
6 - Metro	Minneapolis-St. Paul	1.123
7	Windom	0.956
8	Rochester	1.045

Source: Karvakko Engineering & HNTB Analysis

Summary of Estimated Costs

A variety of types of projects are planned and completed at Minnesota airports each year. In order to determine which projects should have priority for funding, FAA and MnDOT Aeronautics evaluate several factors to produce a ranking score for each project. During the process, projects are grouped by type. **Table 7-2** presents a summary of system costs, excluding MSP, sorted by major project type ("T") codes. The Minneapolis-St. Paul International Airport (MSP) was treated as an exception when conducting the Plan's financial analysis. First, because MSP annually spends a significant amount of money on airport capital investments compared to the majority of other airports in the system, and because MSP has access to unique sources of revenue not available to other airports in the state.

Table 7-2: Summary of Estimated Project Costs[29] (millions)

"T" CODE	PROJECT TYPE	SHORT 2012-2015	MID 2016-2020	LONG 2021-2030	TOTAL	% OF TOTAL
CO	Construction	26	47	116	189	8.67
OB	Obstruction Removal	3	19	23	45	2.06
RF	ARFF Vehicle	1	-	1	2	0.09
MA	Master Plan	28	22	62	112	5.14
SG	Signs	2	-	2	4	0.18
IM	Improvements	333	113	432	878	40.26
LI	Lighting	13	2	18	33	1.51
SZ	Safety Zone (RPZ)	1	-	-	1	0.05
VI	Visual Approach Aids	4	9	14	27	1.24
WX	Weathering Reporting	1	-	1	2	0.09
IN	Instrument Approach Aid	10	1	13	24	1.10
DV	Development Land	1	-	2	3	0.14
EX	Extension/Expansion	82	10	110	202	9.26
SE	Security Improvements	11	24	38	73	3.35
MS	Miscellaneous	180	32	274	486	22.28
FF	Fuel Farm Development	4	1	5	10	0.46
PA	Parking	11	13	31	55	2.52
NW	New Key Airport	-	33	-	33	1.51
O	Other	1	-	1	2	0.09
Totals		**$712M**	**$326M**	**$1,143M**	**$2,181M**	**100%**

Source: MnDOT Office of Aeronautics Project Priority System & HNTB Analysis

[29] Excludes MSP costs

CAPITAL FUNDING SOURCES

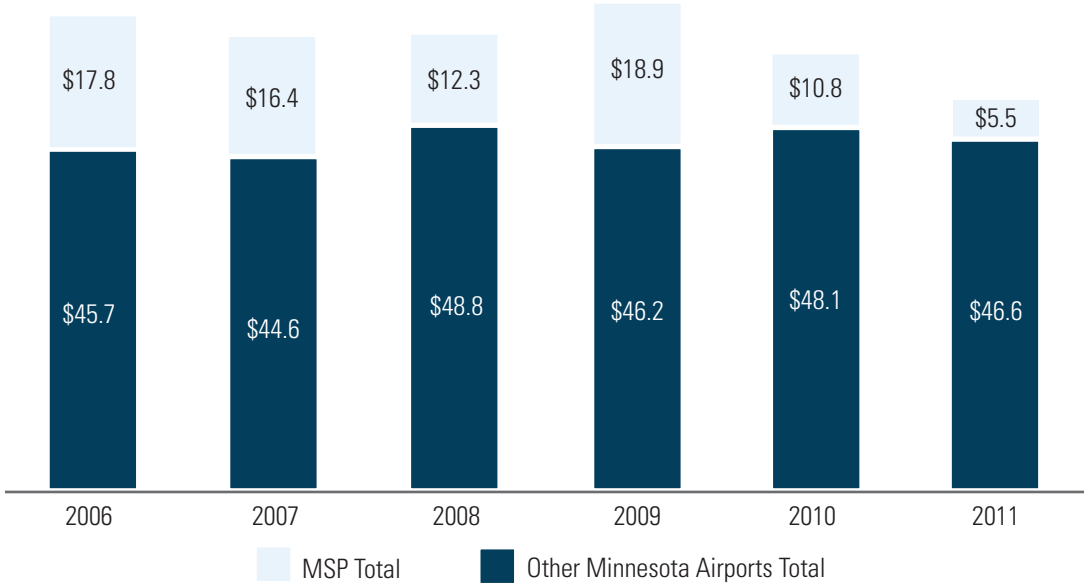
Availability of funding for capital investment projects in Minnesota's aviation system is critical when determining the short-term and long-term financial sustainability of the system. Airport infrastructure improvements are funded by federal, state, local, and private sources. Federal funds for airports are drawn from the Airport and Airway Trust Fund (AATF) through the FAA. Income for the AATF is provided by user fees, ticket taxes, fuel taxes, and other aviation revenue sources. An airport must be included in the National Plan of Integrated Airport Systems (NPIAS) to be eligible for federal funds. In Minnesota, state funds are appropriated by the state legislature from the State Airports Fund. Income sources for the State Airports Fund are: air flight property tax (paid by airlines that use Minnesota airspace, airports, and facilities), aircraft registration fees, aviation fuel tax, and interest income. To be eligible for Minnesota state funds an airport must be: included in the State Airport System (and this Plan), owned by a municipality, zoned or in the process of zoning for airport safety, and licensed for public use. Airports are funded differently depending on each individual airport's eligibility, needs, and characteristics. This section discusses the various funding sources available for the state aviation system.

FEDERAL AIRPORT IMPROVEMENT PROGRAM

The FAA Airport Improvement Program (AIP) provides grants to entities owning and operating public-use airports (sponsors) for the planning and development of airports included in the National Plan of Integrated Airport Systems (NPIAS). AIP grants are available to fund projects associated with planning, development, maintenance, safety, capacity, security, and environmental concerns. In general, AIP funds must be used on airfield capital improvements or repairs and in some specific situations on terminal, hangar, and non-aviation development. Professional services necessary for eligible projects — such as planning, surveying, and design — are eligible for AIP funding. Aviation demand at the airport must justify the projects, which must also meet Federal environmental and procurement requirements. Projects related to operating the airport (e.g. salaries, equipment, and supplies) and revenue-generation are typically not eligible.

In exchange for AIP grant funding, airport sponsors must agree to certain assurances and obligations contained in the project application and grant agreement. These include obligations to operate and maintain the airport in a safe and serviceable condition, not grant exclusive rights, mitigate hazards to airspace, and use airport revenue properly. **Figure 7-2** shows the total annual AIP grant amounts in Minnesota since 2006. MSP grants are identified separately.

Figure 7-2: Total Historical AIP Grants (millions)



Source: FAA

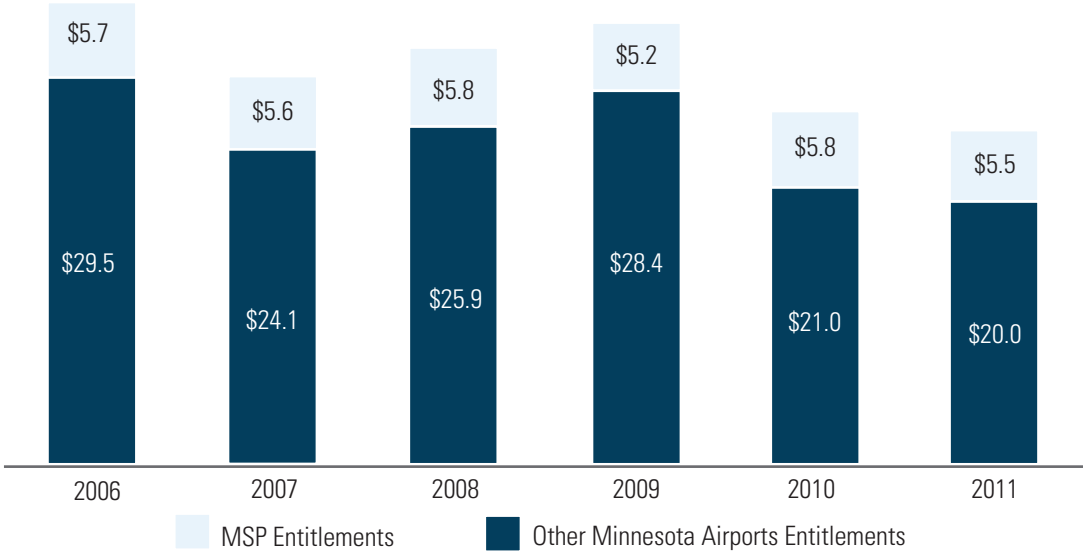
There are three categories of AIP funds available to sponsors: entitlements, discretionary, and apportionment. Each category is described in the following sections.

ENTITLEMENTS

Each general aviation (GA) airport within the NPIAS is entitled a set amount of money annually from the FAA. The amount is determined by a formula related to the number annual operations at the airport. Entitlement funding may be increased if an airport maintains a certain level of cargo activity or passenger airline activity throughout the year. Thus, airport sponsors across the state receive different levels of entitlement grants depending on the functions of their airport.

Another type of this grant, primary entitlement fund grants, are distributed based on annual enplanements at airports with at least 10,000 annual enplanements (MSP, Duluth, Rochester, Bemidji, Brainerd, International Falls, and Hibbing qualify). Qualifying airports receive a base annual amount of one million dollars with increases based on enplanements. For fiscal year 2012, MSP's primary entitlements were approximately $4.6 million, Duluth's were approximately $1.5 million, and Rochester's totaled approximately $1.4 million. Other qualifying airports received one million dollars. MSP also receives cargo entitlements of approximately $850,000 annually. Airports with fewer than 10,000 annual enplanements are eligible to receive $150,000 annually. In Minnesota this is a total of approximately $14 million. To support larger projects, airport sponsors may bank entitlement funds for up to four years, while MSP can only save them for three years. **Figure 7-3** shows the yearly AIP Entitlement grant amounts in Minnesota since 2006.

Figure 7-3: Historical AIP Entitlement Grants (millions)



Source: FAA

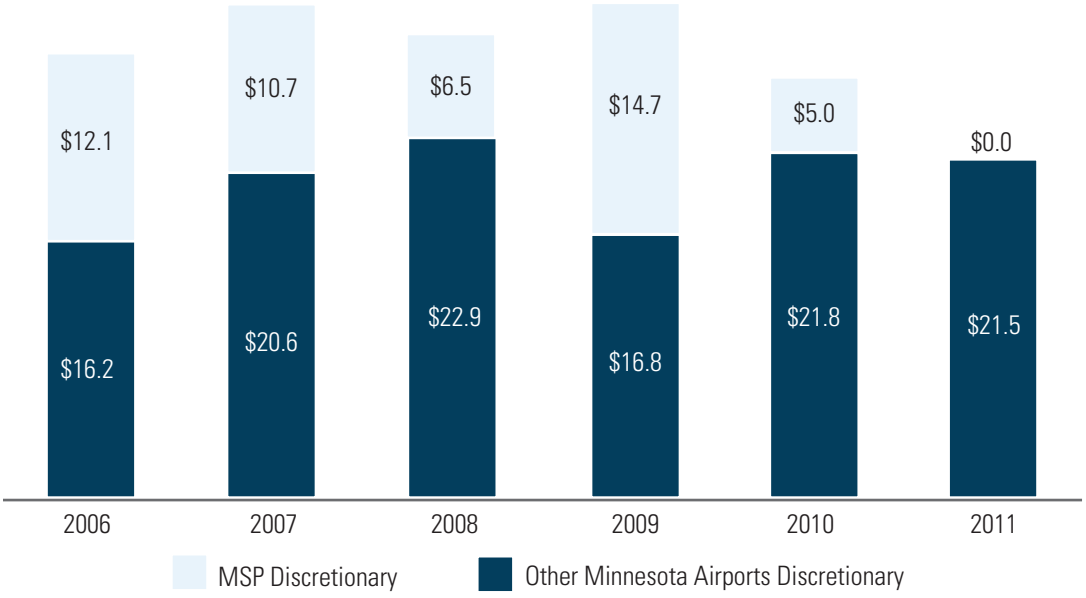
DISCRETIONARY

The FAA provides discretionary grants from funding that has not been designated for use by entitlements, apportionment (described in next section), or used in previous grants. These funds are distributed nationwide to airports for improvement projects on a competitive basis. Certain set-aside projects (airport noise and the Military Airport Program) receive first attention from this discretionary distribution. The remaining funds are true discretionary funds distributed according to the FAA's national prioritization formula.

For large and medium primary hub airports, entitlement grants can cover 75 percent of eligible costs for most projects. MSP is the only large primary hub airport in Minnesota, and the state has no medium hub airports. For small primary, reliever, and GA airports, entitlement grants can cover 90 to 95 percent of eligible costs. The portion covered by discretionary grants may be lower depending on the amount of available discretionary funds allocated.

The annual amount of AIP discretionary funding for Minnesota airports varies year to year, and is based upon national competition and FAA priority. Some of the representative projects funded with AIP discretionary grants at Minnesota airports in recent years have included: a new terminal building expansion at Duluth International, rehabilitation projects at Blue Earth and Thief River Falls airports, and airfield expansion at New Ulm. **Figure 7-4** shows the yearly AIP Discretionary grant amounts in Minnesota since 2006.

Figure 7-4: Historical AIP Discretionary Grants (millions)



Source: FAA

APPORTIONMENT

The FAA also issues state apportionment grants, which are made available for use at non-primary commercial service, general aviation, and reliever airports. Distribution is based on needs identified for NPIAS airports by MnDOT each year. The total amount of state apportionments is based primarily on state population but considers other variables. Minnesota's apportionment for FY2011 was approximately $5.1 million.

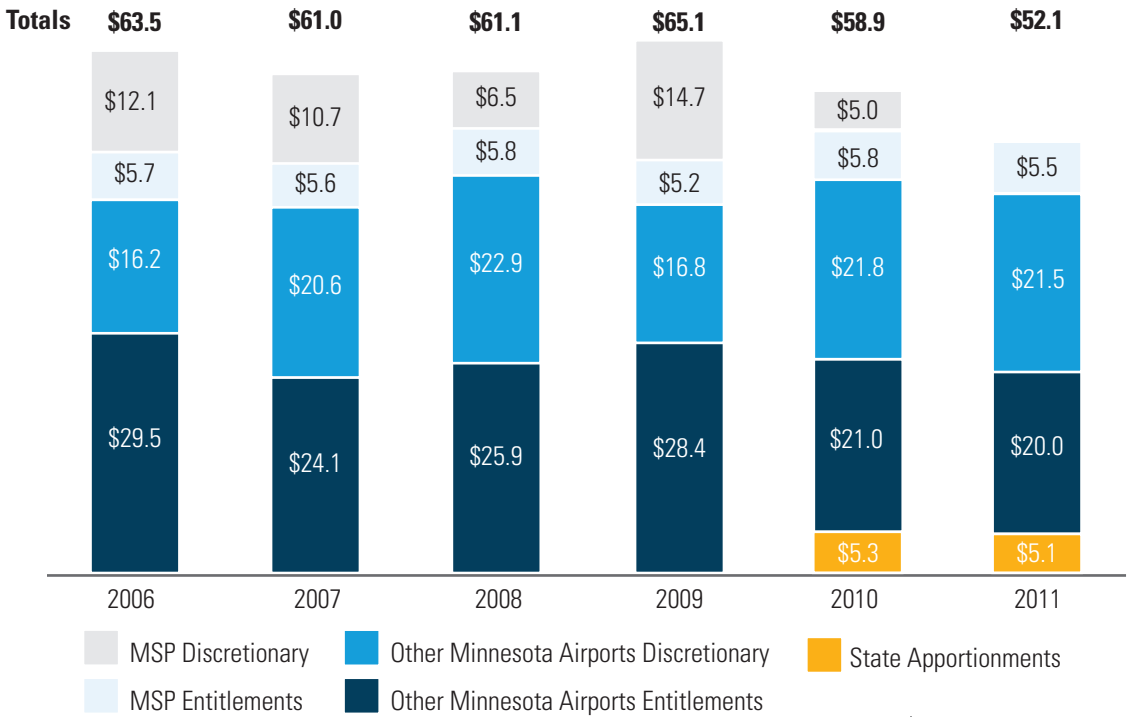
Federal Funding

Minnesota has received $361.7 million in FAA AIP funding over the past five years. The amount of funds has decreased over this time-frame from approximately $60 million annually to less than $55 million in 2011. **Figure 7-5** shows a summary of AIP funds since 2006 and the state appropriations received by Minnesota in 2010 and 2011. **Figure 7-6** shows a breakdown of the percent of total funding allocated to various project types in 2011. However, it is important to note that FY2011 had an abnormally high amount of funding (35 percent) allocated to terminal projects. This was because two airports with airline service received grants to renovate aging terminal buildings. Pavement maintenance and runways typically receive the majority of funding.

The AIP program has been in existence since 1982, and was preceded by the Airport Development Aid Program (ADAP) and the Planning Grant Program (PGP) enacted in 1970. Although the act was amended often in the 1980s and early 1990s, the general structure of the program remained the same. Commencing in 2000, the AIP's authorization substantially increased funding for airport development projects and the formula funding and minimums for primary airports were doubled starting in FY2001. Vision 100 (Century of Aviation Reauthorization Act, enacted in 2003) increased the discretionary set aside for noise compatibility projects and allowed non-primary airports to use their entitlements for revenue generating areas provided the air-side needs of the airport had been met, and permitted AIP grants at small airports to be used to pay interest on bonds used to finance an airport project.

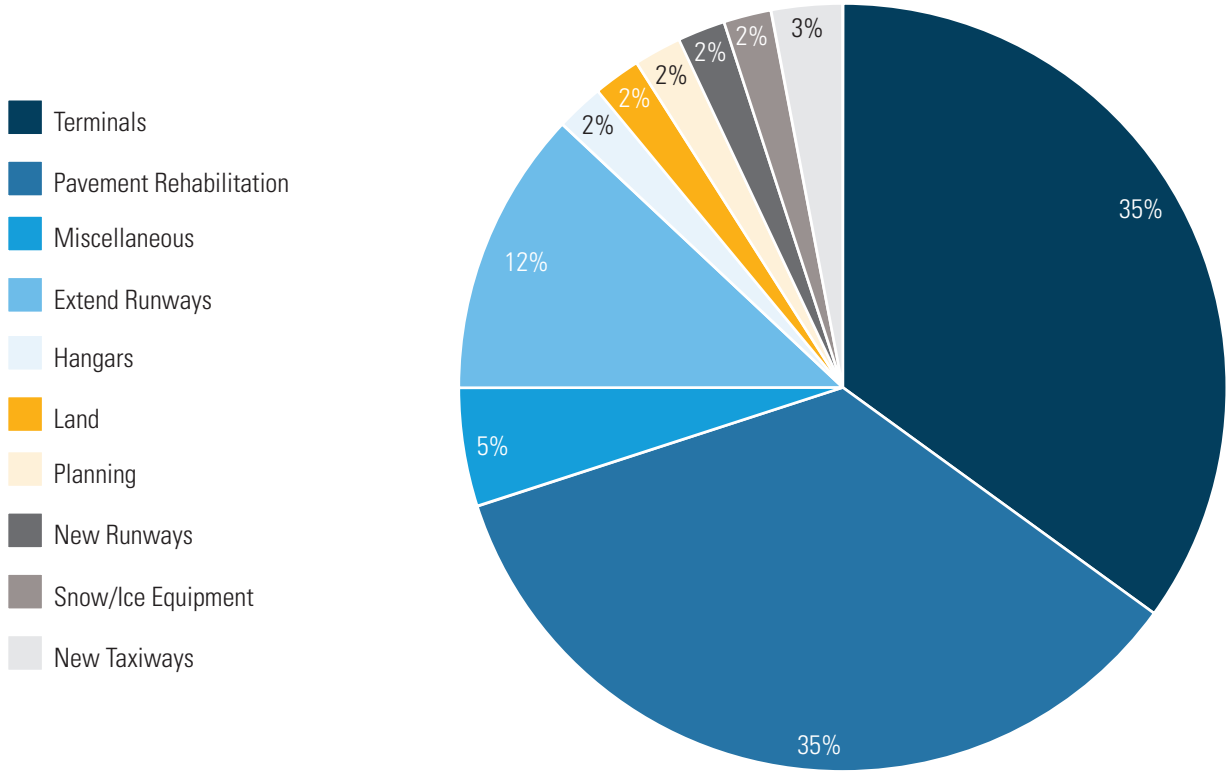
In more recent years AIP funding has witnessed a growing wave of challenges. The multi-year authorization of the AIP under Vision 100—ended on September 30, 2007. Between 2007 and 2012 AIP continued through a series of 23 short-term extensions until the enactment of FAA Modernization and Reform Act of 2012 in February 2012. AIP funding was authorized at a reduced level of $3.35 billion for Fiscal Years 2012 through 2015.

Figure 7-5: Total Historical AIP Grants by Funding Type (millions)



Source: FAA

Figure 7-6: FY2011 Minnesota Federal Airport Grants by Project Dollar Distribution



Source: FAA

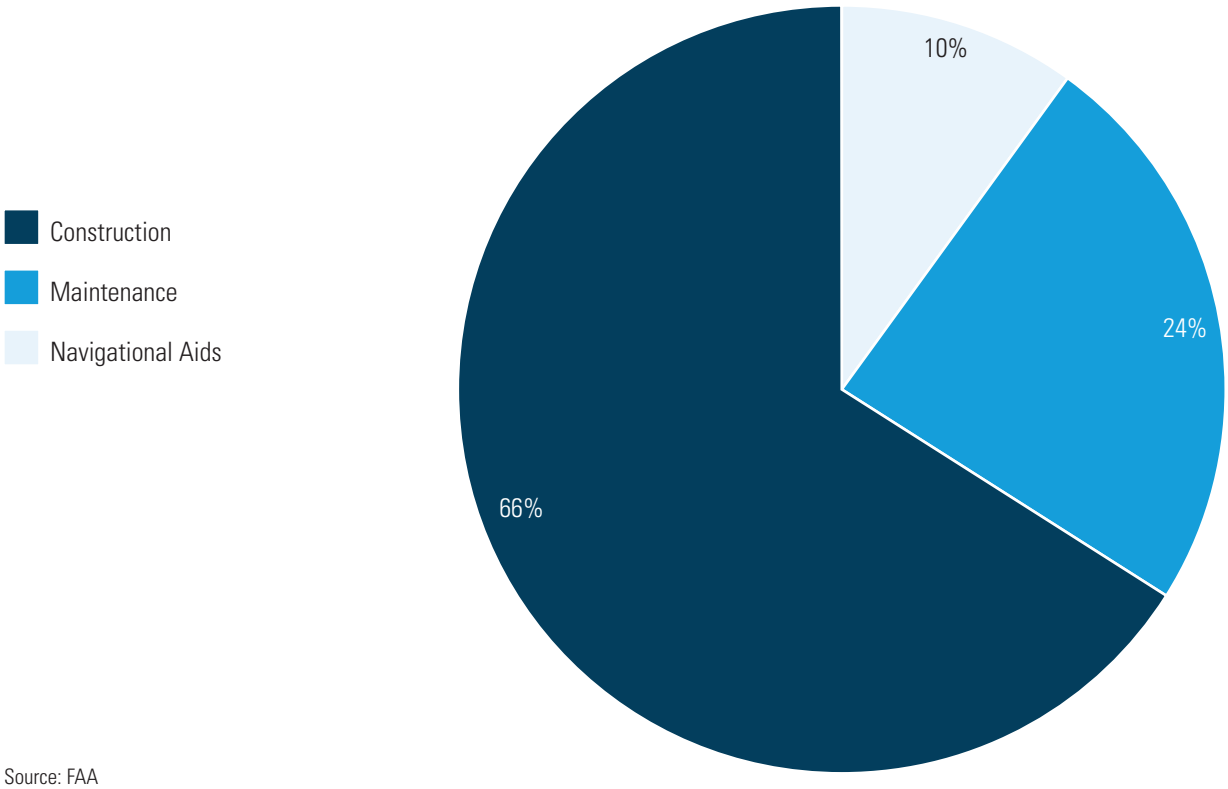
Notwithstanding its long history, extended debates during the past two reauthorization efforts reflect significant ongoing policy issues with respect to AIP and Passenger Facility Charges (PFC) which are discussed in greater detail later in this chapter. These issues include the national level of need for airport development and the appropriate AIP funding level, the appropriate federal role in airport development, the criteria for the distribution of funding across airports of different types and sizes, the sufficiency of AIP discretionary funding, especially for major capacity enhancing projects, airport privatization, de-federalization of large airports, raising or eliminating the $4.50 ceiling now imposed on PFCs, the use and tax treatment of airport bonds; and noise mitigation funding and eligibility. These issues are likely to be revisited in future reauthorizations. In addition to these ongoing policy issues, future levels of AIP will be influenced by the broader budget issues of the adequacy of trust fund revenues and the availability of money for the FAA from the Treasury general fund in the face of tremendous national deficit issues.

While it is possible that future reauthorizations of AIP could maintain the program's structure and funding levels, continued resistance to user fees, increased aviation taxes, the national debt, and the need to reign in budget deficits have a significant potential to result in reductions or changes. For purposes of system planning, AIP grants are assumed to continue at the FY2012 level through FY2015. After FY2015, FY2012 levels can be used as a base line; however, scenarios recognizing the potential for a significantly constrained level of AIP funding should be evaluated for their impact on the long term system plan funding.

State Funding

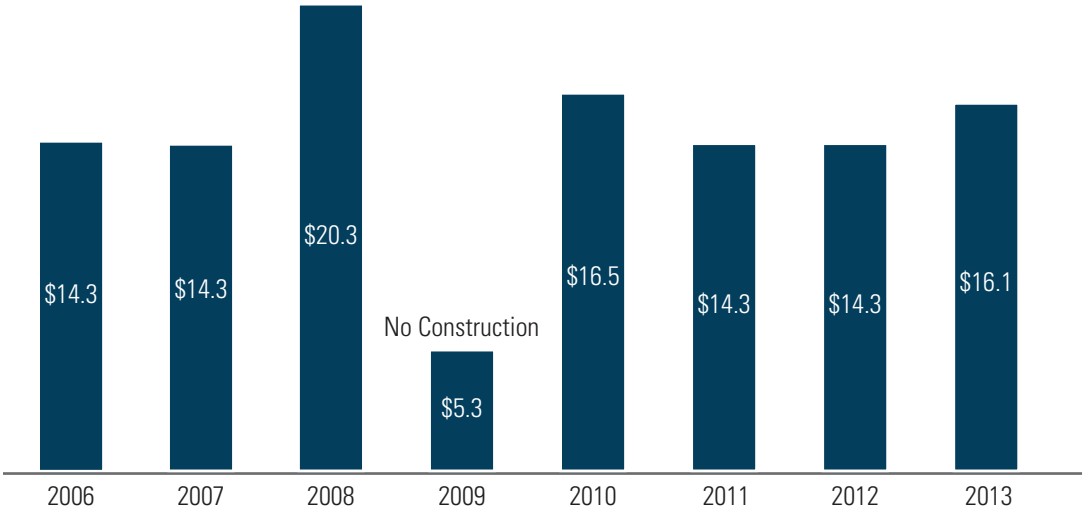
MnDOT's Office of Aeronautics administers state programs to fund airport planning, construction and management projects. Funding for these programs is matched to revenue sources from air flight property taxes, aircraft registration fees, aviation fuel tax, and interest income all of which is appropriated by the state legislature. Revenues and appropriations over the past five years have allowed MnDOT to invest in the system an average of $14.3 million per year through the following three programs: Airport Construction Program, Airport Maintenance and Operations Program, and the Navigational Aids Program. **Figure 7-7** shows the breakdown of the programs by project dollar distribution. **Figure 7-8** shows historical MnDOT Airport Development and Assistance Appropriation.

Figure 7-7: FY2011 State Funding by Project Dollar Distribution



Source: FAA

Figure 7-8: Historical MnDOT Airport Development and Assistance Appropriation (millions)



Source: MnDOT Office of Aeronautics







STATE CONSTRUCTION PROGRAM

The Airport Construction Program is the largest of all the state funded aeronautics programs. A baseline of $8.2 million has been in place for several years to complete projects to develop and preserve Minnesota's publicly-owned airports. Projects eligible for funding through this program include planning, land acquisition, paving, lighting, navigational aids, obstruction removal, fencing, noise mitigation, and other needs. State construction grants have broader eligibility criteria than Federal AIP grants with the ability to rehabilitate portions of infrastructure to be used by hangars or fuel systems and to provide security in hangar areas. Eligible airport improvement projects can receive funding through the State's Airport Construction Grants program. This program funds improvement projects based on a determination that the improvement is a justifiable benefit to the air-traveling public. Funding levels vary, but all grants for eligible improvements require a local share of 30 percent at NPIAS airports and 20 percent at non-NPIAS airports. Projects that have revenue-generating potential, such as a fueling system, require at least a 50 percent local share. Under this program, planning, land acquisition and professional services of a grant are typically eligible items. Also, to be eligible for a construction grant municipalities that own airports must have zoning in place or in the process that provides for airport compatible development for adjacent properties.

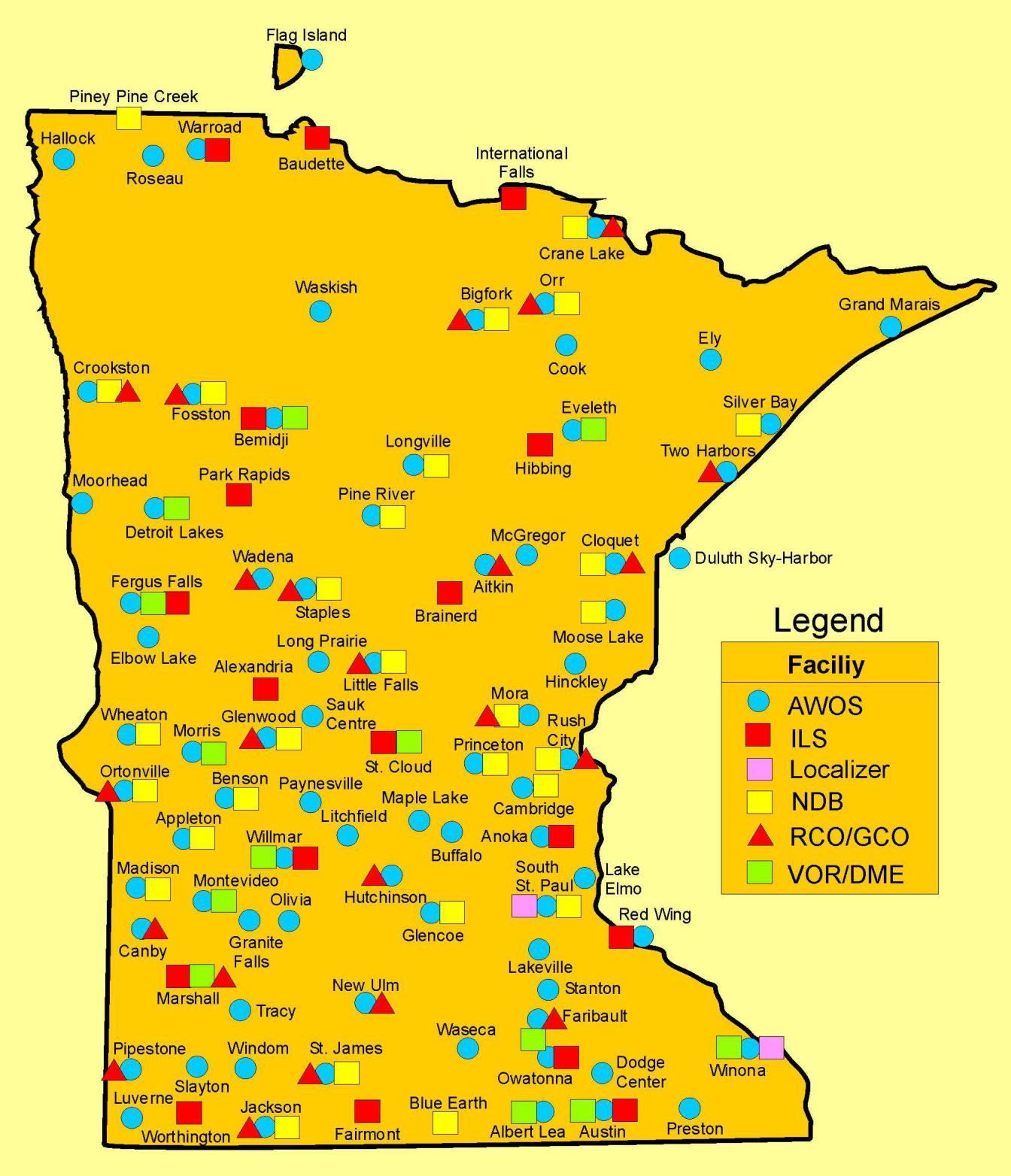
AIRPORT MAINTENANCE AND OPERATIONS PROGRAM

The Airport Maintenance and Operation Program generally receives approximately four million dollars annually. An airport's maintenance and operation expenses are eligible for up to two-thirds documented routine maintenance expenses. The amount of the grant depends on the size of the airport and its infrastructure that must be maintained. Examples of costs which are eligible for the reimbursement include the day-to-day labor, material, and equipment to maintain airport operations, including grounds, lighting systems, buildings, and maintenance equipment. To be eligible for the grant, the municipal owners of airports must provide safety zoning for the airport.

NAVIGATIONAL AID PROGRAM

The Navigational Aid Program is funded by both state and federal funds. The program provides funding for infrastructure critical to safe airplane navigation. The state of Minnesota and the federal government each own and maintain portions of the navigational aid network located in the state. Though funded separately, the two systems are complementary. The State's budget to operate their network averages approximately $2.1 million annually. **Figure 7-9** shows the state-owned navigational aids in the state.

Figure 7-9: State-Owned Navigational Aids



Source: MnDOT Office of Aeronautics

ADDITIONAL AIRPORT ASSISTANCE PROGRAMS

Two additional programs to support aviation system airports are: the Minnesota Hangar Loan Revolving Account Program and the Air Service Marketing Program.

Minnesota's Hangar Loan Revolving Account Program provides an 80 percent interest-free loan to airports to build new hangars. Under the loan agreements, monthly payments are made over the ten-year life of the loan. As payments are received, funds become available to make new loans to other airports with identified hangar needs. This state program was initially seeded with approximately four million dollars while annual expenditures from the fund average $600,000. Hangars are major revenue sources for airports and can generate revenue and provide protection for the aircraft based at an airport.

The Air Service Marketing Program is a state funded program to preserve or expand airline service to Minnesota's publicly owned airports. The program's historic funding level is approximately $200,000 annually.

The state has the discretion to bond for any airport related expenses. This is not a typical method for funding of airport improvements but has been and will continue to be available to those airports that pursue funding through the state's legislative process.

For an airport to be eligible to receive funding under any of the state programs, it must meet each of the four criteria in **Table 7-3**, as set forth in Minnesota Statute, Chapter 360.

Table 7-3: State Program Eligibility Requirements

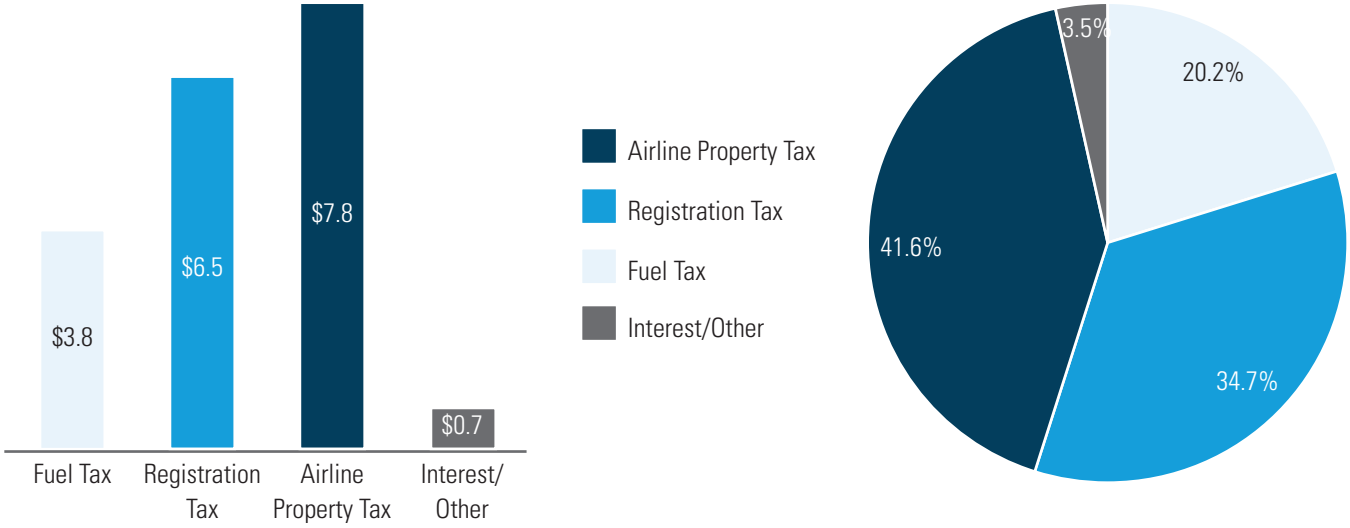
The airport must be owned by a municipality. Municipalities include cities, counties, townships, and airport authorities in Minnesota, acting individually or jointly.
The airport must be licensed for public use. The Commissioner of Transportation is responsible for licensing public airports in accordance with rules promulgated by MnDOT and administered through the Office of Aeronautics.
The airport must be in the State Airport System. This System is designated by the Commissioner of Transportation and approved by the Governor. Minnesota Statute, Chapter 360, allows for up to 195 airports to be in the State Airport System.
The airport must be zoned or in the process of being zoned.

Municipalities are given the authority to create, adopt, and enforce airport zoning. The Commissioner of Transportation is responsible for approving airport zoning ordinances prior to adoption in accordance with zoning criteria set forth in rules promulgated by MnDOT and administered through the Office of Aeronautics.

STATE AERONAUTICAL FUNDING AND OUTLOOK

Minnesota has three main sources of state aeronautics funding, each of which is a tax on an aviation-related activity. These revenues, combined with interest and other sources, totaled $18.8 million in Fiscal Year 2011 (see **Figure 7-10** for breakdown).

Figure 7-10: FY2011 Aviation Revenue Amounts (millions) and Distribution



Source: MnDOT Office of Aeronautics

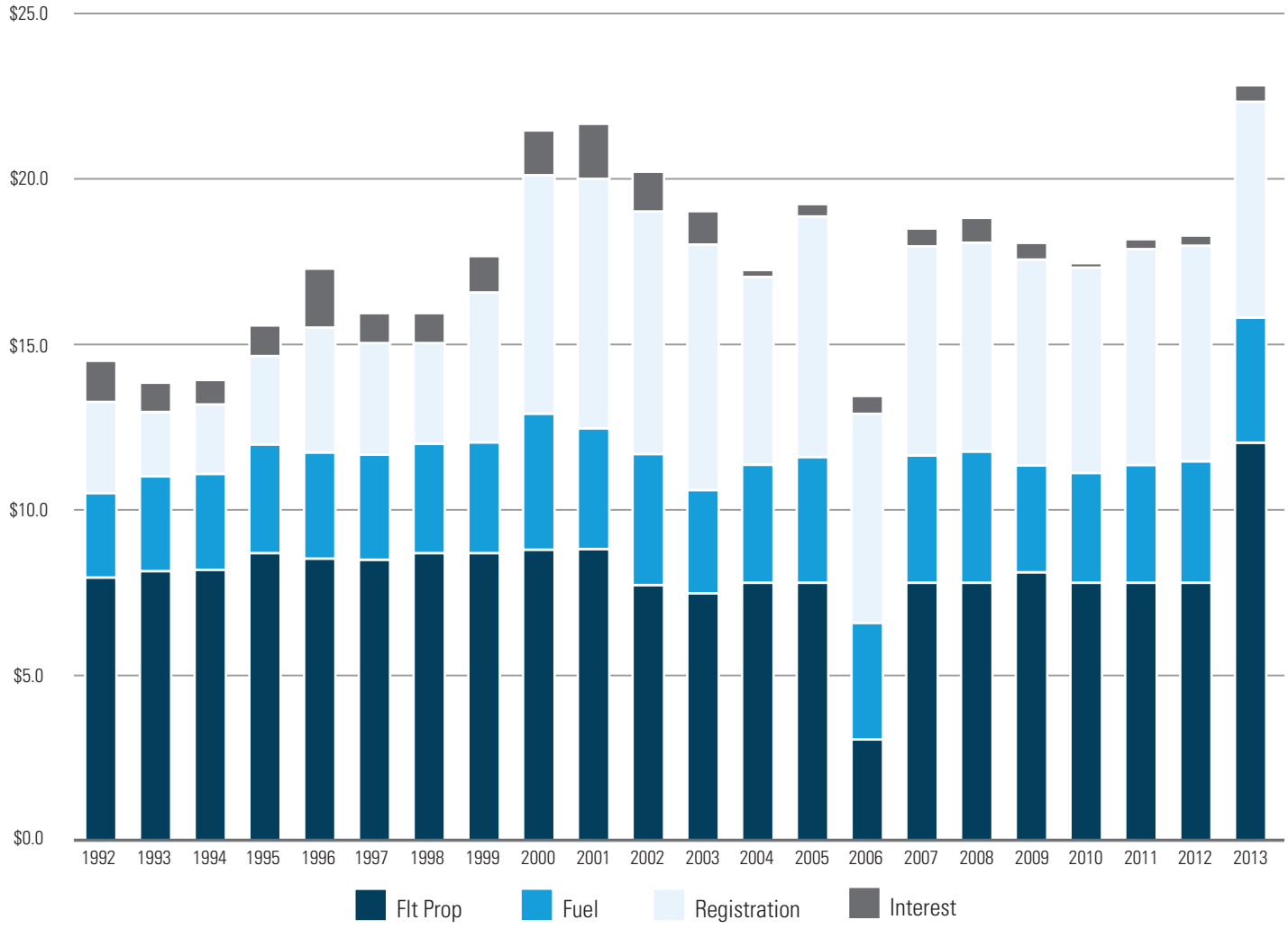
Airline Flight Property Tax: The airline flight property tax is paid on aircraft equipment owned by commercial airlines operated or used in this state. Airlines' tax capacity is multiplied by an adjustable tax rate that is based on revenue needs for the state airports fund (calculated by appropriations from the fund less revenue from the other two taxes). By virtue of this formula, the amounts collected under this tax will remain linked to the state revenue requirement, and the rates charged rather than revenues received will fluctuate based on the level of commercial airline equipment owned in the state. There is a 50 percent reduction for air carriers who provide passenger service in six or more months during the year to three or more airports anywhere that serve small or medium sized communities and have turboprops for a majority of its aircraft operating.

Aviation Fuel Tax: The aviation fuel tax applies to fuel used in aircraft. The tax rates starting at five and decline in steps from two, one, and half as more fuel is purchased. Aviation fuel tax receipts gradually grew during the 1990s. While there was some reduction in receipts beginning in 2009 with the reduction in business jet activities and reductions in commercial service operations in Minnesota, receipts have increased and are forecast to remain stable in the range of four million dollars per year through 2015, which represents approximately 20 percent of total revenues. Future levels of fuel tax receipts will be dependent largely on the level of commercial airline fueling and to a lesser degree on corporate and other general aviation activity.

Aircraft Registration Tax: An annual registration tax on aircraft is imposed on noncommercial aircraft based in Minnesota or used in the state for more than 60 days a year. The tax is set at a rate of one percent of the aircraft manufacturer's original list price, multiplied by a depreciation factor after the initial year of aircraft life. The depreciation factor is 90 percent of the list price in the second year of life and is further reduced by 15 percentage points per year in subsequent years. The minimum tax is the greater of (a) one percent of the list price times 25 percent, or (b) $50. Aircraft registration fees significantly increased since 1999 with the introduction of a higher fee structure but also have shown some significant variability in the past decade and are trending significantly lower than the peak years of 2000 – 2003. However, registration fee receipts are forecast to remain in the six million dollar range through 2015, representing approximately 35 percent of total revenues. There have been some grass root initiatives calling for the reduction of those fees citing the current fee level as a disincentive for basing aircraft in Minnesota. Future levels of aircraft registration fee receipts will be dependent on the level of fee imposed and the number of aircraft based.

In addition to the above taxes, revenues include investment earnings, representing only approximately two percent of the total revenues. Investment earning has been down in recent years and will always continue to reflect the overall interest rate environment. **Figure 7-11** shows historical levels of these revenue sources during the past 20 years.

Figure 7-11: Historical Minnesota Aeronautics Funding (millions)



Source: MnDOT Office of Aeronautics

The level of State Aeronautical Funding, while linked to State revenues received for air flight property taxes, aircraft registration fees, aviation fuel taxes and investment earnings, is dependent upon appropriation by the state legislature. Facing budgetary challenges in 2003, the Legislature transferred $15 million from the state airports fund to the general fund with a requirement that the funds be transferred back. The required return transfer took place in fiscal year 2008, but in that same year the Legislature mandated another $15 million transfer to the general fund. As a result of the 2008 transfer MnDOT reduced funding for the Navigational Aids Program by 50 percent and canceled the entire FY2009 Construction Program. FY2009 projects were moved to FY2010. A 2009 law requires that the second transfer be restored to the state airports fund (following other priorities set in statute) once the State has a sufficient budget reserve.

FUNDING BASELINE

State Aeronautical Revenues and the availability of State grants appear likely to remain stable at current levels through 2015. Current levels also serve as a reasonable baseline for estimating available revenues over the long-term. Inflationary pressures that would generally drive increases in future revenue sources are mitigated by the ever-continuing financial challenges in the airline industry and reluctance to consider aviation user fees. Moreover, fuel taxes pose a challenge for combating inflation because they are directly linked to gallons of aviation fuel sold and could result in a reduced revenue share in the future. Future changes in the state's aviation activity will have impacts on baseline funding assumptions, as will adjustments to revenue collection policies and mechanisms.

Local Funding

Even under the best of funding scenarios, local public airport sponsors such as counties, cities and airport authorities are responsible for a significant portion of the costs associated with airport development projects. Local sources of revenue may include passenger facility charges, airport-generated revenues, general fund revenues, private funding, and public-private partnerships.

PASSENGER FACILITY CHARGES



The airport sponsors for commercial service airports may impose Passenger Facility Charges (PFCs) to supplement public airport capital needs on eligible projects. PFCs are federally authorized and the FAA must review applications to impose PFCs for projects to determine eligibility. PFC projects must accomplish one of the following objectives set forth by statute: preserving or enhancing airport safety, security, or capacity, reducing airport noise, or enhancing competition among airlines. Airports are required to consult with air carriers operating at their airports; however airline agreement is not needed to collect or use PFCs. PFCs can be imposed at the level of one, two, three, four dollars, or $4.50 per enplaned passenger. PFCs can be used to pay for capital improvements as they are incurred (PAYGO) or can be leveraged to pay debt service on bonds. Because they are collected on a per enplanement basis, PFCs are an important funding tool for capital projects at large commercial service airports. PFCs can contribute to the overall funding plan for smaller commercial service airports, but may not be a sufficient or reliable source of funding depending on the variability of air service at the airport. The last increase in the maximum level of PFCs was in 2000.

AIRPORT-GENERATED REVENUES

Airports can generate revenues through a combination of aviation user fees, land and building rents, auto parking fees, privilege fees for on-airport concessions, and commercial development. Large commercial service airports generally can generate sufficient revenues, supplemented by federal and state grants and PFCs described above to meet operating expense requirements and to meet most capital development requirements.



Funding the local share of airport operation, maintenance, and improvement projects is available to each airport from a variety of sources. These sources are described below and as noted, the type and potential amount of revenue generation will vary by the size of the airport.

Revenue at Smaller Airports: Most of the smaller state airports have a fueling facility from which airports typically generate revenue from each gallon of fuel that is sold. These airports also generate revenue from rental of hangar space, vending machines, and rental of land for either private hangar space or agricultural use. These sources typically provide revenue to pay for a portion of an airport's annual operation and maintenance costs but rarely provide any funds for the required local share of an improvement project that is primarily funded by FAA or State grants.

Revenue at Larger Airports: Larger airports generate the same type of revenue as smaller airports but they also use additional fees to generate revenue. The major sources that are used include fees for aircraft landing at the airport and automobile parking.

Local Taxes: Taxes by the local community or government agency that controls an airport typically fund the local share of airport improvements and a portion of operation and maintenance costs. For most of the airports in the state, this is the primary source of funding for airport improvement projects.

At smaller commercial service and general aviation airports, the airport generated revenues may not be sufficient to fully support airport operating costs and capital investments. However, systematic pursuit of non-aeronautical revenues can contribute to the long-term financial viability of the airport. Best results for commercial development and non-traditional revenue generation will be achieved when implemented under a business plan framework as these projects can likewise require investment of airport and airport sponsor funding and the potential revenue can be uncertain or take a considerable length of time for repayment.

In some instances, airports may have natural resources such as oil and gas or mineral rights that have the potential for revenue generation if the extraction can take place in a manner that does not interfere with the safe operation of the airport. Some airports are also turning to renewable energy sources such as solar and wind generation of energy if they can be implemented in a manner that is compatible with the safe operation of the airport, and if a reasonable pay-back period for the required investment can be achieved. Some airports may resort to the sale of land not needed for aeronautical purposes. This requires a very long perspective to assure that the land will not be needed for future capacity and may require the approval of the FAA if grant funds were used to purchase the land or if it was received under the Surplus Property Act. Sale of land may also bring commercial or residential development closer to the airport and serve as a future encroachment for aviation activities.

GENERAL FUND REVENUES

At many small commercial service and general aviation airports, the airport sponsor is required to use its general fund revenues or financing from its general obligation bonds to support operating costs and local matching funds for capital projects. Unfortunately, fiscal challenges are widespread for many municipalities as well. Some municipalities are seeking options to close airports that are not perceived to be providing sufficient benefit to the community for the cost of investment or are seeking private partners for the operation and/or development of the airport.

PRIVATE FINANCING SOURCES

Projects that have revenue generating potential may be funded through private financing or equity investments as part of a public-private partnership (PPP). PPP arrangements can be a valuable financing strategy when traditional methods are not available. However, they usually carry a higher financing cost or return on investment requirement than projects that can be financed through tax-exempt financing. PPP arrangements are also not a silver bullet. Revenues need to be generated to repay the investment from other revenue sources such as rents or user fees in the long term. However, some investors may have a long-term perspective that allows the project to move forward. Airport sponsors may also wish to develop partnerships with community economic development organizations to define and attract potential partners for PPPs.

Project Prioritization System

MnDOT prioritizes airport projects utilizing a modified version of the FAA's project priority equation. Modifications were made to the equation to more accurately reflect Minnesota airport classifications. The modified priority equation only applies to the competition for state funds while the FAA's equation only applies to the competition for federal funds. The purpose of using an equation is to equally and objectively compare multiple airport projects against one another. The priority equation consists of four components: Purpose Points, Airport Type, Airport Component, and Project Type. Each project is assigned a point value for each of these components. These point values range from zero to ten points. **Figure 7-12** shows an outline of the equation used for analysis and the points that are typically assigned for a specific project.

Figure 7-12: MnDOT Project Equation

Priority Score = 0.25P(S+1.4P+C+1.2T)

P
Purpose of Project
(0 to 10 points)

- 10 = Safety/Security
- 9 = Statutory Emphasis Programs
- 8 = Planning/Environment/ Reconstruction
- 7 = Capacity
- 6 = Standards
- 4 = Other

S
Airport Classification
(2 to 5 points)

- 4 = NPIAS Key Airport
- 3 = NPIAS Intermediate Airport
- 2 = NPIAS Landing Strip
- 5 = Non-NPIAS Intermediate Airport
- 4 = Non-NPIAS Landing Strip

C
Component of Airport
(0 to 10 points)

- 10 = Runway
- 9 = Seaplane, Helipad
- 8 = Taxiway
- 7 = Homes, Land, Other, Public Building, Planning
- 5 = Apron
- 4 = Ground Transportation, New Airport
- 3 = Building
- 1 = Terminal
- 0 = Financing

T
Type of Airport Project
(0 to 10 points)

- 10 = Construction (CO), Obstruction Removal (OB), ARFF Vehicle (RF)
- 9 = Master Plan (MA), RW/TW Signs (SG)
- 8 = Improvements (IM), Lighting (LI), Safety Zone - RPZ (SZ), Visual Approach Aids (VI), Weather Reporting (WX)
- 7 = Instrument Approach Aid (IN)
- 6 = Development Land (DV), Extension/Expansion (EX), Security Improvement (SE)
- 5 = Miscellaneous (MS)
- 2 = Fuel Farm Development
- 1 = Parking (PA)

There are additional "T" Type Points but the above "T" Points reflect the ones used in developing the estimated costs for this Plan.

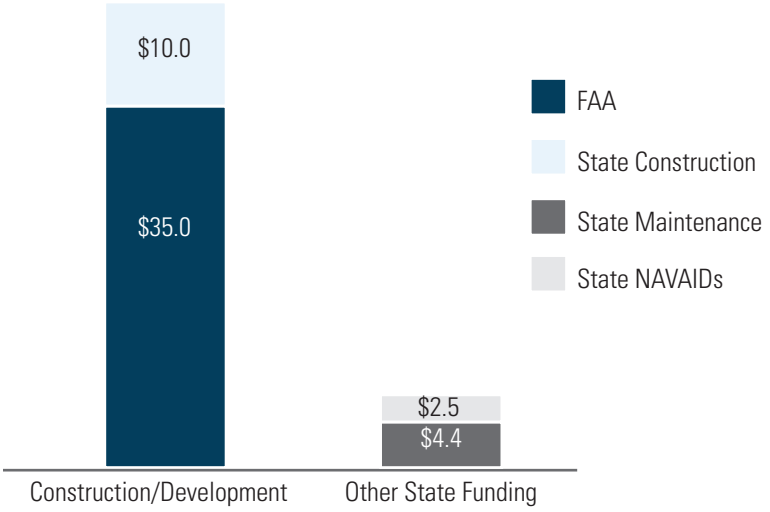
Funding Analysis

Based on the needs and their estimated costs presented in previous sections of this chapter, at least $2.461 billion is estimated to be needed to meet the capital investments identified for Minnesota airports (other than MSP) through 2030. Though identified as the needs over the next 20 years, this amount is likely to be understated, as the airport CIPs and capital planning processes typically identify projects a maximum of five years in the future. This understates the costs in the long-term time range for locally desired projects not identified by this Plan's analysis, which are numerous.

Financial challenges in the aviation industry are now being exacerbated by fiscal challenges at the federal, state, and local government levels. While these challenges are assumed to be resolved in the long-term, those solutions could impose significant changes to project eligibility and levels of available funding. This Plan assumes continuation of the existing level of funding sources as a baseline. However, in light of those financial challenges, this baseline may be considered to be a best-case scenario over the long term.

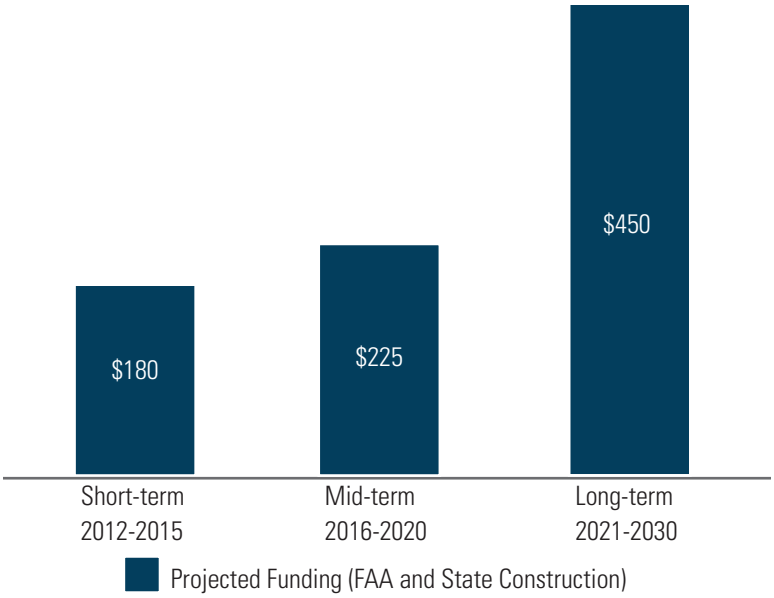
A total of $45 million of Federal and State annual funding is projected for general airport capital investment each year other than at MSP. An additional $4.4 million of State funding for maintenance expenses and $2 million for NAVAIDs (see **Figure 7-13**) is projected but not considered as part of this analysis. This represents $180 million during the short-term phase, $225 million during the mid-term and $450 million during the long-term (see **Figure 7-14)**. This $855 million in anticipated available funding over 20 years represents less than 35 percent of the $2,461 million in (an average of approximately $130 million annually) estimated capital investment needs over the planning period, or a gap of $1.6 billion (see **Figure 7-15**).

Figure 7-13: Projected Annual Funding Sources (millions)



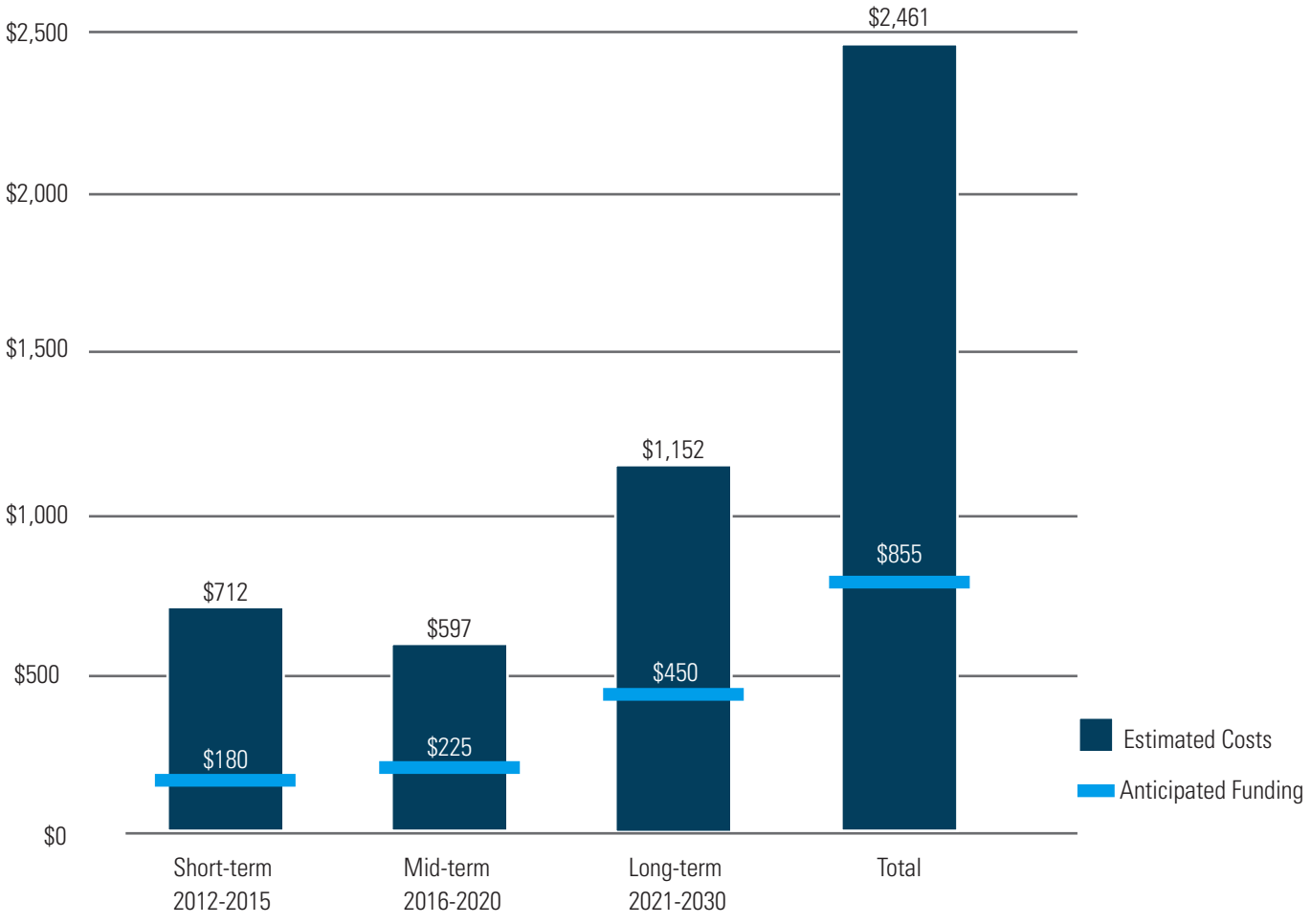
Source: MnDOT Office of Aeronautics

Figure 7-14: Projected Construction Funding by Phase (millions)



Source: MnDOT Office of Aeronautics & HNTB Analysis

Figure 7-15: 20-Year Estimated System Capital Costs (millions)



Source: MnDOT Office of Aeronautics & HNTB Analysis

One potential conclusion drawn when considering the preceding funding analysis is that many of the projects identified for the short-term phase will likely be moved to the mid-term phase because the total short-term needs are greater than the funding anticipated to be available, resulting in a widening funding gap in the mid-term. However, re-phasing projects will not be sufficient to match the available funding with the identified capital project needs. Local funding may fill a portion of that gap, however, smaller airports and local communities will likely also face continued challenges in raising significant funding for capital projects in addition to the necessary operating and maintenance costs associated with airports. When the funding gap exceeds one-half of the capital investment needs identified, questions should begin to arise as to the long-term financial sustainability of the airport system as it exists today. Policy decisions are likely to be required and adjustments to the way projects are selected to receive funding may be necessary in order to promote the sustainability of the system as a whole and manage the expected widening of the gap between needs and revenues.

Prioritization Considerations

One response to the anticipated gap might be to triage the nature of the capital project and to fund those that meet only the most critical needs. However, when less than half of system needs are likely to be funded over 20-years, continuing this approach may result in having "half-completed" facilities that are in less than optimal condition at airports throughout the system. As a result, some parts of the system may need to be reduced while other parts are enhanced or expanded to meet changing demand.

As noted in **Chapter 1: Introduction and System Goals**, the project prioritization formula described earlier in this chapter should be periodically reviewed to ensure that funds are allocated appropriately. To that end, three prioritization concepts have been identified during this planning process and are called out here for consideration looking forward. It is important to note that any adjustment to the prioritization system currently in place would be completed in a collaborative manner, separate from the SASP planning process, and would at a minimum take months to complete and implement.

GENERAL PRIORITY BASED ON SASP

Based upon the many analyses conducted during this planning process (i.e., inventory data collection, forecast, minimum system objective analysis, performance measures and indicators, cost estimate development) coupled with feedback received through numerous stakeholder meetings and interactions, a general priority order for project selection is identified. The priority order for consideration along with a brief description of each category of improvement project follows.

1. Safety Projects: These projects include removal of airspace obstructions, protection of airspace around airports through appropriate land acquisition and zoning, and addressing standards issues related to safety (adequate safety areas etc.).

2. Facility Preservation Projects: These projects include significant maintenance and reconstruction costs for pavements, lighting and navigational aids and landside facilities such as buildings, roads and parking.

3. System Usability and Access: This would generally consist of improved instrument approaches and making more airports eligible as alternate airports during poor weather.

4. Airport Expansion: All projects that expand the facilities on an airport should be reviewed very closely. A density analysis should be conducted to see if other nearby airports could satisfy the need.

It is worth noting that this concept is currently utilized to a degree with the current prioritization formula, with safety projects ranking very high, along with preservation related projects. However, reiterating and further formalizing the importance of safety projects, while simultaneously highlighting the anticipated challenges for funding airport expansion projects in the future, may be of benefit in the future.

BEST CASE ANALYSIS

This concept is derived from marketplace economics, whereby demand for an aviation facility is primarily a factor of need, rather than convenience or location. Its application can be especially effective in instances where the same need for a facility/funding exists in multiple areas of the state. Using this project selection and prioritization concept can benefit the whole system, rather than just one airport. This concept could be applied to facility needs such as crosswind runways, hangars, apron, 24/7 fueling facilities, certain navigational systems, weather reporting and even airport classifications to determine whether or not existing adjacent facilities can satisfy the need.

Another application is to use this analysis to consider facilities that could be removed from the system (e.g. runway narrowing, runway shortening, runway closure, airport closure) without reductions in system coverage or service. These are typically not desirable options but, where appropriate, reducing system needs could lead to an improved system overall. To that end, if extreme funding difficulties develop, considerations making it easier for communities without broad support for their airport to close or downsize may be in order if there is only a limited impact to the system based on a density analysis.

Note that this concept is already utilized to a degree during project selection, though could be more formalized in the future. Regardless, increased scrutiny of airport master plans that include expansion may be in order to achieve "best case" results for the system, rather than just individual airports.





SUSTAINABLE AIRPORT SYSTEM

One final alternative prioritization concept for consideration is illustrated in **Figure 7-16**. Under this concept, sustainability requires evaluating investments as part of a long-term, holistic plan rather than just annual decisions. Prioritization would be completed through hierarchical categories. Preservation of assets and safety are the priorities, others funded only to the extent funds are available over the long term. The system would also target allocations by airport role categories. While funding decisions are made on an annual basis, enhanced planning may be most effective if completed in three to five year rolling increments.

Figure 7-16: Sustainable Airport System Details



System Recommendations

Recommended improvements to meet the needs of the system and to maximize Minnesota's financial investment in its system have been identified in the preceding chapters. The following section summarizes the multiple analyses that were conducted to identify system needs, or recommended improvements, and directs the reader to the more specific results of each analysis. It is important to again note that this SASP is not a programming document, as MnDOT does not own or operate the airports in the system. The project specific recommendations must still be implemented by individual airports.

MINIMUM SYSTEM OBJECTIVES, PERFORMANCE MEASURES AND DENSITY ANALYSIS

As part of this planning process, minimum system objectives were established for each category of system airport (see **Table 5-2** in **Chapter 5: Airport Facility Requirements**) and an analysis was conducted to determine deficiencies, or needs, for the system and for each airport. Some of the key facilities analyzed included airport pavements, navigation systems, runway lighting, weather reporting systems, airport buildings and fuel facilities. A system level summary is included as part of **Chapter 5: Airport Facility Requirements**, while airport specific needs are identified in **Appendix E: Airport Facility Needs Sheets and Report Cards**. The facility needs sheets will enable each airport to clearly see the facilities that are recommended and provide guidance on items each airport should have in place to best fill its role and meet the needs of its projected users. The airport specific needs sheets should be utilized by airports when updating their master plan or ALP and will be utilized by MnDOT to assist in that process. The identified needs were used in part to determine the estimated total costs for the system, presented earlier in this chapter.

Another source of needs identification is the comprehensive performance analysis completed to determine how well Minnesota's aviation system is performing, the results of which are included in **Chapter 6: Performance Report**. Individual airport results are included in the report cards as part of **Appendix E: Airport Facility Needs Sheets and Report Cards**. If, for example, an airport was identified as not having up-to-date planning documents, it would be identified by a red box on its report card. This would also result in a cost being identified in the appropriate planning phase, which would then appear on its individual facility needs sheets. Projects were included to meet the identified targets.

A density analysis was also completed as part of the SASP, the results of which are found in **Chapter 6: Performance Report**. The density analysis is used to gain an understanding of access to the air transportation system but this could serve as tool for selecting certain facilities to receive for funding in the future.

NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS (NPIAS)

As identified by the FAA, an existing airport that is currently included in an accepted State Aviation System Plan, such as the Minnesota State Aviation System Plan, is eligible to be considered for inclusion in the NPIAS if the airport serves a community located at least 20 miles from the nearest existing or proposed NPIAS airport and the airport has at least ten based aircraft. There are currently 97 airports in Minnesota that are included in the NPIAS (see **Figure 1-5** in **Chapter 1: Introduction and System Goals**).

Most of the airports in Minnesota that are not currently included in the NPIAS are less than 20 miles from an airport in Minnesota that is already included in the NPIAS, thus eliminating them from NPIAS inclusion based on the FAA entry criteria. Furthermore, most airports with at least 10 based aircraft that are not already included in the NPIAS, are too close to existing NPIAS airports to qualify as well.

If airports seeking inclusion in the NPIAS wish to develop further justification based on activity levels and based aircraft in excess of what has been identified or projected in this plan, MnDOT will work with the sponsor and FAA to consider individual requests. It is important to note that there are system airports actively pursuing NPIAS inclusion, such as the Granite Falls Municipal Airport. MnDOT has been involved in this process and has indicated to the FAA its support of the Granite Falls application for inclusion in the NPIAS.

Summary

This SASP has provided a high level 20-year view of the state's aviation needs. Detailed planning work is done for individual airports through the Master Planning and Airport Layout Plan processes. The Plan has also identified the goals, minimum system objectives, and performance measures that will guide system improvements into the future. Ultimately, the desired result is an airport system that achieves the vision of this plan: enabling safe, fast, and reliable air transportation for the citizens and businesses of Minnesota through partnership and innovation.

The analyses contained within this Plan clearly conclude that Minnesota has an excellent system of existing airports. Population coverage by different categories of airports is good and a clear need for new airports or additional capacity from a system standpoint does not exist. However, this does not preclude the ability to consider new airport locations under certain circumstances.

The usability of Minnesota's airports is also exceptional, with all airports having weather reporting system coverage and adequate instrument approaches, though as technology advances toward GPS based approaches, airport usability from that aspect could continue to improve.

The reality is, however, expected available funding over the next 20-years won't be enough to preserve system airports, meet minimum system objectives, improve safety and accommodate the forecast needs. The expected widening of the gap between available funds and identified needs currently is, and will likely continue to be managed by the established prioritization system. However, adjustments to how projects are prioritized, some concepts of which are identified in this Plan, may need to be considered. Until that occurs, the needs for each project should continue to be very carefully reviewed.

The next and final chapter of this Plan considers the future of aviation in Minnesota beyond the 20-year planning horizon.

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MinnesotaGO
A Collaborative Vision for Transportation

State Aviation System Plan

Chapter 8

A FUTURE VISION OF AVIATION

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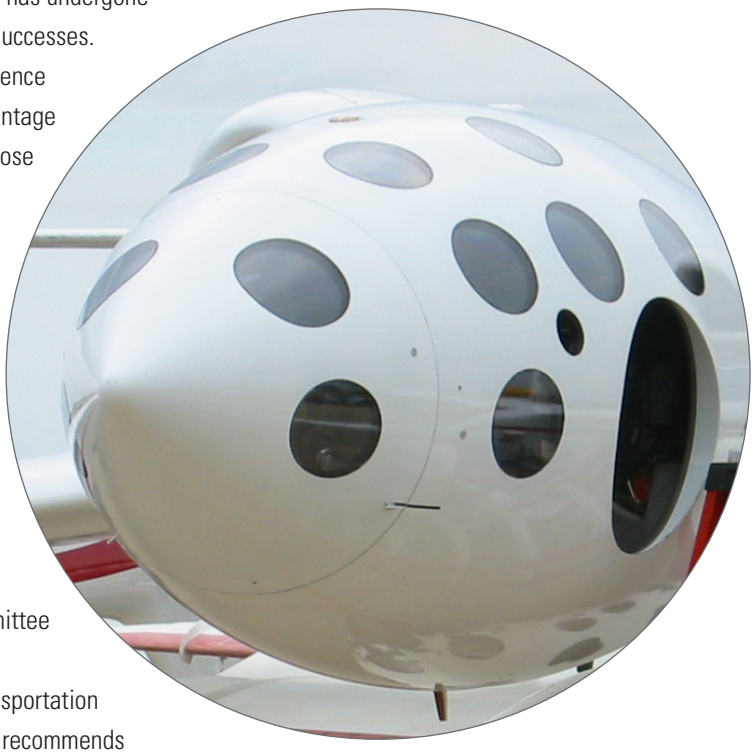
A FUTURE VISION OF AVIATION IN MINNESOTA



Over the past 50 years Minnesota's aviation industry has undergone considerable change while also experiencing many successes. Over the next 50 years, the industry will likely experience additional change and will again evolve to take advantage of technological advancements to succeed. The purpose of this chapter is to consider the future of aviation in Minnesota including the role of stakeholders in ensuring success. To that end, several trends in aviation and multimodal transportation are evaluated and their potential effects on Minnesota's airports are considered.

Several national and international research competitions, pilot projects, organizations studying aviation trends, concepts for futuristic aircraft, and model airports of the future exist. One such organization is the Future of Aviation Advisory Committee (FAAC) – a group of national aviation stakeholders established by the United States Department of Transportation (U.S. DOT). In a report published in 2010[30], the FAAC recommends several initiatives and policies to guide the aviation industry into the future. Several of the report's recommendations are discussed here with a focus on how they might impact Minnesota's aviation system.

The chapter's first section presents the concept of sustainability as it relates both to individual airports and the entire system. For example, airports may begin to consider "green" initiatives to help solve budget shortfalls and alleviate public pressures to be more environmentally friendly. The next section considers the concept of multimodalism and includes an overview of the Statewide Multimodal Transportation Plan and how pairing some key infrastructure projects with the aviation system could maximize mobility in the state. This section also considers how passengers and employees access airline service airports and the potential changes that could result from more multimodal decision making. The third section presents major trends in the physical characteristics of the next generation of aircraft and their potential effects on the aviation system. The fourth and final section summarizes the Federal Aviation Administration's (FAA) Next Generation Air Transportation System (NextGen) program which aims to revolutionize the aviation industry through new technology and procedures. These four sections provide a framework for discussions about what the aviation system might look like 50 years from now, in 2062.

[30] "2010-The Future of Aviation Advisory Committee Final Report", Department of Transportation. April 11, 2011

Sustainability

Sustainability is an international movement toward ensuring that "development…meets the needs of the present without compromising the ability of future generations to meet their own needs."[31] This movement has spread beyond its initial framework and expanded to many diverse industries including transportation and aviation. Transportation partners are beginning to focus on how they can make the most of what they currently have, plan for expansion only where necessary and justified, and consider if removal of some assets could save money without negatively impacting safety or mobility.

The FAA formally acknowledged the sustainability trend in 2010 through creation of a sustainable master plan and management plan pilot program.[32] This pilot program looked to integrate socioeconomic factors, operational factors, and environmental factors into the current safety-focused planning process. A sustainable master plan is only one example of what an airport can do to be more environmentally focused. Sustainability at an airport could also be as simple as a series of small projects aimed at better utilizing existing facilities. Sustainability across the system could be as comprehensive as reprioritizing how projects are funded or as basic as encouraging electronic pay requests on projects to reduce resource consumption.

This section outlines two approaches to sustainability which can impact airport operations in the near term. The first approach relates to the capture and utilization of natural and renewable energy at an airport. The second approach considers revenue generation to assist in funding the operations of an airport. These approaches may help airports become more financially self-reliant.





31 "Sustainable Development: From Brundtland to Rio 2012", United Nations Brundtland Commission. http://www.un.org/wcm/webdav/site/climatechange/shared/gsp/docs/GSP1-6_Background percent20on percent20Sustainable percent20Devt.pdf. Accessed June 9, 2012.

32 "Airport Sustainability", Federal Aviation Administration. https://www.faa.gov/airports/environmental/sustainability/. Accessed June 5, 2012.

SUSTAINABLE PRACTICES

There are numerous potential benefits to initiation of sustainable practices at an airport, ranging from improving the surrounding community to reducing airport operational costs. Airports across the country that have begun to implement sustainable practices have reported benefits including reduced waste, greater utilization of assets, improved work environment for employees, positive community relationships, and reduced operating costs.

Two Minnesota airports recently completed projects with significant sustainable components. Both the Duluth International Airport and the Bemidji Regional Airport recently expanded and modified their existing terminal buildings. As a part of the project, both airports incorporated a geothermal energy source into the renovations, allowing for significant reductions in terminal heating costs. Beyond alternative energy sources, airports can also incorporate sustainability into administrative procedures, land use plans, and stormwater management plans.

Federal regulations tied to airport construction and funding provided by the FAA create a challenge for airport efforts to become more financially independent. When trying to incorporate new materials or technology in a project, airport sponsors will spend time and money requesting and supporting "modifications of standards" before the project is approved by the FAA. The additional effort to gain approvals may deter an airport from pursuing sustainability practices. However, as the practices become more commonplace, airports will need to be creative on how they incorporate this into construction and airport operations.

ALTERNATIVE AIRPORT USES

It is very difficult for smaller-sized airports to be completely self-sustaining – that is, generate enough revenue to cover operational costs. However, to help achieve this goal, airports may generate revenue on airport property as long as the revenue generation activity does not affect the efficiency and safety of the airport operations area (AOA). Examples include usage fees from hangar rentals or parking as well as use of airport land for farming, commercial development or industrial park development. Airports can also utilize non-AOA land for community gathering and/or green space. While not revenue generating, construction of a playground or a park in select approved areas can help create a sense of community between citizens and the airport.

Multimodalism

Multimodalism is a concept which considers multiple modes of transportation as a network rather than several individual modes operating independently of one another. An example of multimodal planning could be establishing a park-and-ride facility where a new highway access point is to be constructed. A well-placed park-and-ride facility can encourage transit ridership, resulting in the reduction of passenger vehicles on the highway. This principle also applies to aviation for both air passengers and the freight network. Nationally, the US DOT and individual state DOTs are looking to multimodalism to maximize usability of existing transportation networks and increase accessibility and mobility.

In terms of interconnectivity with other modes of transportation airports face two particular challenges. First, funding restrictions limit the extent of off airport improvements an airport can support, resulting in little control or influence over neighboring regional transportation systems. Second, accessing an airport by foot or by bicycle is often a challenge for passengers. Many airports are surrounded by highway infrastructure while others are located far from population centers. Each of these factors present significant obstacles for those seeking access to an airport via non-motorized transportation.

This section presents the status of multimodalism in the US and Minnesota and considers opportunities in Minnesota to interconnect aviation with other modes of transportation to enhance accessibility and mobility.

NATIONAL AND STATE INTERCONNECTIVITY

One significant challenge facing the country is to determine how best to manage an aging infrastructure while simultaneously pursuing new transportation technologies. Threats to the federal budget have increased the difficulty of this effort.

While the country has been considering how best to manage these challenges and threats, much attention has recently been focused on plans for developing a nationwide high-speed rail (HSR) network. HSR trains travel at sustained speeds over 125 miles per hour. Only two HSR projects have been funded to date; one in the New England states and the other in southern California. Higher-speed-rail lines, with trains that travel at speeds greater than 90 mph but less than 125 mph, are also being developed in the northwest states and around Chicago. **Figure 8-1** illustrates the currently-planned, high-speed and higher-speed routes. The national strategic plan for HSR is to continue expanding and interconnect various regions of the US.[33] In Minnesota, the national strategic plan includes a line connecting Minneapolis to Chicago through La Crosse and Milwaukee.

[33] "Vision for High-Speed Rail in America", U.S. Department of Transportation – Federal Railroad Administration. April, 2009.

Figure 8-1: US HSR Development Map



Source: U.S. DOT Federal Railroad Administration

On the aviation side, the FAA is pursuing two programs to balance the funding of new technology while improving existing infrastructure. The first effort is the FAA's NextGen program, which is discussed in greater depth later in this chapter. The second effort is the FAA's National ASSET study, described in **Chapter 1: Introduction and System Goals**. This study classifies general aviation (GA) airports by how they support connectivity of local communities to state, regional, and national communities. By understanding these impacts of system airports, the state will be able to better understand which airports would complement the services being provided by another mode of transportation.

EXISTING MINNESOTA TRANSPORTATION NETWORK

The Minnesota Department of Transportation (MnDOT) has a role in planning and funding all modes of transportation shown in **Figure 8-2** to provide for transportation of people and goods across the state.

Figure 8-2: MnDOT Transportation Modes



In late 2003, MnDOT was authorized to establish the first MnPASS express lanes west of Minneapolis. This program converted the existing inner lanes of Highway I-394 into high occupancy toll (HOT) lanes. This program was expanded to include new managed lanes on I-35W in 2009. Future plans for expanding the HOT lane system include extending the two existing segments and adding new HOT lanes on I-35E.

To complement Minnesota's extensive bus transit and emerging bus rapid transit (BRT) networks, the Hiawatha Light Rail Transit (LRT) Line opened to passengers in 2004. The line travels from the Mall of America in Bloomington to the MSP Airport, and continues to downtown Minneapolis. The second LRT segment scheduled to open in the state is currently under construction and will connect downtown Minneapolis and downtown St. Paul. There are also several other potential routes currently in the environmental or planning phases.

MODES AT THE MINNEAPOLIS-ST. PAUL (MSP) INTERNATIONAL AIRPORT

MSP is the busiest airport in the state of Minnesota. The airport has eight concourses in two terminal buildings. Over 35,000 passengers use the terminals on an average day in July. In 2004 two light rail transit/bus transit stations opened at MSP, one serving each terminal. MSP also provides bicycle parking facilities at both terminals.

Considering both terminals, the airport can be accessed by all modes of transportation under MnDOT's jurisdiction, with the exception of waterways. Unique to airline service airports, passengers travel to airports using a variety of high occupancy vehicle (HOV) options. This is especially true at MSP, which has seven HOV options regularly available at the airport including: taxis, limousines, hotel shuttles, shared ride vans, off-airport parking shuttles, rental car shuttles, and employee shuttles.

Although MSP offers numerous methods for passengers to access the airport, the dominant mode remains private cars. Consequently, the airport has begun experiencing capacity problems with parking and curbside facilities. The airport has renovated to increase the efficiency of their existing parking infrastructure and is currently in the environmental review process to build more facilities. The airport has also undertaken projects to decrease vehicle demand. Two remote parking facilities have been constructed designed to allow vehicles to park while waiting for passengers, rather than idle at the terminal. One facility is a remote commercial vehicle staging area which monitors the number of taxis and commercial vans at the terminal at any one time. The other is a cell phone lot which allows free parking while waiting for passengers to deplane and arrive at the roadway curb.

Multimodal transportation options should be considered not only for passengers but also for employees working at the airport. Employees are currently the largest ridership base of LRT and bus transit at MSP; this is in part due to their frequency at the airport and because they are not commuting with luggage.

MODES AT OUTSTATE AIRPORTS

Outstate airports (those outside of the seven county Twin Cities metro area) are also connected to the multimodal transportation network, though to a lesser degree. A few airports, in areas popular for tourism, have close connections to bike trail systems. Numerous airports in the state have scheduled bus transit routes to the airport, and even more have buses connecting the airport to the local transit system. In most instances these are general aviation airports.



VISION OF FUTURE AVIATION CONNECTIVITY

Although there has been progress toward new transportation technologies in Minnesota, continued focus on interconnectivity and emerging technologies which support interconnectivity is likely. As the state continues to focus on related goals such as increasing safety, connectivity, and accessibility, the aviation community needs to work with the other modes of transportation to be a part of the evolution. This is important because aviation provides connections for Minnesotans to regional, national, and international markets. Minnesota airports may consider the following opportunities in an effort to include connectivity options.

The Northstar commuter rail currently runs from downtown Minneapolis to Big Lake. The proposed extension of the Northstar from Big Lake to St. Cloud could provide residents of the St. Cloud area (and those along the commuter route) alternate access to MSP. When the St. Cloud Regional Airport lost airline service in 2009, residents were forced to find another way to access airline service, such as travel to MSP to fly. The most common method of traveling between the two cities is by car. However, with completion of the proposed Northstar rail extension, air passengers along the corridor would be able to commute to MSP or the St. Cloud Regional Airport as they add flights and regain airline service.



Part of the US DOT's high-speed rail plan includes the construction of high-speed rail between Minneapolis and Chicago. Although high-speed rail could compete with the airlines for passengers, it is more likely to complement airline travel service along the corridor by either providing air passengers a means of traveling to MSP without needing to park their car or by providing a travel alternate when weather conditions ground or delay flights.

The Northern Lights Express passenger rail is a proposed high-speed rail that would provide service between the Twin Cities and downtown Duluth. Another proposed high-speed rail, the Zip-Rail, would connect the Twin Cities and Rochester directly from airport to airport. High-speed rail lines may play a role in providing a higher level of service to passengers connecting between these communities and beyond.

As the light rail transit network expands to provide access to more communities, these areas will have an alternate means of accessing MSP, and other airports. Nationally, utilization of rail transit to airports remains one of the least utilized modes of travel, but in markets with rail access to residential centers these percentages increase. The Atlanta International Airport, for example, has one of the higher US percentages in part due to the expansion of the region's rapid transit system in the early 2000s. European airports typically see much higher usage of rail transit as well, so it is not unprecedented that an expansion of the light rail transit and bus rapid transit networks could increase transit as a mode to an airport. In the short-term, transit will likely have the greatest impact for airport employees because they make regular trips to the airport and are not burdened with luggage.



Expansion of the interstate High Occupancy Toll (HOT) lane network also presents a unique means of creating a multimodal connection. As a benefit to MnPASS users, there may be an opportunity to link the revenue system of the HOT lanes with the parking revenue system at MSP. This may not only increase the efficiency of parking for patrons, alleviating the need to swipe their credit card as they enter the parking garage, but also, as more drivers possess transponders more cars could utilize the congestion-decreasing HOT lanes network. This opportunity could benefit both the airport and the highway system.

Including the airport in a community's regional bus transit route also has the potential to increase multimodalism at airports across the state. Airports such as the Bemidji Regional Airport have created a bus stop at their new terminal building, as one illustration of the increased interest in creating multimodal transportation links. Increased bus transit options provide citizens the opportunity to choose their mode of access to Minnesota airports rather than being forced to drive. Another method of providing new modal opportunities could be the construction of a bike path or identification of bike lanes to an airport, and providing bike racks.

Aircraft Characteristics

The types of aircraft in use by both the airlines and the general aviation community have and will continue to evolve. This evolution includes the reprioritization of aircraft being utilized day to day, modernization of aviation fuels, and the development of new aircraft and engine technologies. Changes to the fleet mix affect both the economics of flying as well as demands on infrastructure supporting aviation. Improvements range from increasing the capacity of aircraft to increasing the fuel efficiency of aircraft. In recent years the industry has seen the phasing out of less fuel efficient aircraft types and an increase in building aircraft with increased fuel efficiency. Due to the increased size and weight of aircraft, many airports have undergone infrastructure improvements to support them. The following section discusses potential changes to aircraft in the future.

AIRCRAFT UTILIZATION

In recent years, due in part to the sluggish economy and volatile fuel prices, the trend in aircraft utilization shifted. Airlines are utilizing larger airplanes with more passenger seats and offering fewer flights. This trend is also driven by the airlines' revamped business model of greater utilization of fewer hub airports. For example, the introduction of the Airbus A380 and Boeing 787 have provided airlines with a fuel efficient, high capacity aircraft which can transport a large number of passengers, and as a result, airlines are reducing the number of trips between destinations. Similar trends can be seen in narrowbody aircraft (aircraft with a single aisle but over 100 seats) as well as regional jets. The major airlines are less frequently utilizing 50-seat aircraft, but moving towards 70-seat aircraft to fill the role of the current 50-seat aircraft, 100-seat aircraft to fill the role of the existing of 70-seat aircraft, and so on.



At airports with airline service, one of the largest impacts of this trend is at the terminal building. As aircraft increase in length and width, parking positions outside the terminal require reconfigurations. This can result in the loss of use of one or more gates while larger aircraft are present. A second impact is on internal terminal capacity. As the number of passengers per aircraft increases, peak hour passenger flows inside the terminal also increase. This can result in necessary terminal expansions or remodels. At smaller-sized airports, the existing airfield geometry (taxiway fillets and apron areas) may not be able to accommodate larger aircraft. Another consideration for smaller-sized airports is insufficient passenger demand to make service profitable with larger planes, which could result in a loss of service.

The general aviation community can also expect changes in aircraft utilization in the near future. The current fleet of general aviation aircraft is aging. On one hand, it is becoming more and more difficult to purchase replacement components for older aircraft. On the other hand, the cost of new aircraft are at an all-time high. It should be noted that pilots new to the industry are entering into a much safer and reliable system, and new planes are often equipped with many cutting edge technologies. New aircraft are allowing businesses to fly further without refueling and increasing safety to the GA industry. Although new business aircraft are being manufactured, the size of these aircraft are not necessarily increasing, but some do require longer runways, resulting in necessary infrastructure improvements.

ALTERNATIVE FUELS

Two of the distinct industry goals of the FAAC report from April 2010 directly related to aircraft fuels. First, the FAAC called for carbon-neutral growth by 2020, and second, a 50 percent reduction in CO2 emissions (relative to 2005) by 2050. Thus it is clear that the aviation industry is working to find greener, less-expensive and more secure (i.e., locally-produced) supplies of fuel. The range of possibilities includes biofuels and potentially even synthetic fuels.

Today, the majority of aircraft are fueled by either Avgas or Jet Fuel. Avgas contains lead, which increases the performance of aircraft engines, but also threatens the environment and is costly to produce and distribute. Consequently, there is a desire to find a replacement fuel that is environmentally-friendly, sustainable, and inexpensive that works with the aircraft of today and existing engine technology. Finding a suitable replacement is not only challenging on a technical level, but new fuels face economic and regulatory challenges as well. This is because new supply and distribution chains must be established along with the development and authorization of new specifications and certifications standards. The reasons for replacing jet fuels are similar, and the higher costs associated with jet fuel makes the search more imperative. As a result, the industry and the FAA are working cooperatively in the search to develop new fuels that are cheaper, sustainable, and environmentally friendly.

To date, there are some new alternative jet fuels already in use. An algae-based biomass fuel was blended with jet fuel and first used on a U.S. commercial passenger flight in December, 2011. Alaska Airlines has also used recycled cooking oil blended with jet fuel. The goal is to find a fuel which helps the aviation industry be more sustainable, but yet is cost competitive for consumers.

NEW AIRFRAME AND ENGINE TECHNOLOGIES

The FAA has predicted that the demand for passenger air travel will nearly double over the next twenty years. Not only will industry partnerships involve fuel source development, partnerships will be inextricably linked to emerging aircraft airframe and engine technologies. Two trends which are emerging in the industry are larger wingspans and higher performance engines.

Aircraft of all sizes are increasingly being built with larger wingspans as they are more efficient, save on fuel and emission costs. These larger-sized airplanes will carry more passengers, and larger and more efficient wings will be needed to offset the fuel and emission costs from the increases in loads.

New engine technology will be needed to bring more power with less fuel and fewer emissions, all while producing less noise than ever before. Emerging engine power technology will be coupled closely with advances in new alternative fuels. The engine technologies and new airframe design will be linked as emission standards are continuously being tightened.

NextGen

NextGen is an initiative of the FAA to upgrade the national aviation transportation system through new technologies and new operational rules. This initiative, launched in 2004, aims to increase the economic impact, safety, sustainability, and flexibility of the U.S. National Airspace System (NAS). NextGen focuses on three major components of the NAS for improvements: communication, navigation, and surveillance.

These three components will utilize digital and spatial information systems to replace today's voice, ground-based navigational aids, and radar-based systems. NextGen will tap into the data-link communication system, satellite technology, and aircraft-based Global Positioning System (GPS) surveillance technology to aid in this effort.

NextGen will allow pilots and controllers to manage aircraft locations at a much higher level of precision than is possible today. Air Traffic Control (ATC) will have aircraft position updates every second, rather than the every five to twelve seconds provided by current radar systems. This will allow aircraft to be spaced closer together, resulting in greater capacity.

Automated tools for air traffic management will also help optimize spacing and sequencing as well as allowing for landing and departure procedures that minimizes noise exposure, fuel consumption, and greenhouse gas emissions.

NextGen also offers several benefits for GA airports. Perhaps the most immediate benefit for Minnesota's GA airports is the FAA's rapid production of GPS instrument approach procedures. GPS procedures offer pilots navigation services that are nearly equivalent to instrument landing systems (ILS) but without the considerable cost for equipment on the airport. This means good navigation is available to more airports, especially in inclement weather. As a result, both general aviation and commercial aviation are increasingly equipping their aircraft with GPS navigation avionics in order gain access to those airports that do not have an ILS.

The following sections further discuss the three components of NextGen.

IMPROVED COMMUNICATION

Pilots utilizing today's technologies communicate with a series of different controllers on a series of different radio frequencies. As pilots reach the edge of a controller's area, they are directed to the next frequency/controller that will monitor their aircraft's position. The focus of NextGen related communication improvements is to replace the system of independent controllers and networks and create a cohesive system which communicates necessary data continuously. NextGen has established two programs which will aid in creating this cohesive network of communication.

The first, System Wide Information Management (SWIM), is designed to address the lack of connectivity between the interdependent information systems of the current network. SWIM aims to provide streamlined information sharing for core services in order to provide better collaborative decision-making and improved air traffic flow management. SWIM will be a secure, single point of access which will rapidly collect and transmit all of the data produced by the National Airspace System (NAS). By collecting and distributing this data, SWIM allows pilots and controllers to access data from across the system rather than just in a specific area.



Controller-Pilot Data-Link Communication (CPDLC) is NextGen's solution for the currently-congested, voice-to-voice communication system. Today, air traffic controllers link with pilots using voice radio communications. In heavy use airspace, voice-to-voice communication from a few controllers to multiple aircraft results in rapid, succinct, and sometimes overlapping phraseology. This places a heavy mental load on controllers and pilots, one which leaves little margin for error. Through CPDLC a vast amount of the data now communicated verbally will be delivered electronically. For instance, rather than detailing a pilot's clearance into an airport via voice and mandating the pilot repeat what they heard back, pilots receive electronic instructions for their clearance into an airport.

Over the next six years the FAA will construct a ground-based network of digital transceivers that will enable both voice and data streams to and from the ground to cockpit. Data-link automated programs will help get airplanes to the right place at the right time, which will eliminate unnecessary holding and unnecessary fuel burn. Additionally, with CPDLC there will be automated arrival management, automated spacing, and automated advisories for speeds, headings, and altitudes, all of which allow controllers to monitor the airspace with more cognitive lead time to spot potential conflicts.

IMPROVED NAVIGATION

Improved navigation aims to establish more precise aircraft paths to increase capacity by putting more aircraft safely in a given area of airspace, minimize noise pollution around airports, reduce aircraft fuel consumption, and reduce aircraft travel times. The two key navigation components of NextGen are Area Navigation (RNAV) GPS procedures and wide area augmentation system (WAAS). Through these two components, the FAA will continue to establish additional RNAV Required Navigation Performance (RNP) procedures which optimize navigation requirements and performance-based approach minimums.

WAAS is used in many of the FAA's new GPS-based approach procedures; one of the most notable already enacted benefits of NextGen. These approach procedures use the WAAS system to link satellites with ground stations to provide precise positioning of aircraft. This improved position accuracy makes it possible for GPS equipped planes to fly instrument approaches into airports that cannot afford to install and maintain expensive equipment used by a traditional instrument-based approach (i.e. ILS).

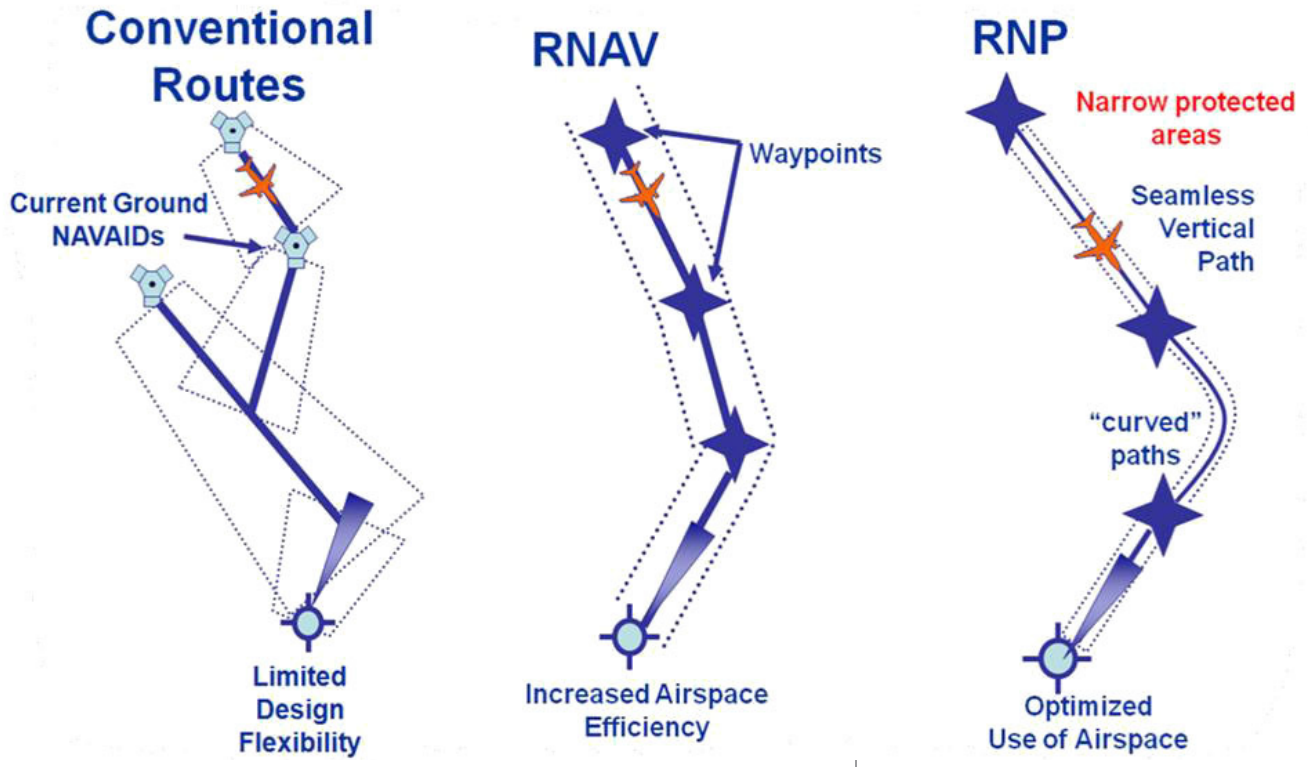
As of March 2012 there are more than 2,780 published LPV approaches in the U.S. Of these, 76 are at Minnesota airports. This ranks 15th among the contiguous United States.

One type of WAAS procedure is known as Localizer Performance with Vertical guidance (LPV), which provides both horizontal and vertical guidance to a runway with a precision that matches those with traditional ILS, but at a significantly lower cost. Of the 2,780 LPV approaches, over 1,160 are published at airports that do not have an ILS available. This is beneficial for the 53,000 general aviation aircraft currently equipped to utilize LPV approaches.[35] Minnesota is ranked 15th in the U.S. for working with the FAA in developing and publishing these procedures for both airports with ILSs and those that do not currently have precision instrument runway approaches.

[35] "NextGEN Implementation Plan", Federal Aviation Administration. March, 2012. http://www.faa.gov/nextgen/slides/?slide=3. Accessed May, 2012.

Performance-based navigation RNAV (RNP) improves on RNAV (GPS) with WAAS augmentation by developing airport approaches that provide pilots with a continuous 3-D navigation course that is calculated solely upon GPS. RNP courses are typically more precise procedures which allow for curved segments to reduce flight distance, reduce fuel burn and emissions, or avoid obstacles that might otherwise not be possible with conventional routes. The largest barriers of implementing RNP procedures are that aircraft must be equipped with special avionics to allow the pilot to fly the route and the pilot also needs special training. **Figure 8-3** below provides an illustration of how these two types of navigation systems compare to the conventional routes used in today's air transportation system.

Figure 8-3: Navigation Systems



This RNP system allows for simpler, more direct routes to the runway and also allows planes to travel in closer proximity to one another. This can substantially increase capacity at airports. Environmental benefits include reduced fuel use and emissions as well as reduced noise exposure for surrounding communities. More efficient flight paths will also mean that planes will be in the air for shorter periods of time, a benefit for the movement of passengers and goods.

As of March 2012 there were 565 RNP runway approaches published nationwide, only two of which are published in Minnesota. Both of these are for Runway 35 at MSP. Operators are beginning to realize the benefits of performance-based navigation and currently 92 percent of air carriers are equipped for some level of RNAV.[36] However, not all air carriers have invested in the equipment and training required to fully utilize these runway approaches, and as of today, there are no requirements or timeframes for airlines to do so.

IMPROVED SURVEILLANCE

The focus of creating better surveillance is to equip aircraft with the necessary technology to provide accurate locational data to both ground surveillance and other aircraft. Currently, the resolution of radar systems as well as voice communication between pilots and controllers requires the establishment of a minimum safe distance between aircraft. Better surveillance will allow for a reduction in the minimum separation between aircraft, allowing flights to fly with a higher level of safety from destination to destination and controllers to monitor the skies with greater confidence.

Automatic Dependent Surveillance-Broadcast (ADS-B) is the primary method of creating a system with better surveillance. ADS-B has two functional types, "ADS-B Out" and "ADS-B In". ADS-B Out capable aircraft are those which can transmit their GPS positions out into the airspace network. The FAA is currently mandating that by 2020 all aircraft are to be equipped with ADS-B Out capability if intending to fly in the most heavily used controlled airspace. This is generally all airspace above 10,000 feet and around all major metropolitan areas. Effectively, by 2020, all aircraft in busy airspace will be transmitting their GPS positions to ATC and other aircraft via the ground transceiver station network. This provides ATC a complete picture of aircraft activity in the sky without the use of ground-based radar stations and at a much more accurate level than RADAR can provide.

[36] "NextGEN Implementation Plan", Federal Aviation Administration. March, 2012. http://www.faa.gov/nextgen/slides/?slide=3. Accessed May, 2012.

ADS-B In capable aircraft are those which will be able to receive the data transmitted by ADS-B Out capable aircraft and ATC. As ATC is receiving aircraft information, it is simultaneously sending a complete picture of air traffic via the same network of transceivers. It also sends out information on weather data. As of today, ADS-B In concepts and technologies are still in development with estimates of realization near 2030. Additionally, many airlines have yet to make a business case for acquiring the technology, considering that FAA estimates of fuel cost savings and emissions reductions are overstated.

Regardless, the recently passed FAA Reauthorization Bill (signed into law February 14, 2012) also mandates that by 2020 all aircraft are to have ADS-B In capability so that all pilots have the same picture of aircraft activity in the sky that air traffic controllers will. It is uncertain the extent to which this provision will be implemented.

Summary

The aviation industry is on the cusp of an unprecedented change in the way it operates. In the next 50 years, airports will see changes not only in the way aircraft fly into and out of an airport, but also in the direction of the aviation industry's future. Safety will always remain the top priority of the aviation industry, but new attention will be brought to ideas of how aviation can complement other modes of transportation and how airports can sustain their own needs. Through focusing on these concepts, the Minnesota aviation system will continue to promote safe travel while increasing accessibility and mobility.

Without a doubt, the aviation system in Minnesota plays an important role in the state's transportation network. While challenges do exist for the system, MnDOT will proactively and creatively work towards the best solution with the support of the FAA, airport leaders, aviation businesses, local communities, legislatures, and other key stakeholders. In doing so the Minnesota aviation system will be the nation's safest and most effective for the next 50 years and beyond.



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MinnesotaGO
A Collaborative Vision for Transportation

State Aviation System Plan

Appendices

APPENDIX A: ACRONYMS
APPENDIX B: INVENTORY SURVEY
APPENDIX C: FORECAST TECHNICAL REPORT
APPENDIX D: COMMERCIAL AIR SERVICE TECHNICAL REPORT
APPENDIX E: AIRPORT FACILITY NEEDS SHEETS AND REPORT CARDS
APPENDIX F: UNIT COST ASSUMPTIONS
APPENDIX G: GOALS MATRIX

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Appendix A

ACRONYMS

AC	Advisory Circular
ADA	Americans with Disabilities Act
ADPM	Average Day Peak Month
AIP	Airport Improvement Program
ALP	Airport Layout Plan
ALSF	High Intensity Approach Lighting System with Sequenced Flashers
AOA	Aircraft Operations Area
ASSET	Airport System Strategic Evaluation Task
ASOS	Automated Surface Observation System
AWOS	Automated Weather Observation System
BEA	Bureau of Economic Analysis
BTS	Bureau of Transportation Statistics
CEDDS	Complete Economic and Demographic Data Sources
DEED	Department of Employment and Economic Development
DNR	Department of Natural Resources
DOT	Department of Transportation
EA	Environmental Assessment
EAS	Essential Air Service
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FBO	Fixed Based Operator
FOD	Foreign Object Debris
GA	General Aviation
GAATA	General Aviation and Air Taxi Activity
GIS	Graphic Information Systems
HIRL	High Intensity Runway Lights
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LASAC	Local Air Service Action Committee
LIRL	Low Intensity Runway Lights
LSA	Light Sport Aircraft
LTCP	Long Term Comprehensive Plan
MAC	Metropolitan Airports Commission
MALSR	Medium Intensity Approach Lights w/Runway Alignment Indicators
MALSF	Medium Intensity Approach Lights w/Sequenced Flashers
MEP	Multi-Engine Piston Aircraft
MnSASP	Minnesota State Aviation System Plan
MnDOT	Minnesota Department of Transportation
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area

Appendix A

ACRONYMS

MSP	Minneapolis-St. Paul International Airport
NAS	National Airspace System
NAVAID	Navigational Aid
Nm	Nautical Miles
NPIAS	National Plan of Integrated Airport Systems
ODAL	Omni-Directional Approach Lights
OD1A	Origin and Destination Survey
PAPI	Precision Approach Path Indicator
PCI	Pavement Condition Index
RDC	Regional Development Commission
REIL	Runway End Identifier Lights
RITA	Research and Innovative Technology Administration
RNAV/GPS	Area Navigation
SAC	SASP Advisory Committee
SASP	State Aviation System Plan
SEP	Single Engine Piston Aircraft
SF	Square Feet
SY	Square Yards
TAC	Technical Advisory Committee
TAF	Terminal Area Forecast
TCMA	Twin Cities Metro Area
TED	Transportation Economic Development
TERPS	Terminal Procedure Publications
TP	Turboprop
TSA	Transportation Security Administration
TZD	Toward Zero Deaths
UAV	Unmanned Aerial Vehicles
VFR	Visual Flight Rules

Appendix B

INVENTORY SURVEY

Inventory Paper Survey B-2
Inventory On-line Survey B-12

Appendix B

INVENTORY SURVEY

MinnesotaGO A Collaborative Vision for Transportation — State Aviation System Plan

SASP Inventory Paper Survey

Minnesota Department of Transportation

2011 Minnesota State Aviation System Plan
INVENTORY DATA REQUEST

1. GENERAL INFORMATION

Airport Name_____ Date of Survey _____
Total Airport Acreage _____ Airport Identifier _____
FAA Site Number _____
Airport Manager Name _____ Manager Phone_____
Manager Phone 2_____ Manager E-mail_____ Manager E-mail 2_____
Manager Street Address _____
City_____ State_____ Zip_____
If you are not the Airport Manager
Name and position of person completing survey _____
Phone_____

2. AIRPORT CHARACTERISTICS

Airport has (select all that apply) ☐ Rotating Beacon ☐ Segmented Circle ☐ Wind Cone ☐ Lighted Wind Cone
Weather Reporting (type) – ASOS (Automated Surface Observation System) – AWOS (Automated Weather Observation System) *Select a Value*: ASOS, AWOS, None
Airport Reference Code (i.e. A-1, B-I…) ____
Source *Select a Value*: Airport Master Plan, Airport Layout Plan, Other
If source other, please explain _____ Date of Source _____
Design Critical Aircraft (Type) _____
Source *Select a Value*: Airport Master Plan, Airport Layout Plan, Other
If source other, please explain _____ Date of Source _____

3. CURRENT AIRPORT USEAGE

A. The Airport is used for the following purposes (select all that apply)

☐ Scheduled Air Carrier
☐ On-demand Charter
☐ Corporate/Business Flights
☐ Recreational Flying
☐ Emergency Medical (air ambulance, etc.)
☐ Environmental Patrol
☐ Civil Air Patrol
☐ Location for Community Facilities
☐ Police or Law Enforcement Flights
☐ Flight Training

Inventory Paper Survey (Continued)

- ☐ Gateway for VIP/High Profile Visitors
- ☐ Search and Rescue
- ☐ Aerial Photography/Surveying
- ☐ Real Estate Tours
- ☐ Aerial Inspections (pipeline, electric, etc)
- ☐ Staging Area for Community Events
- ☐ Aerial Advertising/Banner Towing
- ☐ Skydiving
- ☐ Other (Please Separate By Commas) _____
- ☐ Scheduled Cargo
- ☐ Shipping of Just-in-time Goods
- ☐ Prisoner Transport
- ☐ Traffic or News Reporting
- ☐ Aviation Museum
- ☐ Forest Fire Fighting
- ☐ Agricultural Spraying

B. Industrial Parks

Total number of on-airport industrial parks _____
Total number of off-airport industrial parks _____
Distance to nearest off-airport industrial park (miles) ____
Total number of acres of all industrial park _____
Total combined acres developed _____
Tenants or types of Businesses (please separate by commas) _____
Airport usage by industrial park tenants _

C. Major Airport Users and Off-Airport Dependent Businesses

Please Add an Entry Below for Each Business
Company _____
Contact Name and Position _____
Contact Telephone Number _____
Number of Single Engine Aircraft Based at Airport _____
Number of Multi Engine Aircraft Based at Airport _____
Number of Turboprop Aircraft Based at Airport _____
Number of Business Jets at Airport ____
Number of Helicopters Based at Airport _____

4. SERVICES PROVIDED AT THE AIRPORT

- ☐ Air Taxi
- ☐ Hangar Rental
- ☐ Tie Downs
- ☐ Jet A Fuel Sales
- ☐ Aircraft Repair-Major
- ☐ Aircraft Repair-Minor
- ☐ Restaurant
- ☐ Skydiving
- ☐ U.S. Customs/Immigration
- ☐ Aircraft Rental
- ☐ 100LL Fuel Sales
- ☐ Mogas Fuel Sales
- ☐ Avionics Sales/Repair
- ☐ Vending
- ☐ Taxis
- ☐ Courtesy Vehicle
- ☐ General Aviation Facilities
- ☐ Pilot Lounge
- ☐ Aircraft Sales
- ☐ Restrooms
- ☐ Public Telephone
- ☐ Car Rental
- ☐ Public Transportation/Bus Service
- ☐ Other (Please separate by commas) _____

Inventory Paper Survey (Continued)

5. AIRSIDE FACILITIES

Please Add an Entry Below for Each Runway

Designation (i.e. 17/35) ____

Length (feet) _____

Width (feet) _____

Surface Type *Select* Asphalt, Asphalt-Concrete, Concrete, Turf, Other

Other (Please Separate By Commas) _____

Surface Treatment

Select Grooved, Friction Course, Aggregate Seal Coat, Rubberized Seal Coat, Wire Comb, None, Other

Other (Please Separate By Commas) _____

Shoulder *Select* Paved, Unpaved, None

Lights (Please *Select* One) ☐ HIRL (high intensity runway lights)
☐ MIRL (medium intensity runway lights)
☐ LIRL (low intensity runway lights)

Lights continued (Please *Select* All That Apply) ☐ Centerline Lights ☐ Pilot Controlled
☐ Non-standard ☐ None

Parallel Taxiway *Select* Full, Partial, None

Weight Bearing Capacity Under, Dual Dual Tandem (DDT) Wheel Landing Gear _____

Weight Bearing Capacity Under Dual Tandem (DT) Wheel Landing Gear _____

Weight Bearing Capacity Under Dual Wheel (DW) Landing Gear _____

Weight Bearing Capacity Under Single Wheel (SW) Landing Gear _____

Pavement Condition Index _____

Runway End 1 (i.e. 17) _____

Runway End 1 NAVAIDs (Please *Select* All That Apply)

- ☐ MALSR (Medium-Intensity Approach Light System with Rail)
- ☐ ODAL (Omnidirectional Approach Light System)
- ☐ REIL (Runway End Identifier Lights)
- ☐ PAPI (Precision Approach Path Indicator)
- ☐ VASI (Visual Approach Slope Indicator)
- ☐ Pilot Controlled

Other (Please Separate By Commas) _____

Runway End 1 Instrument Approach (Please *Select* All That Apply)

- ☐ PI (Precision Instrument)
- ☐ APV - LPV - LNAV / VNAV
- ☐ APV - RNP

Inventory Paper Survey (Continued)

☐ NPI (Non-Precision Instrument)
☐ NONE

Runway End 1 Meets Runway Safety Area (RSA) Standards
Select Yes, No, Yes With Exception, Do Not Know
Runway End 1 Meets Clear Zone Standards
Select Yes, No, Yes With Exception, Do Not Know
Explain Runway 1 RSA and/or Clear Zone Exceptions _____
_____

Runway End 2 (i.e. 35)
Runway End 2 NAVAIDs (Please *Select* All That Apply)
☐ MALSR (Medium-Intensity Approach Light System with Rail)
☐ ODAL (Omnidirectional Approach Light System)
☐ REIL (Runway End Identifier Lights)
☐ PAPI (Precision Approach Path Indicator)
☐ VASI (Visual Approach Slope Indicator)
☐ Pilot Controlled
Other (Please Separate By Commas) _____
Runway End 2 Instrument Approach (Please *Select* All That Apply)
☐ PI (Precision Instrument)
☐ APV - LPV - LNAV / VNAV
☐ APV - RNP
☐ NPI (Non-Precision Instrument)
☐ NONE
Runway End 2 Meets Runway Safety Area (RSA) Standards
Select Yes, No, Yes With Exception, Do Not Know
Runway End 2 Meets Clear Zone Standards
Select Yes, No, Yes With Exception, Do Not Know
Explain Runway 2 RSA and/or Clear Zone Exceptions _____
_____

6. LANDSIDE FACILITIES

A. Air Carrier Terminal
Total Area (sq ft) _____
Year Built _____
Last Major Renovation Date _____
Number of Loading Positions _____
B. General Aviation Terminal

Inventory Paper Survey (Continued)

Total Area (sq ft) _____
Year Built _____
Last Major Renovation Date _____

C. Administration Building
Total Area (sq ft) _____
Year Built _____
Last Major Renovation Date _____

D. Air Carrier Apron Area
Total Area (sq yds) _____

E. General Aviation Apron Area
Total Area (sq yds) _____

F. Air Cargo Hangar Facilities
Total Area (sq ft) _____
Year Built (Most Recent) _____
Last Major Renovation Date _____

G. Air Cargo Warehouse and Office Facilities
Total Area (sq ft) _____
Year Built (Most Recent) _____
Last Major Renovation Date _____

H. Air Cargo Apron Facilities
Total Area (sq yds) _____

I. Hangars
T-Hangars
Number of City Owned _____
Number of Privately Owned _____
Conventional Hangars
Number of City Owned _____
Number of Privately Owned _____
Total Area (sq ft) _____
Is there a waiting list for hangar space? *Select a Value*: Yes, No
If so, number of aircraft on the list _____
Number of aircraft owners on the wait list that would pay market price for new hangar space _____
Number of Tie-downs for Transient Aircraft
Paved _____
Unpaved _____
Number of Tie-downs for Based Aircraft
Paved _____
Unpaved _____
Is there a waiting list for Tie-downs? *Select a Value*: Yes, No

Inventory Paper Survey (Continued)

If so, number of aircraft on the list _____

J. Fuel Type

Mogas Capacity (gallons) _____

100LL Capacity (gallons) _____

Jet A Capacity (gallons) _____

K. Perimeter Fencing

Select a Value: Full, Partial, None

L. Auto Parking Spaces

Number of Spaces

Terminal _____

GA _____

Employee _____

M. FBO

Please Add an Entry Below for Each FBO

FBO Name _____

FBO Contact _____

FBO Telephone _____

7. CURRENT BASED AIRCRAFT

Please indicate NUMBER of aircraft

Single Engine Piston _____

Multi-Engine Piston _____

Turboprop _____

Jet _____

Non-Military Helicopter _____

Glider _____

Ultralight _____

Military Fixed Wing _____

Military Helicopter _____

Other (indicate number and specify types(s) separated by commas _____

8. CURRENT OPERATIONAL DATA

Definition of Operation: an aircraft takeoff or a landing

Busiest Month for Airport Operations _____

Typical Peak Hour Number of Operations in Busiest Month _____

Number of Operations on Busiest Day Number of Annual Operations (2010) _____

Number of Annual Operations (2010) _____

Inventory Paper Survey (Continued)

Estimated percentage of annual airport operations (100%)

Local _____

Itinerant _____

Estimated percentage of annual airport operations (100%)

Business _____

Leisure _____

Flight Training _____

9. AIRPORT TRENDS

A. Over the last five years, describe general trends experienced in the following categories

Level of Commercial Passenger Activity

Select a Value: Significant Increase, Increase, About the Same, Decrease, Significant Decrease, Not Applicable

Level of Cargo Activity

Select a Value: Significant Increase, Increase, About the Same, Decrease, Significant Decrease, Not Applicable

Level of GA Business/Corporate Activity

Select a Value: Significant Increase, Increase, About the Same, Decrease, Significant Decrease, Not Applicable

Level of GA Training/Student Activity

Select a Value: Significant Increase, Increase, About the Same, Decrease, Significant Decrease, Not Applicable

Level of GA Recreational Activity

Select a Value: Significant Increase, Increase, About the Same, Decrease, Significant Decrease, Not Applicable

B. Over the next five years, describe anticipated trends in the following categories

Level of Commercial Passenger Activity

Select a Value: Significant Increase, Increase, About the Same, Decrease, Significant Decrease, Not Applicable

Level of Cargo Activity

Select a Value: Significant Increase, Increase, About the Same, Decrease, Significant Decrease, Not Applicable

Level of GA Business/Corporate Activity

Select a Value: Significant Increase, Increase, About the Same, Decrease, Significant Decrease, Not Applicable

Level of GA Training/Student Activity

Select a Value: Significant Increase, Increase, About the Same, Decrease, Significant Decrease, Not Applicable

Level of GA Recreational Activity

Select a Value: Significant Increase, Increase, About the Same, Decrease, Significant Decrease, Not Applicable

10. AIRPORT PLANNING

Current Airport Improvements Underway _____

Constraints to Future Airport Expansion (zoning, environmental concerns, local laws, ordinances, etc.) _____

_____

Airport Master Plan

Plan is Underway *Select a Value*: Yes, No

Approval Date _____

Inventory Paper Survey (Continued)

Airport Layout Plan

Plan is Underway *Select a Value*: Yes, No

Approval Date _____

Airport Safety Zoning Ordinance

Ordinance is Underway *Select a Value*: Yes, No

Approval Date _____

Is the approved ordinance zoned for (please select all that apply)

☐ Existing Runway(s)

☐ Proposed Runway(s)

☐ Ultimate Runway(s)

Municipal Comprehensive Plan

Plan is Underway *Select a Value*: Yes, No

Approval Date _____

Does Plan Coordinate with Airport Zoning *Select a Value*: Yes, No

Strengths of Airport in terms of its current and future status within Minnesota's system of airports _____

_____

Weaknesses that limit Airport's present and future development _____

_____

Opportunities that could enhance the role played by the Airport _____

_____

Threats that could jeopardize the Airport's ability to effectively fulfill its mission _____

_____

11. Airport Adequacy

Note the Adequacy of the Following

Please Note "Not Applicable" as appropriate and provide additional explanations in Section 12 General Comments/Information

Runway Length

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Runway Width

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Airfield Pavement Condition

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Runway Instrumentation

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Inventory Paper Survey (Continued)

Taxiway Layout

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Taxiway Width

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Taxiway Pavement Condition

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Airfield Lighting

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Airfield Signage

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Airfield Capacity

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Aircraft Parking/Storage Capacity

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Auto Parking

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Taxi Service

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Rental Car Service

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Availability of Courtesy Car

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Surface Access

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Integration of Multi-Modal

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Transportation Modes

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Inventory Paper Survey (Continued)

Terminal/FBO Size

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Terminal/FBO Condition

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Aviation Fuel Storage Capacity

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Minimal Air Traffic Conflicts

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

Minimal Airspace Conflicts

Select a Value: Totally Adequate, Reasonably Adequate, Neutral, Somewhat Inadequate, Totally Inadequate, Not Applicable

12. General Comments/Information

Please provide any additional comments and/or information here _____

_____

_____

Appendix B

INVENTORY SURVEY

Inventory On-line Survey

Minnesota State Aviation System Plan

2011 Minnesota State Aviation System Plan

Inventory Survey

Welcome

The Minnesota Department of Transportation (Mn/DOT) Office of Aeronautics is preparing the 2011 Minnesota State Aviation System Plan (SASP). The SASP is a comprehensive 20-year plan for the development of airports and aviation in Minnesota. As part of this plan, an inventory survey of all the SASP airports is being completed. Please complete the questionnaire as your input is vital to this planning effort.

Respondents that complete the survey by **5:00 p.m. CDT on Friday, April 22, 2011,** will be entered into a drawing to win an iPad provided by HNTB (one entry per airport). All surveys must be completed by 5:00 p.m. CDT on Friday, April 29, 2011.

If you have questions about the survey or to request a hard copy to fill out, please contact Todd Wright, HNTB Corporation, at (952) 345-5971 or twright@hntb.com. You can also contact Dick Theisen, Mn/DOT Office of Aeronautics, at (651) 234-7192 or Dick.Theisen@state.mn.us for questions regarding the SASP. Additionally, staff will be available to answer your questions at the 2011 Minnesota Council of Airports Conference (April 13-15).

About the Survey

This survey is separated into 12 sections. You can work through each section in order, or jump from section to section using the navigation. Please provide any additional information or comments in section 12.

You must select **SAVE DATA** on each page to record your edits and additions. Your updates will be available for further review or changes if you return to that page.

When you have completed all pages of the survey, select the **SUBMIT SURVEY** button to submit your completed survey. After submitting, you will no longer have access to the survey. Submittals before 5:00 p.m. CDT on Friday, April 22, will be entered into the iPad drawing.

The following browser versions are recommended for best performance:

- Internet Explorer 7+
- Firefox 3+
- Safari 4+
- Chrome 8+

Summaries of the survey responses will be included in the SASP report and GIS database being prepared as part of this study. For information about acronyms go to the Glossary of Airport Acronyms. Thank you for helping the Minnesota Department of Transportation obtain the most accurate picture of statewide airport conditions for this system plan.

Continue to the Survey

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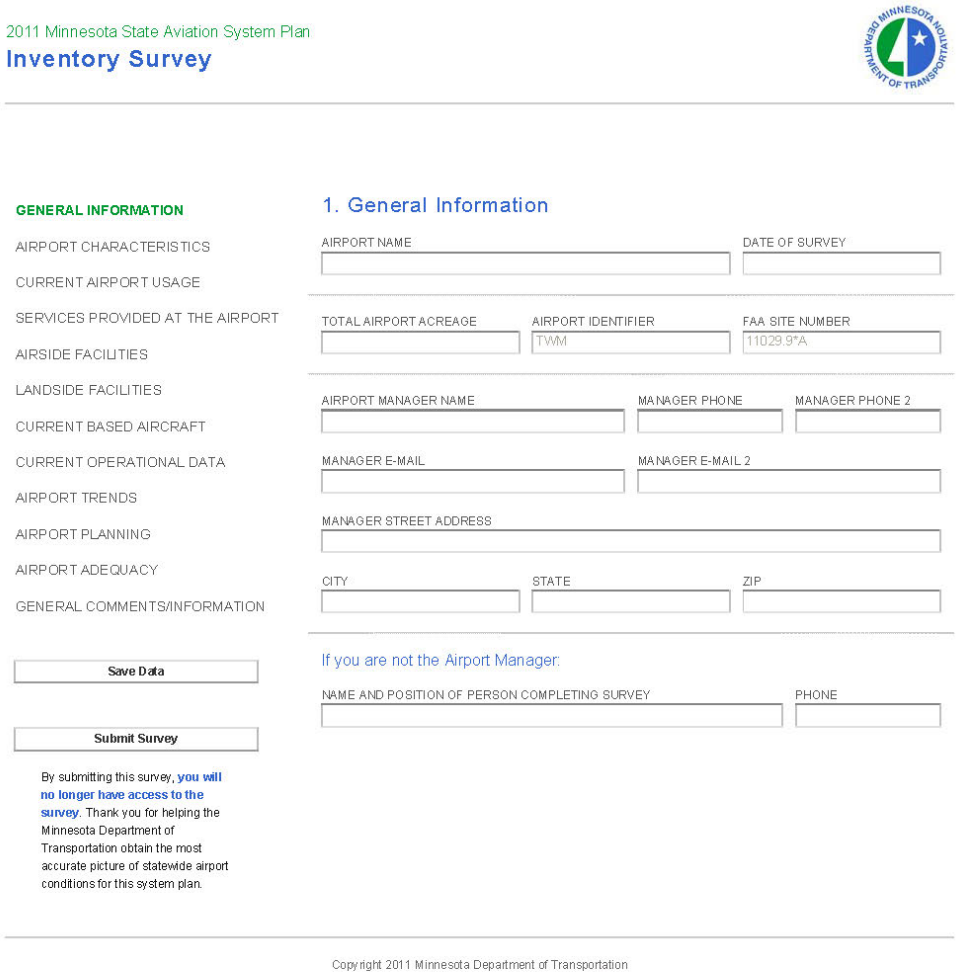
https://www.2011mnsaspsurvey.org/Welcome.aspx

Inventory On-line Survey (Continued)

Minnesota State Aviation System Plan



2011 Minnesota State Aviation System Plan
Inventory Survey

GENERAL INFORMATION
AIRPORT CHARACTERISTICS
CURRENT AIRPORT USAGE
SERVICES PROVIDED AT THE AIRPORT
AIRSIDE FACILITIES
LANDSIDE FACILITIES
CURRENT BASED AIRCRAFT
CURRENT OPERATIONAL DATA
AIRPORT TRENDS
AIRPORT PLANNING
AIRPORT ADEQUACY
GENERAL COMMENTS/INFORMATION

Save Data

Submit Survey

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1. General Information

AIRPORT NAME | DATE OF SURVEY

TOTAL AIRPORT ACREAGE | AIRPORT IDENTIFIER (TWM) | FAA SITE NUMBER (11029.9*A)

AIRPORT MANAGER NAME | MANAGER PHONE | MANAGER PHONE 2

MANAGER E-MAIL | MANAGER E-MAIL 2

MANAGER STREET ADDRESS

CITY | STATE | ZIP

If you are not the Airport Manager:

NAME AND POSITION OF PERSON COMPLETING SURVEY | PHONE

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Inventory On-line Survey (Continued)

Minnesota State Aviation System Plan

2011 Minnesota State Aviation System Plan
Inventory Survey

GENERAL INFORMATION
AIRPORT CHARACTERISTICS
CURRENT AIRPORT USAGE
SERVICES PROVIDED AT THE AIRPORT
AIRSIDE FACILITIES
LANDSIDE FACILITIES
CURRENT BASED AIRCRAFT
CURRENT OPERATIONAL DATA
AIRPORT TRENDS
AIRPORT PLANNING
AIRPORT ADEQUACY
GENERAL COMMENTS/INFORMATION

Save Data

Submit Survey

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2. Airport Characteristics

Airport has (select all that apply):

- ☐ ROTATING BEACON
- ☐ SEGMENTED CIRCLE
- ☐ WIND CONE
- ☐ LIGHTED WIND CONE

WEATHER REPORTING (TYPE) - ASOS (AUTOMATED SURFACE OBSERVATION SYSTEM) - AWOS (AUTOMATED WEATHER OBSERVATION SYSTEM)

AIRPORT REFERENCE CODE (I.E. A-I, B-II...) | SOURCE

IF SOURCE OTHER, PLEASE EXPLAIN | DATE OF SOURCE

DESIGN CRITICAL AIRCRAFT (TYPE) | SOURCE

IF SOURCE OTHER, PLEASE EXPLAIN | DATE OF SOURCE

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Inventory On-line Survey (Continued)

Minnesota State Aviation System Plan

2011 Minnesota State Aviation System Plan
Inventory Survey

GENERAL INFORMATION
AIRPORT CHARACTERISTICS
CURRENT AIRPORT USAGE
SERVICES PROVIDED AT THE AIRPORT
AIRSIDE FACILITIES
LANDSIDE FACILITIES
CURRENT BASED AIRCRAFT
CURRENT OPERATIONAL DATA
AIRPORT TRENDS
AIRPORT PLANNING
AIRPORT ADEQUACY
GENERAL COMMENTS/INFORMATION

Save Data

Submit Survey

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3. Current Airport Usage

A The Airport is used for the following purposes (select all that apply):

- ☐ SCHEDULED AIR CARRIER
- ☐ ON-DEMAND CHARTER
- ☐ CORPORATE/BUSINESS FLIGHTS
- ☐ RECREATIONAL FLYING
- ☐ FLIGHT TRAINING
- ☐ SCHEDULED CARGO
- ☐ SHIPPING OF JUST-IN-TIME GOODS
- ☐ PRISONER TRANSPORT
- ☐ TRAFFIC OR NEWS REPORTING
- ☐ AVIATION MUSEUM
- ☐ FOREST FIRE FIGHTING
- ☐ AGRICULTURAL SPRAYING
- ☐ ENVIRONMENTAL PATROLS
- ☐ CIVIL AIR PATROL
- ☐ LOCATION FOR COMMUNITY FACILITIES
- ☐ POLICE OR LAW ENFORCEMENT FLIGHTS
- ☐ EMERGENCY MEDICAL (AIR AMBULANCE, ETC.)
- ☐ GATEWAY FOR VIP/HIGH PROFILE VISITORS
- ☐ SEARCH AND RESCUE
- ☐ AERIAL PHOTOGRAPHY/SURVEYING
- ☐ REAL ESTATE TOURS
- ☐ AERIAL INSPECTIONS (PIPELINE, ELECTRIC, ETC.)
- ☐ STAGING AREA FOR COMMUNITY EVENTS
- ☐ AERIAL ADVERTISING/BANNER TOWING
- ☐ SKYDIVING

OTHER (PLEASE SEPARATE BY COMMAS)

https://www.2011mnsaspsurvey.org/Survey.aspx

Inventory On-line Survey (Continued)

Minnesota State Aviation System Plan

B Industrial Parks:

TOTAL NUMBER OF ON-AIRPORT INDUSTRIAL PARKS

TOTAL NUMBER OF OFF-AIRPORT INDUSTRIAL PARKS

DISTANCE TO NEAREST OFF-AIRPORT INDUSTRIAL PARK (MILES)

TOTAL COMBINED ACRES OF ALL INDUSTRIAL PARKS

TOTAL COMBINED ACRES DEVELOPED

TENANTS OR TYPES OF BUSINESSES (PLEASE SEPARATE BY COMMAS)

AIRPORT USAGE BY INDUSTRIAL PARK TENANTS (PLEASE SEPARATE BY COMMAS)

C Major Airport Users and Off-Airport Dependent Business:

Please Add an Entry Below for Each Businesses

Company	Contact Name and Position	Contact Telephone Number	Number of Single Engine Aircraft Based at Airport	Number of Multi Engine Aircraft Based at Airport	Number of Turboprop Aircraft Based at Airport	Number of Business Jets Based at Airport	Number of Helicopter Based at Airport

Company:

Contact Name and Position:

Contact Telephone Number:

Number of Single Engine Aircraft Based at Airport:

Number of Multi Engine Aircraft Based at Airport:

Number of Turboprop Aircraft Based at Airport:

Number of Business Jets Based at Airport:

Number of Helicopter Based at Airport:

https://www.2011mnsaspsurvey.org/Survey.aspx

Inventory On-line Survey (Continued)

Minnesota State Aviation System Plan

2011 Minnesota State Aviation System Plan
Inventory Survey

GENERAL INFORMATION
AIRPORT CHARACTERISTICS
CURRENT AIRPORT USAGE
SERVICES PROVIDED AT THE AIRPORT
AIRSIDE FACILITIES
LANDSIDE FACILITIES
CURRENT BASED AIRCRAFT
CURRENT OPERATIONAL DATA
AIRPORT TRENDS
AIRPORT PLANNING
AIRPORT ADEQUACY
GENERAL COMMENTS/INFORMATION

Save Data

Submit Survey

By submitting this survey, **you will no longer have access to the survey**. Thank you for helping the Minnesota Department of Transportation obtain the most accurate picture of statewide airport conditions for this system plan.

4. Services Provided At The Airport

Select all that apply:

- [ ] U.S. CUSTOMS/IMMIGRATION
- [ ] TIE DOWNS
- [ ] AIRCRAFT REPAIR - MAJOR
- [ ] AIRCRAFT REPAIR - MINOR
- [ ] RESTAURANT
- [ ] VENDING
- [ ] RESTROOMS
- [ ] PILOT LOUNGE
- [ ] SKYDIVING
- [ ] GENERAL AVIATION FACILITIES
- [ ] AIRCRAFT RENTAL
- [ ] JET A FUEL SALES
- [ ] 100LL FUEL SALES
- [ ] MOGAS FUEL SALES
- [ ] AVIONICS SALES/REPAIR
- [ ] COURTESY VEHICLE
- [ ] AIR TAXI
- [ ] HANGAR RENTAL
- [ ] AIRCRAFT SALES
- [ ] PUBLIC TELEPHONE
- [ ] CAR RENTAL
- [ ] PUBLIC TRANSPORTATION/BUS SERVICE
- [ ] TAXIS

OTHER (PLEASE SEPARATE BY COMMAS)

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Inventory On-line Survey (Continued)

5. Airside Facilities

Designation (i.e. 17/35)

Length (feet):

Width (feet):

Surface Type: Other (Please Separate By Commas):

Surface Treatment: Other (Please Separate By Commas):

Shoulder:

Lights (Please Select One):

- ☐ HIRL (High Intensity Runway Lights)
- ☐ MIRL (Medium Intensity Runway Lights)
- ☐ LIRL (Low Intensity Runway Lights)

Lights continued (Please Select All That Apply):

- ☐ Centerline Lights
- ☐ Pilot Controlled
- ☐ Non-Standard
- ☐ None

Parallel Taxiway:

Weight Bearing Capacity Under Dual Dual Tandem (DDT) Wheel Landing Gear:

Weight Bearing Capacity Under Dual Tandem (DT) Wheel Landing Gear:

Weight Bearing Capacity Under Dual Wheel (DW) Landing Gear:

Weight Bearing Capacity Under Single Wheel (SW) Landing Gear:

Pavement Condition Index:

Inventory On-line Survey (Continued)

Runway End 1 (i.e. 17):

Runway End 1 NAVAIDs (Please Select All That Apply):

- ☐ MALSR (Medium-Intensity Approach Light System with Rail)
- ☐ ODAL (Omnidirectional Approach Light System)
- ☐ REIL (Runway End Identifier Lights)
- ☐ PAPI (Precision Approach Path Indicator)
- ☐ VASI (Visual Approach Slope Indicator)
- ☐ Pilot Controlled

Other (Please Separate By Commas):

Runway End 1 Instrument Approach (Please Select All That Apply):

- ☐ PI (Precision Instrument)
- ☐ APV - LPV - LNAV / VNAV
- ☐ APV - RNP
- ☐ NPI (Non-Precision Instrument)
- ☐ NONE

Runway End 1 Meets Runway Safety Area (RSA) Standards:

Runway End 1 Meets Clear Zone Standards:

Explain Runway 1 RSA and/or Clear Zone Exceptions:

Inventory On-line Survey (Continued)

Runway End 2 (i.e. 35):

Runway End 2 NAVAIDs (Please Select All That Apply):

- ☐ MALSR (Medium-Intensity Approach Light System with Rail)
- ☐ ODAL (Omnidirectional Approach Light System)
- ☐ REIL (Runway End Identifier Lights)
- ☐ PAPI (Precision Approach Path Indicator)
- ☐ VASI (Visual Approach Slope Indicator)
- ☐ Pilot Controlled

Other (Please Separate By Commas):

Runway End 2 Instrument Approach (Please Select All That Apply):

- ☐ PI (Precision Instrument)
- ☐ APV - LPV - LNAV / VNAV
- ☐ APV - RNP
- ☐ NPI (Non-Precision Instrument)
- ☐ NONE

Runway End 2 Meets Runway Safety Area (RSA) Standards:

Runway End 2 Meets Clear Zone Standards:

Explain Runway 2 RSA and/or Clear Zone Exceptions:

Inventory On-line Survey (Continued)

Minnesota State Aviation System Plan

2011 Minnesota State Aviation System Plan
Inventory Survey

GENERAL INFORMATION
AIRPORT CHARACTERISTICS
CURRENT AIRPORT USAGE
SERVICES PROVIDED AT THE AIRPORT
AIRSIDE FACILITIES
LANDSIDE FACILITIES
CURRENT BASED AIRCRAFT
CURRENT OPERATIONAL DATA
AIRPORT TRENDS
AIRPORT PLANNING
AIRPORT ADEQUACY
GENERAL COMMENTS/INFORMATION

Save Data

Submit Survey

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6. Landside Facilities

A Air Carrier Terminal:

TOTAL AREA (SQ FT) | YEAR BUILT | LAST MAJOR RENOVATION DATE

NUMBER OF LOADING POSITIONS

B General Aviation Terminal:

TOTAL AREA (SQ FT) | YEAR BUILT | LAST MAJOR RENOVATION DATE

C Administration Building:

TOTAL AREA (SQ FT) | YEAR BUILT | LAST MAJOR RENOVATION DATE

D Air Carrier Apron Area:

TOTAL AREA (SQ YDS)

E General Aviation Apron Area:

TOTAL AREA (SQ YDS)

F Air Cargo Hangar Facilities:

TOTAL AREA (SQ FT) | YEAR BUILT (MOST RECENT) | LAST MAJOR RENOVATION DATE

G Air Cargo Warehouse and Office Facilities:

TOTAL AREA (SQ FT) | YEAR BUILT (MOST RECENT) | LAST MAJOR RENOVATION DATE

H Air Cargo Apron Facilities:

TOTAL AREA (SQ YDS)

I Hangars:

T-Hangars:

https://www.2011mnsaspsurvey.org/Survey.aspx

Inventory On-line Survey (Continued)

Minnesota State Aviation System Plan

NUMBER OF CITY OWNED | NUMBER OF PRIVATELY OWNED

Conventional Hangars:

NUMBER OF CITY OWNED | NUMBER OF PRIVATELY OWNED | TOTAL AREA (SQ FT)

IS THERE A WAITING LIST FOR HANGAR SPACE?

IF SO, NUMBER OF AIRCRAFT ON THE LIST

NUMBER OF AIRCRAFT OWNERS ON THE WAIT LIST THAT WOULD PAY MARKET PRICE FOR NEW HANGAR SPACE

Number of Tie-downs for Transient Aircraft:

PAVED | UNPAVED

Number of Tie-downs for Based Aircraft:

PAVED | UNPAVED

IS THERE A WAITING LIST FOR TIE-DOWNS?

IF SO, NUMBER OF AIRCRAFT ON THE LIST

J Fuel Type:

MOGAS CAPACITY (GALLONS) | 100LL CAPACITY (GALLONS) | JET A CAPACITY (GALLONS)

K Perimeter Fencing:

L Auto Parking Spaces:

Number of Spaces:

TERMINAL | GA | EMPLOYEE

https://www.2011mnsaspsurvey.org/Survey.aspx

Inventory On-line Survey (Continued)

Minnesota State Aviation System Plan



https://www.2011mnsaspsurvey.org/Survey.aspx

Inventory On-line Survey (Continued)

Minnesota State Aviation System Plan

2011 Minnesota State Aviation System Plan
Inventory Survey

- GENERAL INFORMATION
- AIRPORT CHARACTERISTICS
- CURRENT AIRPORT USAGE
- SERVICES PROVIDED AT THE AIRPORT
- AIRSIDE FACILITIES
- LANDSIDE FACILITIES
- **CURRENT BASED AIRCRAFT**
- CURRENT OPERATIONAL DATA
- AIRPORT TRENDS
- AIRPORT PLANNING
- AIRPORT ADEQUACY
- GENERAL COMMENTS/INFORMATION

Save Data

Submit Survey

By submitting this survey, **you will no longer have access to the survey**. Thank you for helping the Minnesota Department of Transportation obtain the most accurate picture of statewide airport conditions for this system plan.

7. Current Based Aircraft

Please indicate NUMBER of aircraft:

SINGLE ENGINE PISTON

MULTI-ENGINE PISTON

TURBOPROP

JET

NON-MILITARY HELICOPTER

GLIDER

ULTRALIGHT

MILITARY FIXED WING

MILITARY HELICOPTER

OTHER (INDICATE NUMBER OF AND SPECIFY TYPE(S) SEPARATED BY COMMAS)

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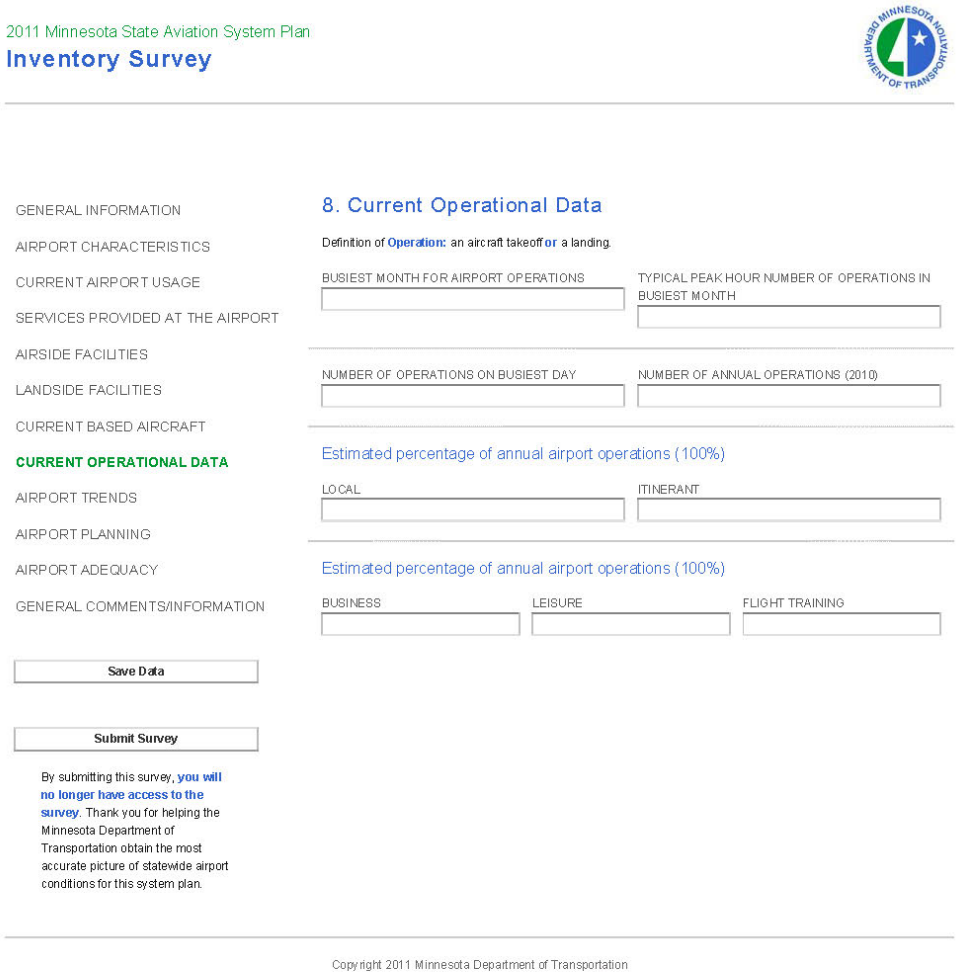
https://www.2011mnsaspsurvey.org/Survey.aspx

Inventory On-line Survey (Continued)

Minnesota State Aviation System Plan



https://www.2011mnsaspsurvey.org/Survey.aspx

Inventory On-line Survey (Continued)

9. AIRPORT TRENDS

a. Over the last five years, describe the general trends experienced in the following categories:

	Significant Increase	Increase	About the Same	Decrease	Significant Decrease
Level of Commercial Passenger Activity					
Level of Cargo Activity					
Level of GA Business/Corporate Activity					
Level of GA Training/Student Activity					
Level of GA Recreational Activity					

b. Over the next five years, describe anticipated trends in the following categories:

	Significant Increase	Increase	About the Same	Decrease	Significant Decrease
Level of Commercial Passenger Activity					
Level of Cargo Activity					
Level of GA Business/Corporate Activity					
Level of GA Training/Student Activity					
Level of GA Recreational Activity					

Minnesota State Aviation System Plan

Inventory On-line Survey (Continued)

2011 Minnesota State Aviation System Plan

Inventory Survey

- GENERAL INFORMATION
- AIRPORT CHARACTERISTICS
- CURRENT AIRPORT USAGE
- SERVICES PROVIDED AT THE AIRPORT
- AIRSIDE FACILITIES
- LANDSIDE FACILITIES
- CURRENT BASED AIRCRAFT
- CURRENT OPERATIONAL DATA
- AIRPORT TRENDS
- **AIRPORT PLANNING**
- AIRPORT ADEQUACY
- GENERAL COMMENTS/INFORMATION

Save Data

Submit Survey

By submitting this survey, **you will no longer have access to the survey**. Thank you for helping the Minnesota Department of Transportation obtain the most accurate picture of statewide airport conditions for this system plan.

10. Airport Planning

CURRENT AIRPORT IMPROVEMENTS UNDERWAY

CONSTRAINTS TO FUTURE AIRPORT EXPANSION (ZONING, ENVIRONMENTAL CONCERNS, LOCAL LAWS, ORDINANCES, ETC.)

Airport Master Plan

PLAN IS UNDERWAY:

APPROVAL DATE

Airport Layout Plan

PLAN IS UNDERWAY:

APPROVAL DATE

Airport Safety Zoning Ordinance

ORDINANCE IS UNDERWAY:

APPROVAL DATE

IS THE APPROVED ORDINANCE ZONED FOR (please select all that apply):

- ☐ EXISTING RUNWAY(S)
- ☐ PROPOSED RUNWAY(S)
- ☐ ULTIMATE RUNWAY(S)

Municipal Comprehensive Plan

PLAN IS UNDERWAY:

APPROVAL DATE

DOES PLAN COORDINATE WITH AIRPORT ZONING:

https://www.2011mnsaspsurvey.org/Survey.aspx

Inventory On-line Survey (Continued)

Minnesota State Aviation System Plan

STRENGTHS OF AIRPORT IN TERMS OF ITS CURRENT AND FUTURE STATUS WITHIN MINNESOTA'S SYSTEM OF AIRPORTS

WEAKNESSES THAT LIMIT AIRPORT'S PRESENT AND FUTURE DEVELOPMENT

OPPORTUNITIES THAT COULD ENHANCE THE ROLE PLAYED BY THE AIRPORT

THREATS THAT COULD JEOPARDIZE THE AIRPORT'S ABILITY TO EFFECTIVELY FULFILL ITS MISSION

https://www.2011mnsaspsurvey.org/Survey.aspx

Inventory On-line Survey (Continued)

11. AIRPORT ADEQUACY

Note the Adequacy of the Following.

Please Note "Not Applicable" as appropriate and provide additional explanations in Section 12 General Comments/Information.

	Totally Adequate	Reasonably Adequate	Neutral	Somewhat Inadequate	Totally Inadequate
Runway Length					
Runway Width					
Airfield Pavement Condition					
Runway Instrumentation					
Taxiway Layout					
Taxiway Width					
Taxiway Pavement Condition					
Airfield Lighting					
Airfield Signage					
Airfield Capacity					
Aircraft Parking/Storage Capacity					
Auto Parking					
Taxi Service					
Rental Car Service					
Availability of Courtesy Car					
Surface Access					
Integration of Multi-Modal Transportation Modes					
Terminal/FBO Size					
Terminal/FBO Condition					
Aviation Fuel Storage Capacity					
Minimal Air Traffic Conflicts					
Minimal Airspace Conflicts					

Inventory On-line Survey (Continued)

Minnesota State Aviation System Plan

2011 Minnesota State Aviation System Plan
Inventory Survey

GENERAL INFORMATION
AIRPORT CHARACTERISTICS
CURRENT AIRPORT USAGE
SERVICES PROVIDED AT THE AIRPORT
AIRSIDE FACILITIES
LANDSIDE FACILITIES
CURRENT BASED AIRCRAFT
CURRENT OPERATIONAL DATA
AIRPORT TRENDS
AIRPORT PLANNING
AIRPORT ADEQUACY
GENERAL COMMENTS/INFORMATION

Save Data

Submit Survey

By submitting this survey, **you will no longer have access to the survey**. Thank you for helping the Minnesota Department of Transportation obtain the most accurate picture of statewide airport conditions for this system plan.

12. General Comments/Information

PLEASE PROVIDE ANY ADDITIONAL COMMENTS AND/OR INFORMATION HERE:

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https://www.2011mnsaspsurvey.org/Survey.aspx

Appendix C

FORECAST TECHNICAL REPORT

C.1 Introduction

The purpose of this appendix is to provide more detailed information on the assumptions and methodologies used to develop the forecasts presented in Chapter 3: Forecast. These forecasts are used identify future capacity shortfalls, calculate future costs, estimate future revenue streams, and measure and enhance the overall benefit of aviation to the state.

This appendix is organized as follows: baseline activity levels are established, and parameters that potentially have an impact on air traffic level are discussed. Major forecast assumptions are then discussed. Forecast passenger demand and commercial operations are estimated afterwards. Cargo volume and operations are then projected employing various forecasting techniques. The next section focuses on future GA fleet mix and operations. The last section provides peak hour activity forecasts.

C.2 Base Year Activity Level

Base year passenger enplanements and airline operations were obtained from the FAA TAF, BTS T100 and airport records. The cargo statistics were primarily based on the BTS T100 and airport records. The base year passenger and cargo activity levels were established by compiling data from these data sources. Base year GA data for system airports were provided by the Minnesota Department of Transportation (DOT) through an inventory survey.

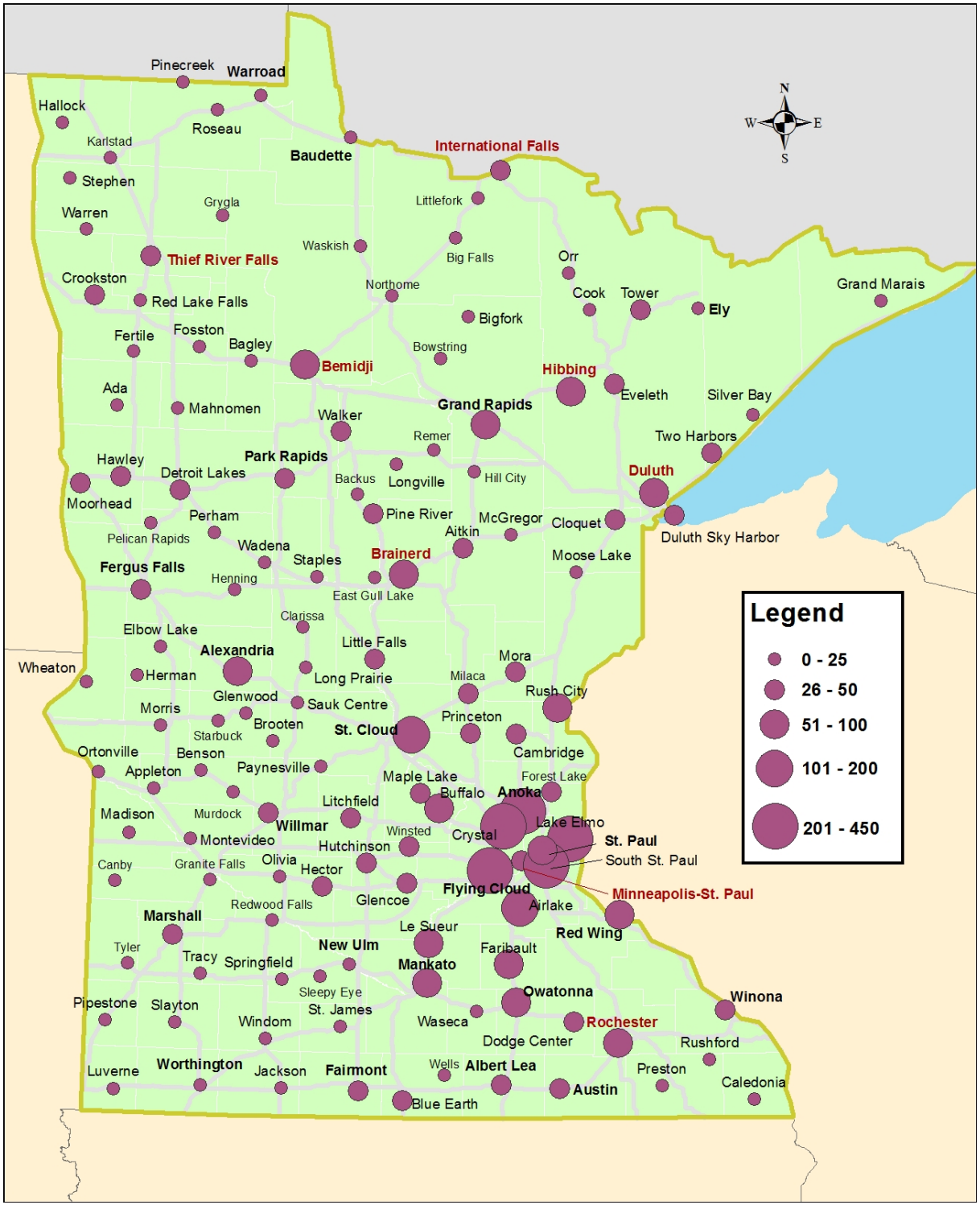
In the forecast, the GA aircraft and operations were analyzed for each of the following aircraft categories:

- Single Engine Piston (SEP)
- Multi-Engine Piston (MEP)
- Turboprop (TP)
- Jet (JET)
- Light Sport Aircraft (LSA)
- Military (MIL)
- Other (OTH) such as helicopters and gliders

Data for MSP and the MAC relievers were obtained from the previous Long Term Comprehensive Plans (LTCPs) prepared by HNTB in 2006 and 2009. The based aircraft and operations at the six MAC reliever airports were adjusted to match the state survey results. However, after consulting with MAC staff, the statistics for MSP were kept without adjustment as they are believed to better reflect current operations. Figure C-1 and Figure C-2 illustrate the total base year aircraft and operation statistics at system airports. A detailed based aircraft breakdown is shown in Table C-1 on page C-33.

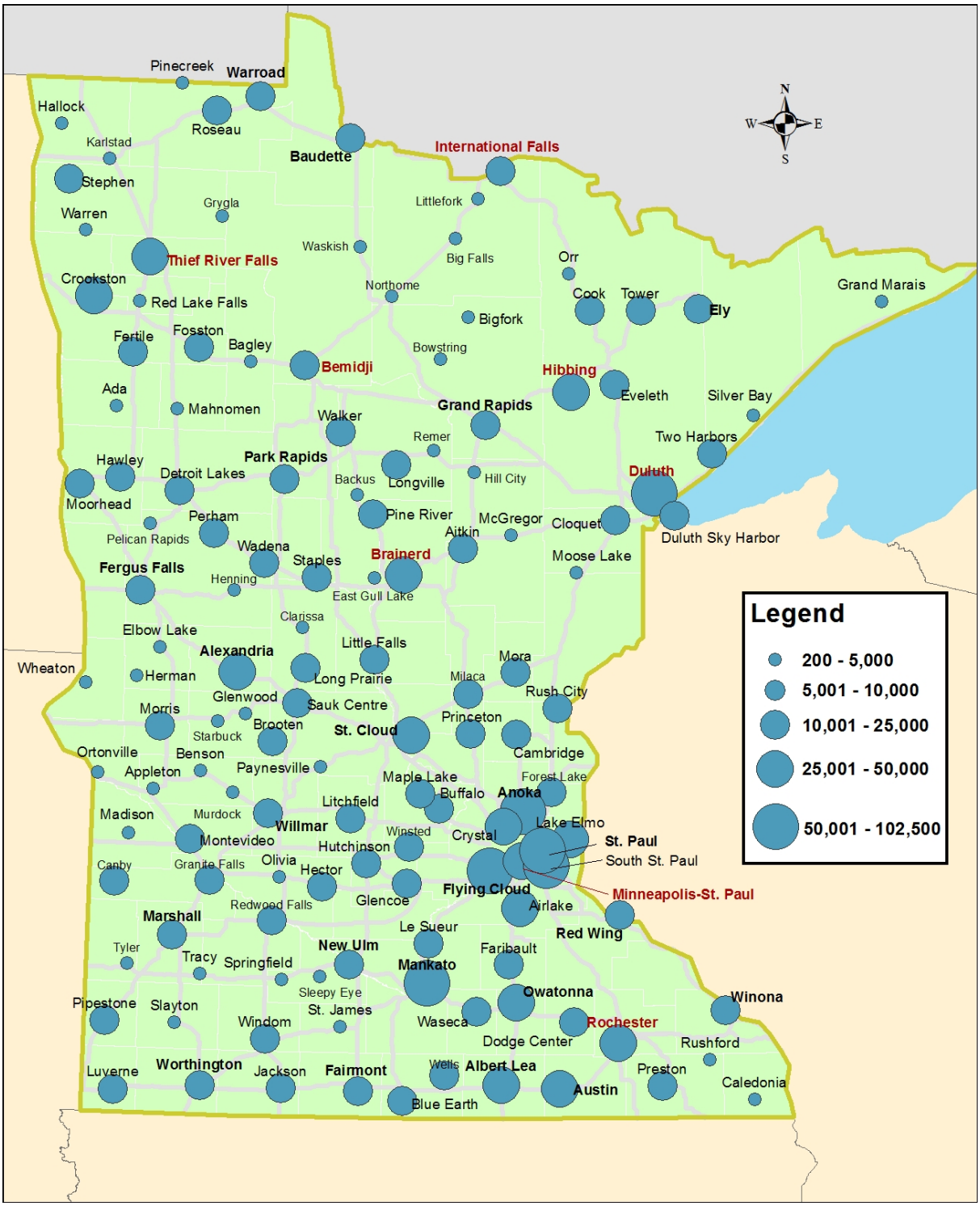
The state inventory survey also provides operations by type (local and itinerant) and purpose (business, leisure and training). To assess facility requirements in the future, it is necessary to estimate operations generated by each aircraft category.

Figure C-1: Number of Based Aircraft in Minnesota – Base Year 2010



Sources: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

Figure C-2: Number of GA Operations in Minnesota – Base Year 2010



Sources: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

To convert the number of based aircraft to operations, an operation rate table was developed. The operation rate is the ratio of operations to based aircraft for each category. The operation rate for each aircraft category was calculated using the Federal Aviation Administration (FAA) General Aviation and Air Taxi Activity survey (GAATA)[i]. This rate was multiplied by the based aircraft to estimate operations. The results were then adjusted proportionally to match the inventory survey operations at each system airport.

Table C-2 on page C-34 demonstrates the baseline operation breakdowns at each system airport. It also includes operations by trip type including local operations and itinerant operations and purpose including business, leisure and training operations.

The inventory survey gathered percentage by trip type and purpose data for most airports. For airports where such information is missing, the following assumptions were made: First, for facilities without based aircraft, all operations were assumed to be itinerant leisure trips. Airports without based aircraft tend to be very small, and usually cannot accommodate the higher performance aircraft favored by business general aviation. Second, the FAA Terminal Area Forecast (TAF)[ii] provides historical and forecast data for airports in the National Plan of Integrated Airport Systems (NPIAS). If the airport in question had local / itinerant operation breakdowns from the FAA TAF, they were used. Finally, if the airport did not have local / itinerant operation breakdowns from the TAF, then the overall average breakdown from the other system airports was applied to the airport.

C.3 Previous Forecasts

C.3.1 2006 State Aviation Systems Plan

The most recent state aviation system plan for Minnesota was completed in 2006[iii]. Since then the aviation industry has witnessed one of the most severe recessions in history. Passenger demand dropped sharply and in turn significantly impacted airlines' profitability. Coupled with record high oil prices, the airlines faced pressure from both weaker demand and higher operating costs. In response, several airlines filed for bankruptcy and completed several mergers that consolidated both legacy and low-cost carriers. Subsequently, their networks were re-evaluated and system wide frequency and route reductions were made. Airlines also turned to additional revenue streams such as baggage, meal, and priority seating assignment fees. As a result, most major airlines were able to weather the most recent recession.

Due to the factors mentioned above, the 2006 Systems Plan markedly overestimated passenger enplanements in 2010 compared to actual 2010 enplanements.

C.3.2 Metropolitan Airport Council (MAC) Regional Aviation System Plan

GA activity and airline service were also forecasted in the MAC Regional Aviation System Plan[iv] for MSP, six MAC administrated reliever airports, as well as South St. Paul, Surfside Seaplane Base, and Wipline Seaplane Base.

Forecasts on MSP and other six MAC administrated reliever airports were adopted from the MAC Long Term Comprehensive Plans (LTCPs). Other GA airports forecasts applied a bottom-up approach for each individual airport after reviewing existing Master Plans, FAA TAF, and State Aviation Systems Plan. The LTCPs for the reliever airports were updated in two phases. The first study that includes Crystal, Airlake, and Lake Elmo was completed in 2006. Anoka County, Flying Cloud and St. Paul downtown were analyzed in the second report in 2009.

The first report was written before the oil price hike, the financial market crash, and the subsequent recession. At the height of a long expansion, the U.S. economic outlook was optimistic in 2006. Oil prices

were on the rise but below $80 per barrel. As a result, the 2006 report over estimates the aviation activity level at most airports.

When the second study was completed in 2009, the recession was ending and oil prices were well below the historical peak in 2008. However, the U.S. economic recovery has been slower than anticipated since the technical end of the recession. Oil prices climbed to more than $80 per barrel again in 2010 after dropping to around $40 per barrel in April 2009[v]. All the factors above contributed to an optimistic based aircraft and operations forecast in the LTCPs.

C.4 Passenger Enplanements and Commercial Operations Forecast

Passenger enplanements and operations at airline service airports are influenced by local socio-economics, airport service characteristics, airline strategy, and other external factors including convenience and security. A combination of these factors was considered in the Plan to examine the potential correlation between passenger enplanements and independent factors.

C.4.1 Relevant Factors

Key factors determining air passenger activity are the economy which determines the size of the potential market and the cost of the service which determines how much of the potential demand is actually realized. Other important factors are competition, whether from other airports, other transportation modes, or other options for the expenditure of discretionary dollars. Finally, adequate infrastructure is needed, both at the airport and to provide access to the airport, so that the demand can be accommodated. This section focuses on the following factors: demographic and socioeconomic factors, fuel prices, air fares, ancillary fees, high speed rail, airline consolidations and out-of-state airports.

Demographic and Socioeconomic Factors

Historical records and future forecasts of Minnesota state population are available from both the Minnesota State Demographer's Office[vi] and Woods & Poole's Complete Economic and Demographic Data Source (CEDDS) database[vii]. Figure C-3 shows two data sources have perfectly aligned historical figures and slightly different forecasts. The Minnesota State Demographer's Office predicts higher growth in the near term whereas the CEDDS produces higher forecasts in the long run. The forecast from the Minnesota State Demographer's Office is adopted in this study as the state agency processes better knowledge on local trends and constraints. The average annual growth rate from 2011 to 2030 from both forecasts is around 0.96%.

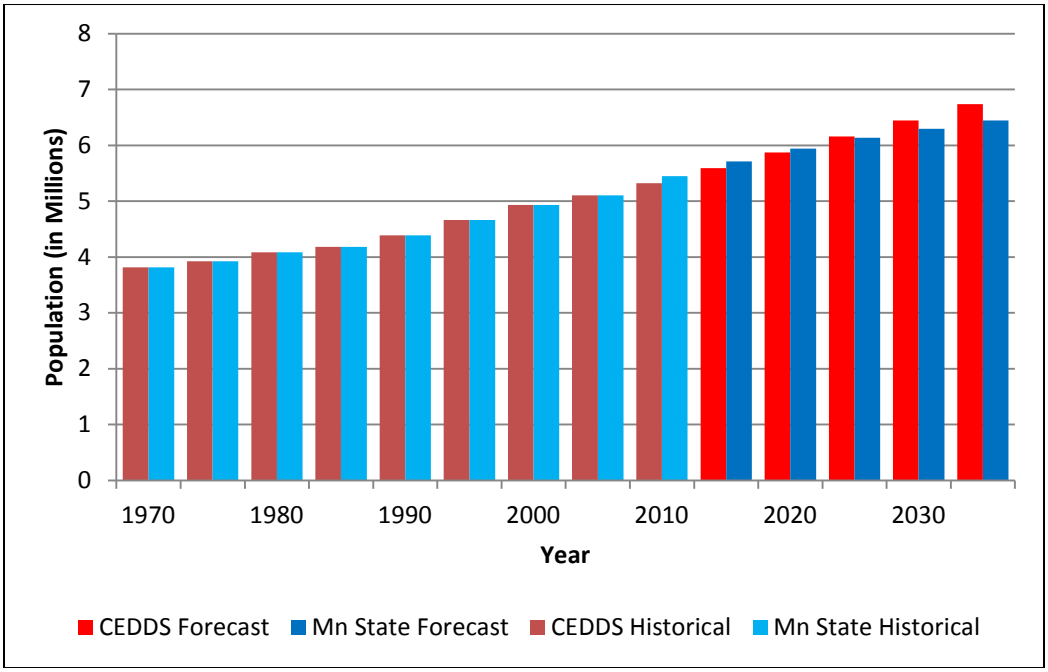
The Demographer's Office only produces forecasts on population and labor force. Therefore other key socio-economic parameters such as total income, per capita income and employment were obtained from the Woods & Poole CEDDS database and the Bureau of Economic Analysis (BEA)[viii]. The Woods & Poole data is adjusted with the latest BEA statistics at the base year and horizon years. Figure C-4 and Figure C-5 show the CEDDS historical and projected total income and employment information for Minnesota. From 2011 to 2030, state personal income is expected to grow at an average of 2.18% each year according to the Woods & Poole forecasts. For the same planning period, the state employment figure is projected to increase by an average rate of 1.17% annually.

Historically, the state enjoyed a higher than average employment growth rate than the U.S. average (1.84% annually compared with U.S. average of 1.63% from 1970 to 2010). This trend is expected to continue according to Woods & Poole, whose forecasts estimate the state employment growth rate to be slightly higher than average. Meanwhile, the state total income growth rate is projected to be

slightly lower than the overall U.S. average, consistent with historical trends. Population growth, however, has trailed the U.S. overall pace from 1970 to 2010; U.S. population grew 1.05% annually whereas the state grew 0.83% each year. Based on the Woods & Poole CEDDS, the U.S. population increase will slow to an annual rate of 0.94% while the state will accelerate to 0.96%.

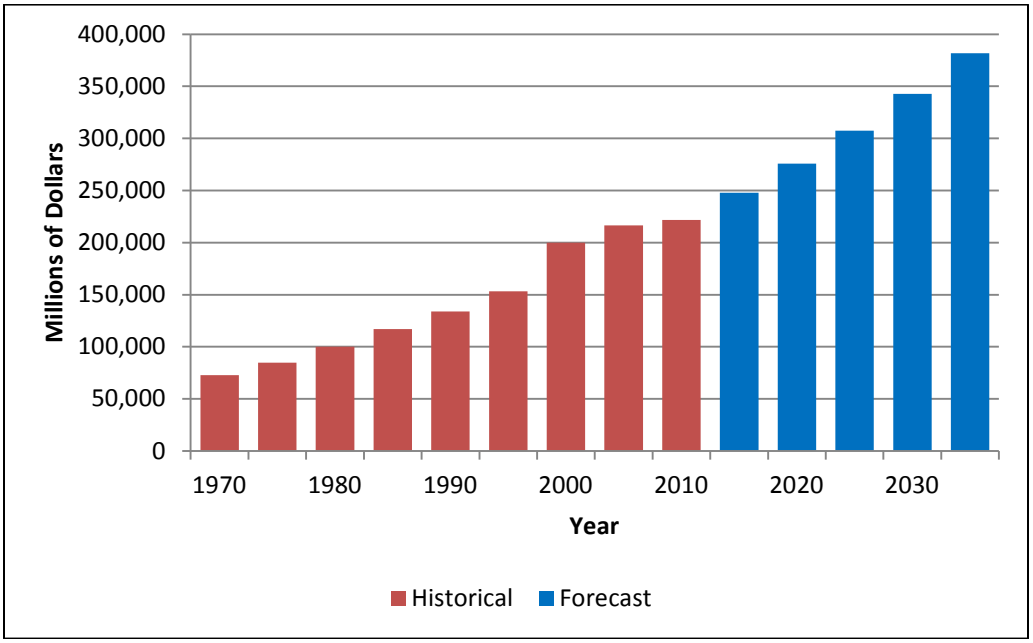
Historical and projected socioeconomic growth by county is shown in Figure C-23 to Figure C-28 beginning on page C-43 Two areas are projected to experience the fastest development in the state.

Figure C-3: Historical and Projected Population in the State of Minnesota



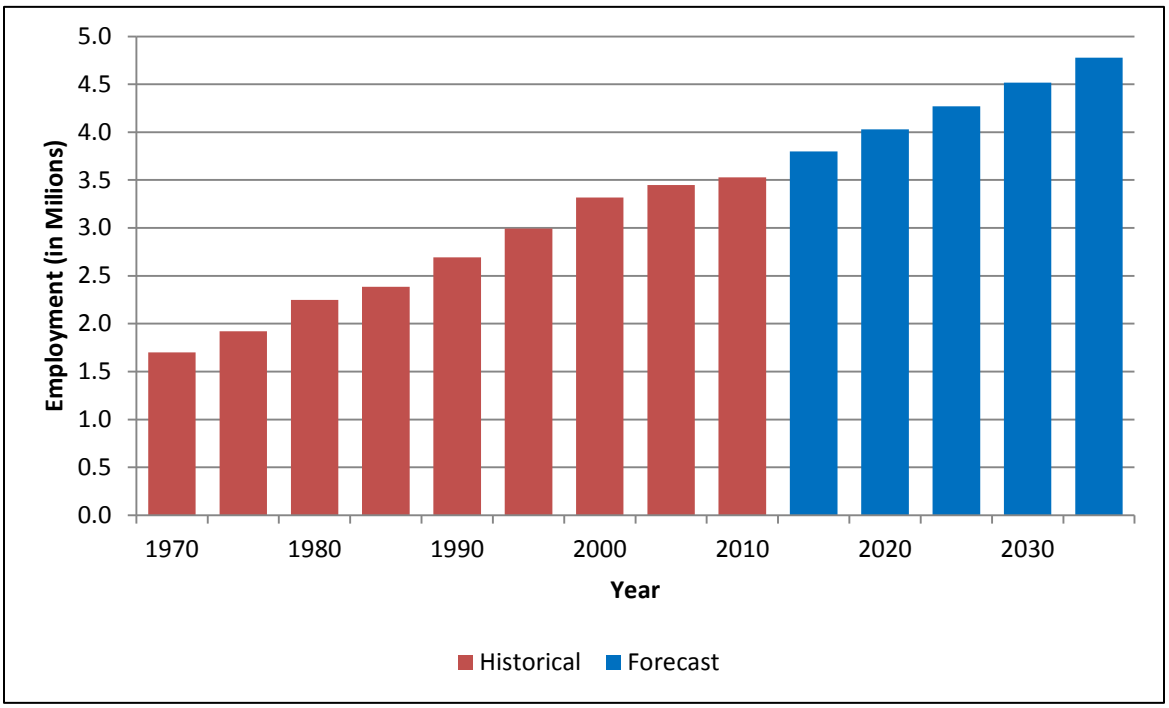
Sources: Woods & Poole CEDDS, BEA, and MN State Demographer's Office & HNTB Analysis

Figure C-4: Historical and Projected Total Personal Income in the State of Minnesota (in 2010 Dollars)



Sources: Woods & Poole CEDDS and BEA & HNTB Analysis

Figure C5-: Historical and Projected Employment in the State of Minnesota



Sources: Woods & Poole CEDDS and BEA & HNTB Analysis

The first area encompasses suburban counties surrounding the Twin Cities area including Carver, Scott, Dakota, Washington, Chisago, Isanti, Sherburne, and Wright counties. These counties also comprise part of the Minneapolis – St. Paul – Bloomington Metropolitan Statistical Area (MSA). The more urban counties including Hennepin, Anoka and Ramsey are expected to experience more moderate growth. The second area consists of the Brainerd Micropolitan Statistical Area including Cass and Crow Wing counties. Thanks to rich natural resources, tourism and low county taxes[ix], these two counties are projected to witness the fastest growth in the outstate area.

Jet Fuel Prices

Fuel has become the largest expense category for airlines, as a result of the recent price spike. Figure C-6 illustrates jet fuel prices in the past and FAA forecasts for the future (in 2010 dollars)[x]. Jet fuel prices rose from 2000 to 2008. Particularly in 2008, oil prices spiked and thus substantially increased airline operating costs. The latest FAA forecast predicts jet fuel prices to fluctuate between 220 cents/gallon to 260 cents/gallon. At the time this report was written, the market price was 305 cents/gallon[xi], well above the FAA's forecast.

The fuel price comprises a significant operating cost component for both commercial and general aviation and thus was tested as an independent forecast variable in the subsequent forecast analysis.

Air Fares

One-way Air fares were gathered from the BTS Airline Origin and Destination Survey (OD1A)[xii] for the Greater Minnesota airports. It is a 10% sample of airline tickets sold and is collected by the Office of Airline Information of the BTS. Figure C-7 shows air fares from 1990 to 2010 in 2010 dollars. Generally speaking, average one-way domestic air fares in Minnesota declined from around $300 in 1990 to $175 in 2010. Recently average air fares rebounded due to airline consolidation, reduced frequency and routes, and the need to cover higher operating costs.

Air fares play an important role in passenger's transportation mode choice and were tested as a candidate forecast variable in passenger forecast. It is worth noting the air fares are no longer the sole out-of-pocket expenses for passengers. Additional charges such as ancillary fees are discussed in the next section.

Ancillary Fees

Airlines have turned to additional revenue streams such as baggage fees, reservation change fees, seat assignment fees and on-board sale of food and drink. The new ancillary fees substantially benefit the airline bottom line. On the other hand, it increases the out-of-pocket cost for passengers. It is usually considered as part of the air travel costs to passengers while making travelling mode choices.

Out-of-State Airports

Some Minnesota passengers use out-of-state airports. Therefore, the current status and forecasts of several out-of-State airports that historically served Minnesota passengers are examined. Figure C-8 shows the out-of-state airports considered in this study.

Three airports, including Grand Forks International, Fargo Hector International, and Sioux Falls Regional – Joe Foss Field, are located west of the state. The relative proximity between Grand Forks and Thief River Falls indicates potential service area overlap. The Grand Forks airport holds an advantage in terms of facilities and air service frequency with Delta serving MSP and Allegiant Air serving Las Vegas and Phoenix/Mesa. The other two out-of-state airports are relatively far from other Minnesota commercial airports and therefore have less competitive impact. According to published airport master plans, passenger demand at Fargo International is projected

to grow 2.4% annually through 2020[xiii] and 2.5% annually at Sioux Falls Regional Airport[xiv].

Three commercial airports are located southeast of the state. Chippewa Valley Regional Airport in Eau Claire is close to two major airports in the state, Minneapolis – St Paul and Rochester. The only scheduled service currently offered from Eau Claire is from/to Chicago O'Hare by United Express. The limited route and frequency options at Eau Claire are not expected to divert substantial Minnesota passenger traffic away from MSP or Rochester. The La Crosse Municipal Airport, which serves southeast Minnesota counties including Houston, Winona and Fillmore, offers flights to MSP by Delta and Chicago O'Hare by American Airlines. The Mason City Municipal Airport offers two daily commuter flights to MSP via Delta Connection. Delta recently notified Mason City of their intention to suspend service under the Essential Air Service (EAS) contract. At the time this report was written, the US DOT was soliciting EAS interest from other airlines. According to the Iowa Aviation System Plan 2010-2030, operations at the airport are projected to grow 1.25% annually[xv].

In conclusion, only the Grand Forks airport is expected to divert significant passenger demand from the commercial airports in Minnesota. Forecasted passenger demand is adjusted at Thief River Falls as a result.

High Speed Rail

Plans for a high speed rail line connecting the Twin Cities to Chicago along the Mississippi River were recently approved by the Minnesota DOT and the Federal Railroad Administration[xvi]. The proposed 110 mph high-speed rail line is expected to reduce travel time between the Twin Cities and Chicago by more than two hours[xvii]. If the project materializes, it is expected to divert considerable origin-destination passenger demand along the proposed corridor from airline service airports, especially between Minneapolis – St. Paul International airport and Chicago O'Hare / Midway airports.

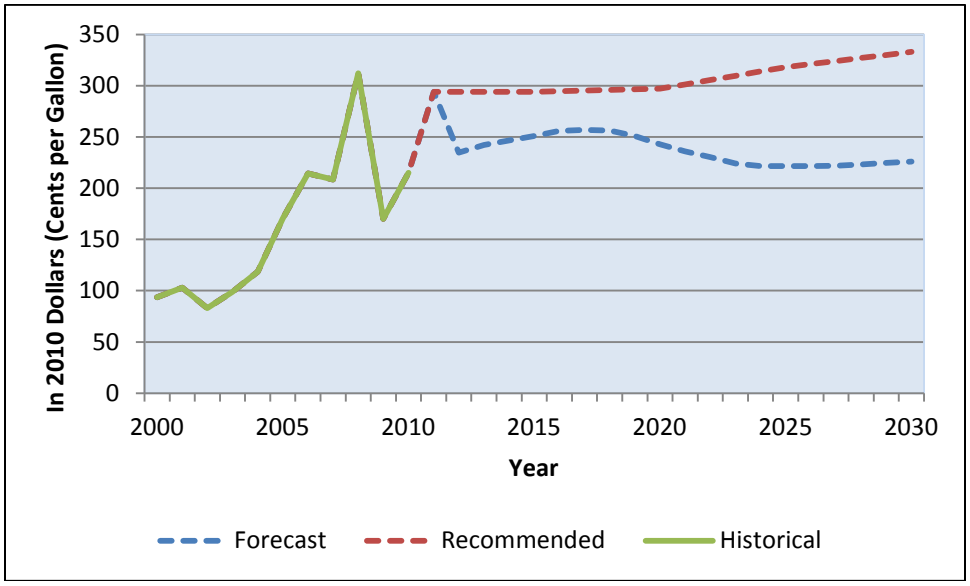
However, as the national debate over the merit of high-speed rail continues, it is uncertain when the proposed high-speed rail line will be implemented. Due to this uncertainty, it is assumed that high-speed rail will not divert significant traffic from airline service airports in the State.

Airline Consolidations

Several major airline consolidations were completed in the last few years. Northwest Airlines merged with Delta Air Lines to form the world's largest carrier at the time[xviii]. In 2010, Continental Airlines merged with United Airlines to form the current largest airline in the world. In addition to legacy airlines, low cost carriers, Southwest Airlines and AirTran Airways, also merged in 2010. The system wide capacity reduction facilitated by the mergers and economic downturn has resulted in fewer enplanements and operations than previously forecasted at most airline service airports in the State.

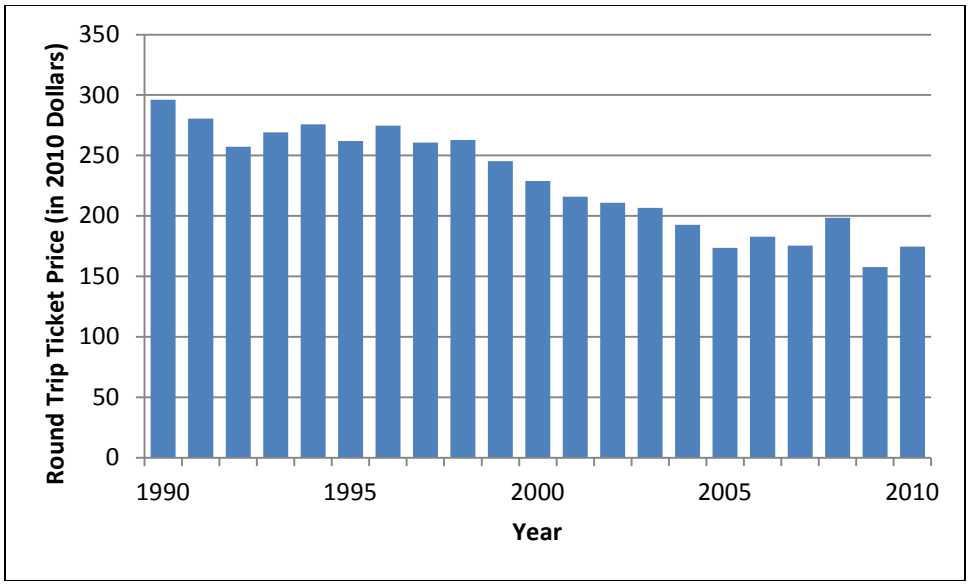
Among these mergers, the State of Minnesota is particularly influenced by the Northwest and Delta merger. With their headquarters located in the State, Northwest Airlines operated Minneapolis – St. Paul International airport as an important hub with extensive in-state and out-of-state network. This merger was considered as an influential factor to model passenger enplanements.

Figure C-6: Jet Fuel Prices



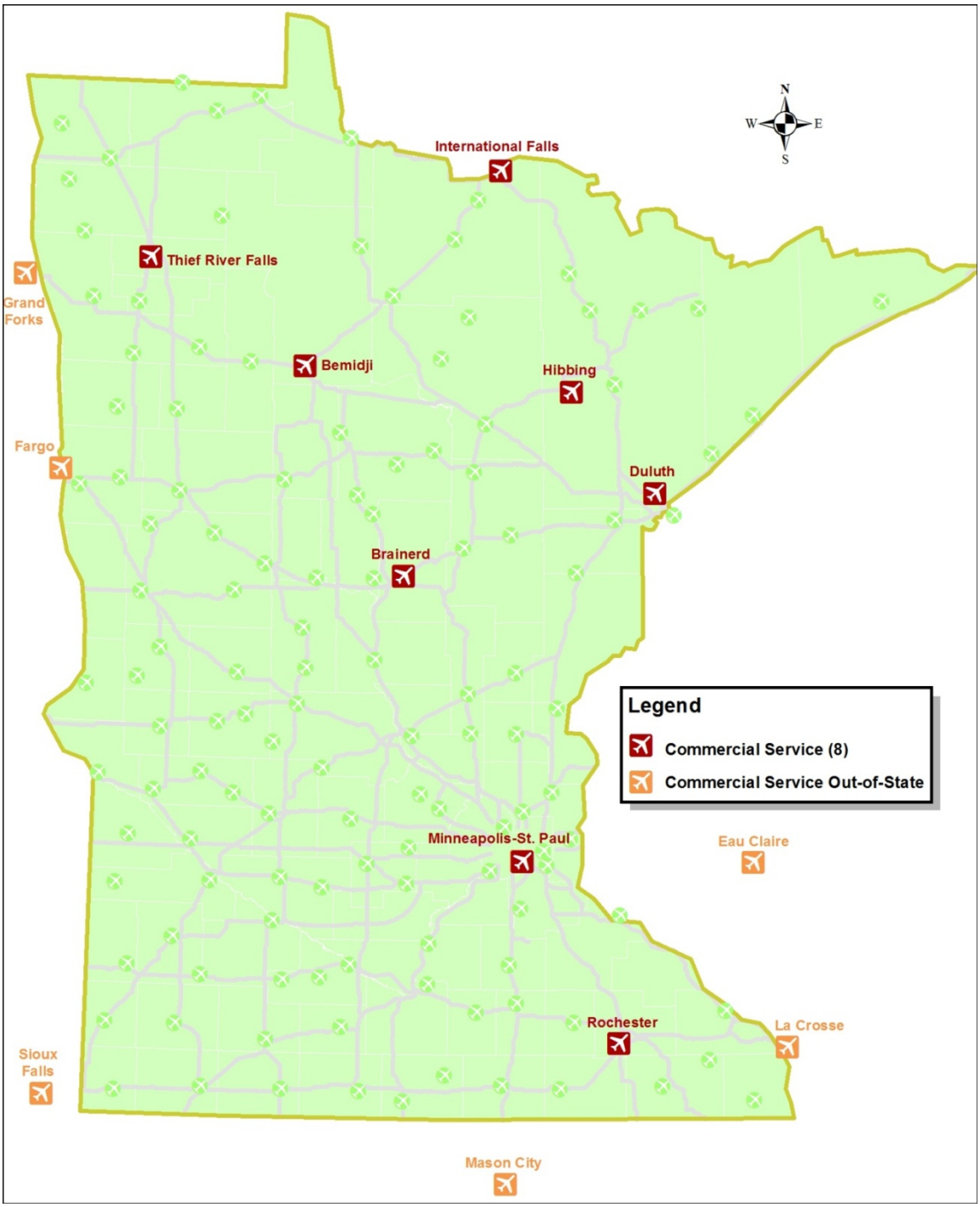
Source: FAA Aerospace Forecast 2011 – 2031

Figure C-7: Historical Air Fare in the State of Minnesota



Sources: BTS OD1A & HNTB Analysis

Figure C-8: Out-of-State Airline Service Airports



Sources: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

C.4.2 Assumptions

In addition to the forecast factors discussed above, additional assumptions were prepared to help guide the passenger forecast.

Economic Assumptions

It is assumed that no major economic downturn, such as the Great Depression or Great Recession, will occur in the planning period. The state and the U.S. economy will increase and decrease according to normal business cycle.

Out-of-State Airports

None of the out-of-state airports will divert significant amount of passenger flow from commercial airports in the state except the Grand Forks airport. The airport is expected to attract a substantial share of the passenger traffic from Thief River Falls. Therefore passenger forecasts for Thief River Falls are scaled down based on historical statistics.

National Airspace System

The forecast is developed under the assumption that the National Airspace System (NAS) will accommodate the unconstrained aviation demand. No major bottlenecks affecting Minnesota airports will develop either en-route or in the terminal area.

Airline Consolidation and Strategy

No further airline consolidation is assumed in the study. Airlines serving the commercial airports in the state will continue to operate their current flight networks. As a baseline forecast, it is assumed no new routes will be established or new airline service airports will be developed. No radical changes in airline strategy as how to serve and compete in markets are assumed.

National and Local Policy

Commercial airports that operate under the Essential Air Service agreement will continue to offer federal subsidized air service. It is also assumed no new environmental concerns will impact traffic characteristics in the state.

C.4.3 Passenger Enplanements and Operations Forecast

Several airports in the state of Minnesota currently offer airline service including:

- Minneapolis-St. Paul International
- Duluth International
- Rochester International
- Bemidji Regional
- Brainerd Lakes Regional (Brainerd, MN)
- Ranger Regional (Hibbing, MN)
- Falls International (International Falls, MN)
- Thief River Falls Regional

Passenger traffic at MSP was analyzed in the LTCP and thus not in the scope of this report. Historical passenger traffic at system airports was obtained from the Air Carrier Statistics T100[xix] from the Bureau of Transportation Statistics (BTS).

Regression analysis was employed to estimate future passenger enplanements. Regression analysis is a statistical tool used to investigate correlations between two sets of variables. The first set of variables, commonly referred as dependent variables, represents what need to be estimated. The second set of variables, commonly referred as independent variables, represents known factors. To use regression analysis in forecasting, projections of independent variables should be available. A correlation analysis should be conducted to investigate the relationship between casual effect of independent variables and dependent variables. If such the relationship in the historical data is statistically significant, a regression equation can be constructed reflecting the correlation between two sets of variables. Assuming this correlation continues in the future, dependent variables can be estimated using forecasts of independent variables. Sometimes

dummy variables are introduced as independent variables. They assume the values of 0 or 1 to represent the absence or presence of certain difficult-to-quantify factors that may shift the outcome.

Four types of independent variables were assessed. Firstly, a set of socioeconomic data within each airport's catchment area was derived from Woods & Poole's CEDDS including population, total income, per capita income and employment. They represent demand side characteristics. Secondly, supply side parameters such as scheduled flights from OAG[xx], number of aircraft departures recorded by T100, fare samples from the BTS OD1A and jet fuel prices from FAA were collected. The third group consists of other events that have important impacts on passenger activity in the state. This category includes Northwest Airline's bankruptcy filing in 2005 and Sep-11 terrorist attack in 2001. Lastly, a group of intercept shift dummy variables for each airport were also incorporated (see Figure C-29 on page C-49).

Airport catchment areas were established for each commercial airport based on driving time. To determine this, 2010 census data was imported into GIS and linked to the Minnesota road network system. The borders of the catchment area show where the population would have an equal drive time between two airports. The areas highlighted in Figure C-9 depict the "catchment area" for each SASP commercial airport. Figure C-9 shows the catchment areas for the eight airline service airports, as well as the six airline service airports in adjacent states. Airline service airports were assumed to only draw out-of-state population within 100 miles. Note that the catchment areas in Figure C-9 are based on drive time only. Other factors, notably the availability of air service, also influence which airport a passenger will use. Because of MSP's superior air service options relative to other Minnesota airports, many passengers from outside MSP's catchment area drive to MSP.

A stepwise regression analysis was conducted to evaluate potential relationships between passenger flow and a subset of the factors mentioned above. One socio-economic factor, total income, and one supply side parameter, frequency, proved to have the strongest correlation with historical passenger flow. Projections of income are available from the Woods & Poole CEDDS.

During the passenger forecast, the study team became aware of an on-going master plan update at the Duluth international airport[xxi]. After contacting the airport authority, it was determined that the data source used in the master plan update was more comprehensive than the T100 numbers. As a result, passenger enplanements and cargo volume at the Duluth International were adjusted. Comparing the base year airport counts and T100 data, an adjustment factor was produced. This adjustment factor was in turn applied to the allocated passenger enplanements and cargo volume at Duluth in the future forecasts.

Since passenger enplanements and service frequency are inter-dependent, an iterative process was built to explore this correlation between supply and demand. Average seat capacity per departure was acquired from the recent T100 data. Future fleet mix was estimated based on a fleet mix forecast that HNTB developed for the MSP Environmental Assessment (EA). Fleet mix for flights to airports other than MSP was based on airline passenger fleet trends and aircraft orders. Load factors were assumed to gradually converge to the FAA regional carrier forecast[10] except for Hibbing and Thief River Falls. The current subsidized operations are assumed to continue in the future which would allow the current relatively low load factors to continue at those two airports. With the projected seat capacity and load factor, the number of commercial aircraft departures can be calculated given the enplanement forecast. The number of aircraft departures in turn helps

determine the passenger flow. This procedure eventually converges to a point where input departures match the output departures. The result is shown in Figure C-10.

After commercial operations were projected, passenger traffic to primary origin and destination markets were estimated based on the current demand and future socio-economic growth within each airport catchment area. The projected total income growth rate from Woods & Poole CEDDS was used as the socio-economic indicator. For airports outside Minnesota, several assumptions regarding relative airport development were made. The relative growth at non-hub airports was assumed to be in pace with the local county income growth. Hub airports were assumed to grow at the same rate as the MSA where the airports are located. The base year originating and terminating passenger flow was collected from the BTS OD1A and multiplied by the relative growth factor. Then the total passengers were compared with the forecast to develop a global adjustment factor. It was applied to adjust the total number of passengers to match the forecast. These procedures were repeated for each of the system airports. Table C-9 to Table C-22, beginning on page C-55, list the major origin and destination breakdowns from commercial airports in the state.

From the iterative procedure described above, annual commercial operations were determined. The forecast of enplanements and commercial aircraft departures are shown in Table C-3 to Table C-8 beginning on page C-51.

The average annual growth rate presented in this report is the Compound Annual Growth Rate (CAGR). It assumes the growth during the planning period follows an exponential growth model:

$$X_{FUTURE} = X_{BASE} * (1+ CAGR)^{\text{Planning Period}}.$$

Therefore, the CAGR can be calculated as

investments at MSP and current MSP forecasts indicate that they are unlikely to outgrow their facilities there in the near future. These factors, taken together, present a major challenge to any effort to relocate air cargo service from MSP to a smaller airport. The growth rates for individual airports are displayed geographically in Figure C-30 through Figure C-35 beginning on page C-93.

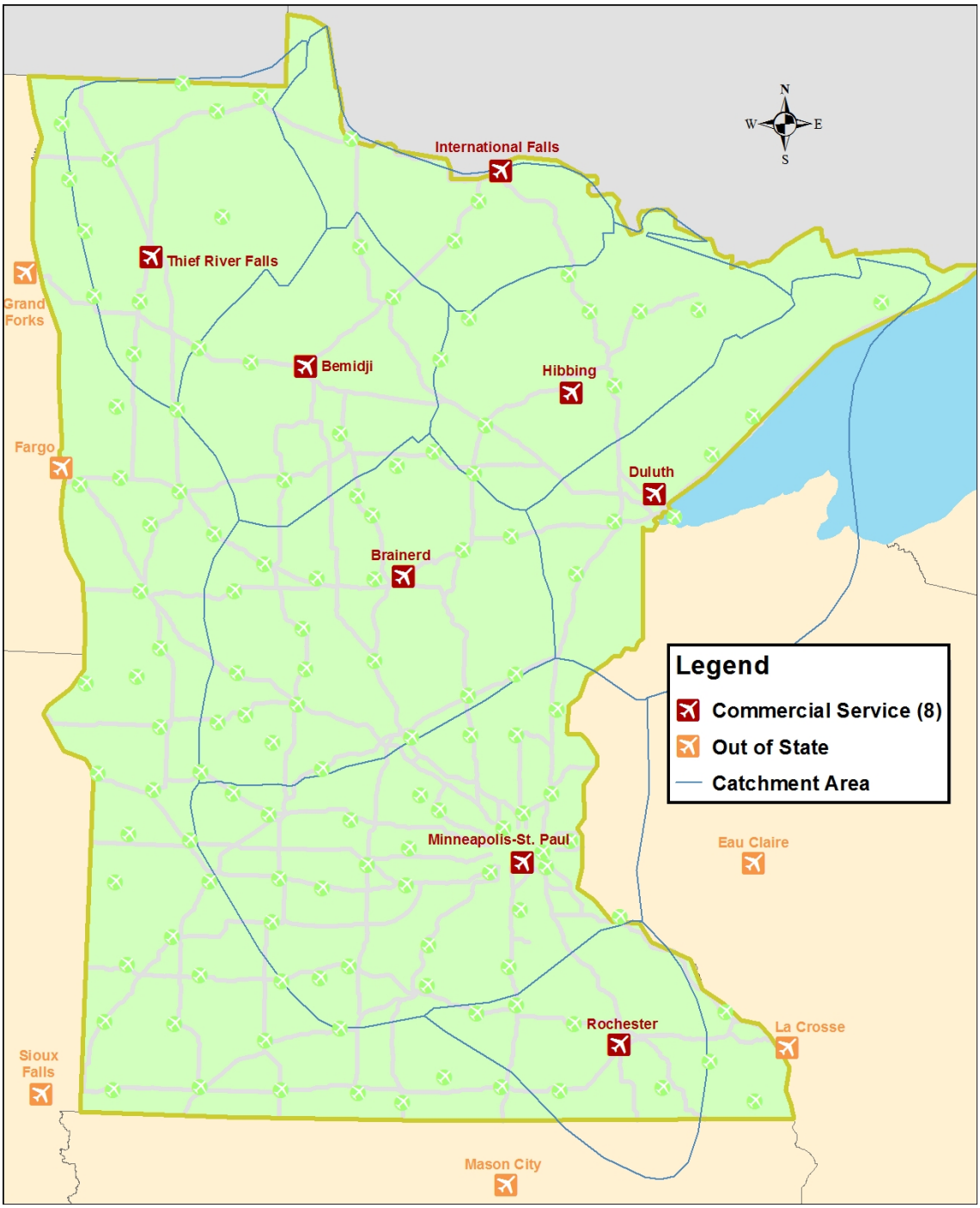
C.5.1 Market Share Analysis

Air cargo handled at all system airports as a percentage of total domestic air cargo volume in the US declined from 0.063 percent in 2003 to 0.046 percent in 2010 (see Figure C-11). An exponential equation was used to fit the historical trend of the cargo market share and forecast future share. The future ton-miles forecast is then a product of the projected market share and FAA ton-miles estimate published in the annual FAA Aerospace Forecast.

C.5.2 Trend Line

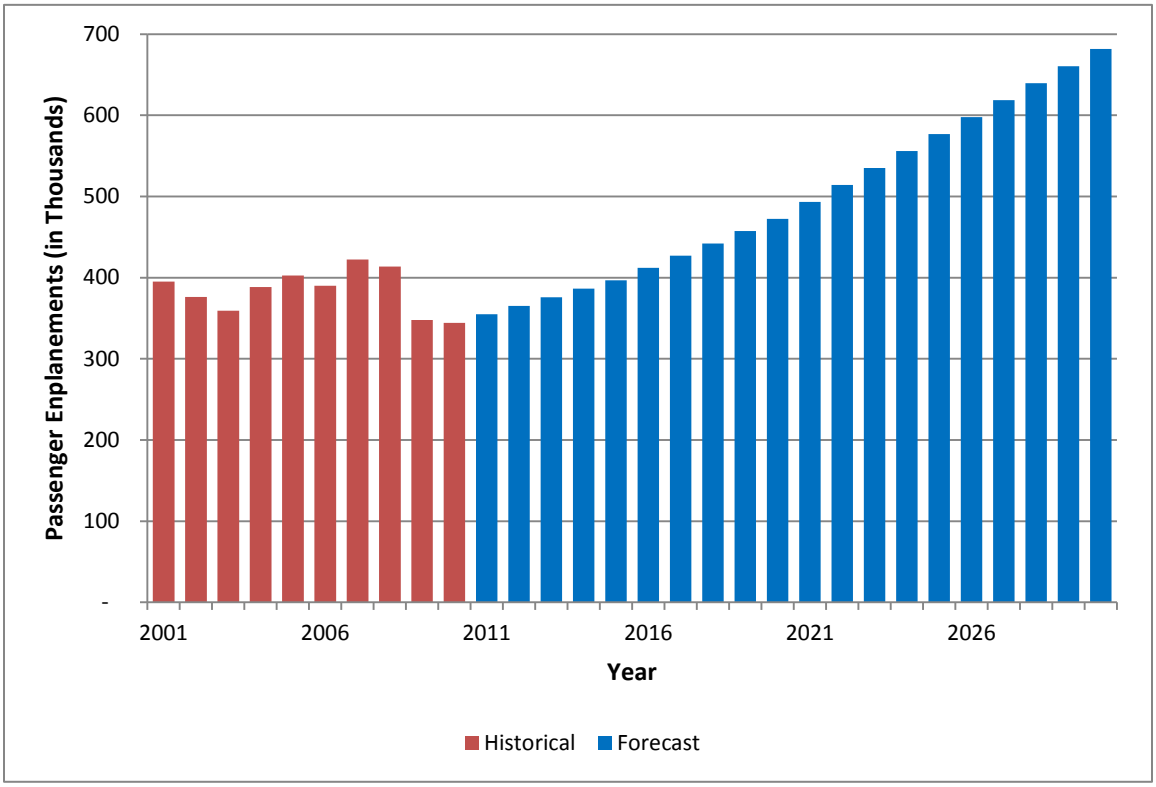
In addition to analyzing cargo demand as a share of the US market, trends in air freight ton-miles were investigated directly. Figure C-12 shows the air cargo ton-miles reported by BTS T100. Cargo flow at the system airports declined from around 9.9 million ton-miles in 2004 to 5.0 million ton-miles in 2009 and rebounded to 5.8 million in 2010. An exponential function was used to fit the historical trend and forecast future ton-miles.

Figure C-9: Airline Service Airport Catchment Areas



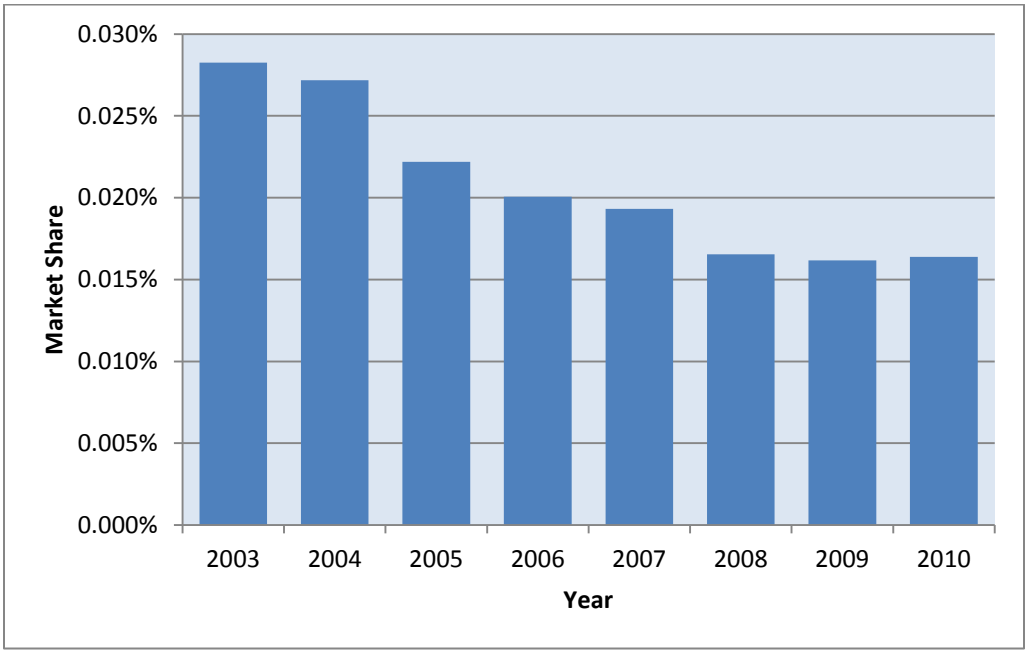
Sources: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

Figure C-10: Passenger Enplanements Forecast (without MSP)



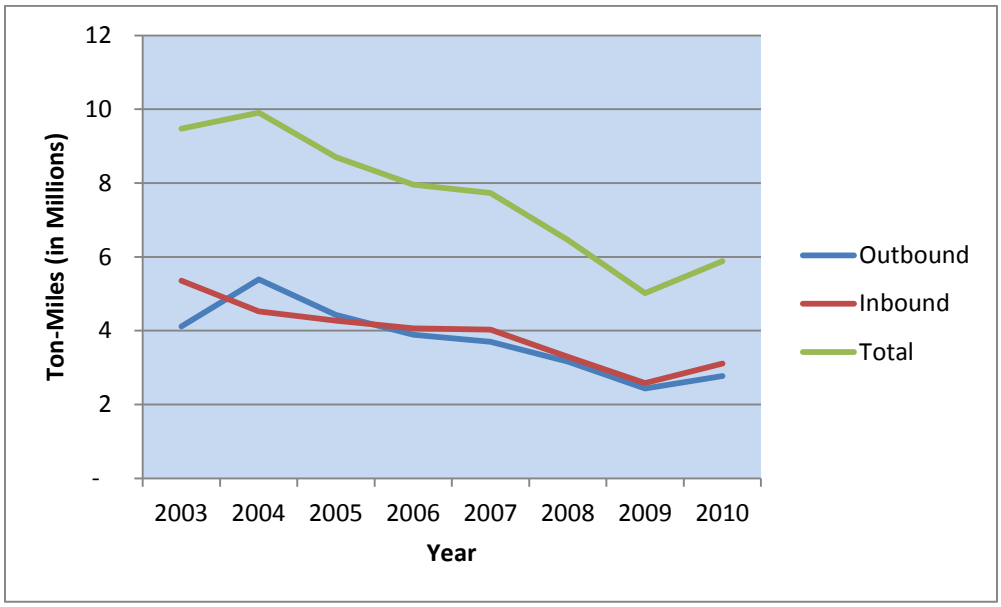
Sources: BTS T100 and Woods & Poole CEDDS & HNTB Analysis

Figure C-11: System Airports Market Share of US Air Cargo Ton-Miles



Sources: BTS T100 & HNTB Analysis

Figure C-12: Historical Cargo Ton-Miles Carried by System Airports



Sources: BTS T100 & HNTB Analysis

C.5.3 FAA Growth Factor

Each year, FAA publishes an Aerospace Forecast which covers various aspects of the aviation industry. Key forecasts published in this report include available seat-miles, revenue passenger-miles, available ton-miles, revenue ton-miles, general aviation fleet and operations, etc. The forecast of revenue ton-miles was used in this study to project future cargo activity. In the 2011 publication, the FAA estimated annualized future domestic all-cargo ton-miles growth to be 3.5% from 2010 to 2020 and 2.9% from 2010 to 2030. They were used as benchmarks for future air cargo growth in this study.

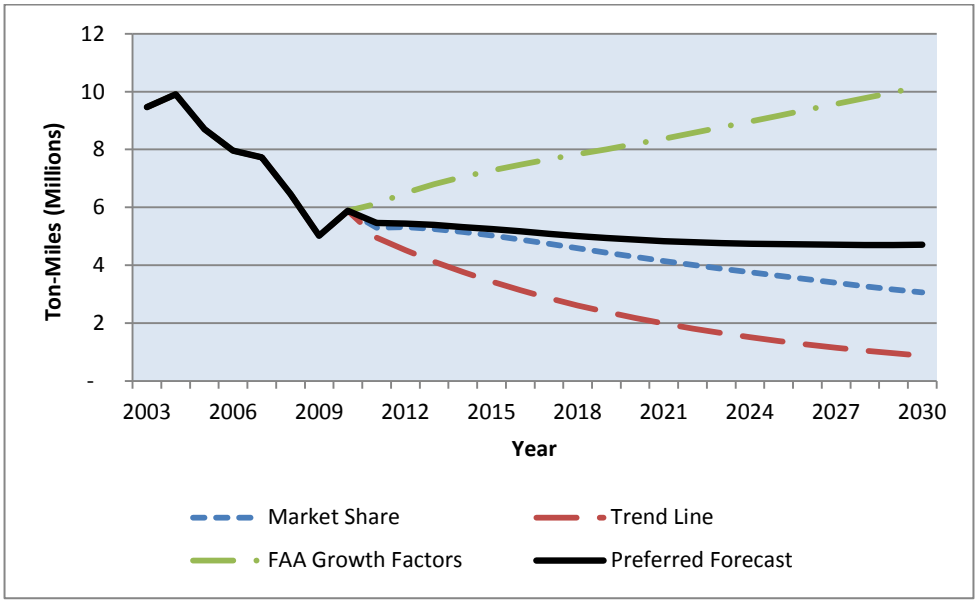
C.5.4 Preferred Forecast

The results of the above-mentioned methodologies are illustrated in Figure C-13. On one hand, both market share and trend line analysis indicate further decline in air cargo in the state. On the other hand, FAA predicts strong growth in air cargo shipments. In addition, the historical data include the aftermath of the September 11, 2001 attacks, Northwest Airline Inc., bankruptcy, and the latest recession, all factors that have negatively affected recent trends. An average of the three methodologies accounting for both local characteristics and national trends is considered more accurate than a single methodology. The solid line in the Figure C-13 represents the average of the market share, trend line, and FAA growth factor analysis.

To derive total air cargo tonnage from the ton-miles estimate, it is necessary to study average cargo carrier transport distance. Historical cargo revenue miles were gathered from the BTS T100 database. Historical trends suggest that the average length of haul for air cargo is increasing as shown in Figure C-14. Increased competition from other modes such as truck and rail, has generated a tough market for short-haul cargo. Cargo airlines have been turning to longer haul and time sensitive express cargo to take advatange of their speed. Using a linear regression equation, future cargo transport distance can be estimated.

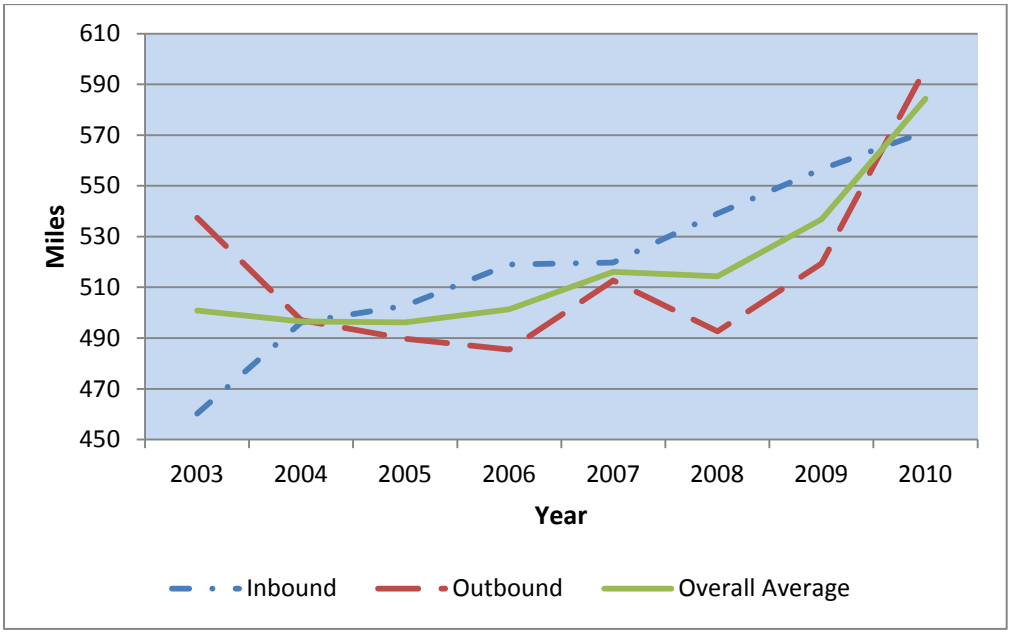
Based on the revenue ton-miles forecast and the revenue miles forecast, total revenue tonnage is projected and shown in Figure C-15.

Figure C-13: Cargo Ton-Miles Forecasts



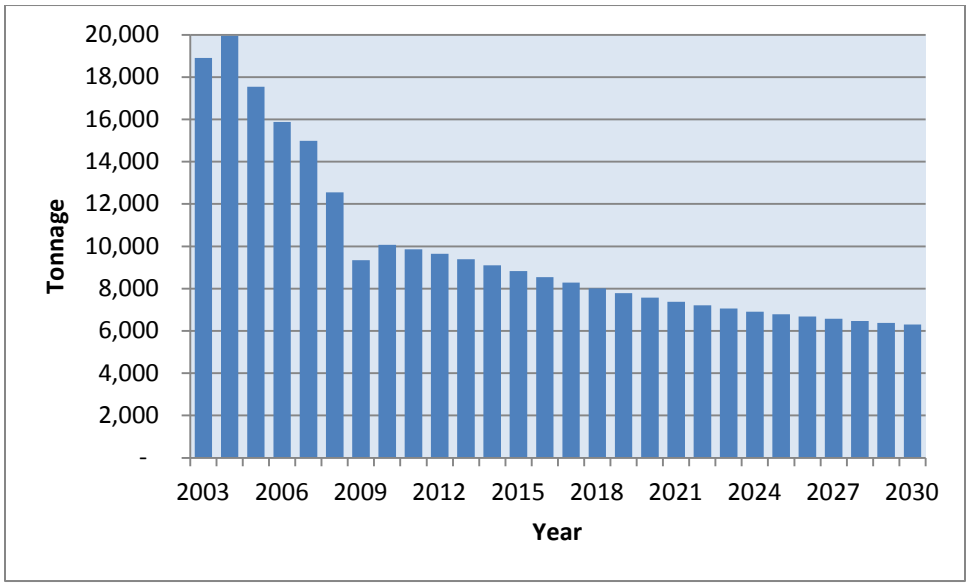
Sources: BTS T100 & HNTB Analysis

Figure C-14: Cargo Revenue Miles Trend for Minnesota Commercial Airports (without MSP)



Sources: BTS T100 & HNTB Analysis

Figure C-15: Air Cargo Revenue Tonnage Forecast for Minnesota Commercial Airports (without MSP)



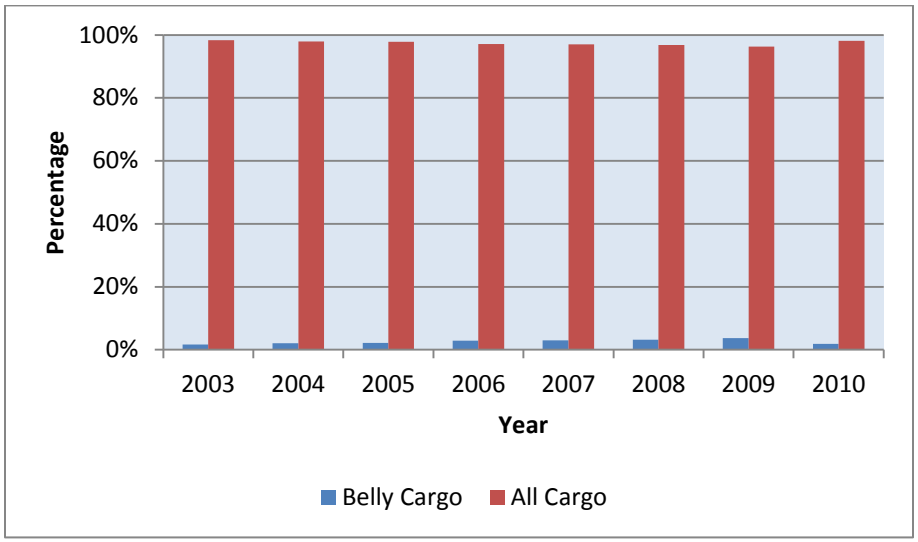
Sources: FAA TAF, FAA Aerospace Forecast, and BTS T100 & HNTB Analysis

Once the total revenue tonnage was projected, it was allocated to each cargo airport based on the current distribution and future economic growth. The Geographic Information System (GIS) catchment area analysis from the passenger forecast was applied to associate future cargo volume growth with socio-economic development. The total income forecast provided by Woods & Poole, adjusted by the most recent Bureau of Economic Analysis data, was employed as the basic socio-econmoic indicator for future cargo growth. The current cargo tonnage was multiplied by the catchment area total income growth at each system airport. Then the total for the individual airports were compared with the forecast system total and an adjustment factor was calculated. This factor was used to calibrate future cargo volume to match forecasts.

After cargo is allocated to individual airports, the number of all-cargo operations can be estimated. Cargo shipments are carried by both all-cargo aircraft and passenger aircraft. An assessment of historical belly cargo and all-cargo breakdown, depicted in Figure C-16, shows dominance of all-cargo operations in transporting payload. It also revealed that cargo processed at the International Falls and Hibbing Airports was only carried by passenger aircraft as the demand was too low to warrant an all-cargo operation. It was assumed that all cargo at these two airports will continue to be carried by passenger aircraft in the future.

The future all-cargo fleet composition needs to be evaluated to forecast all-cargo aircraft operations. According to its fleet plan, FedEx is expected to replace Airbus A310 and Boeing 727-200F aircraft with Boeing 757-200F aircraft. The average capacity increase from an A310 to a Boeing 757-200 is around 30% and from a Boeing 727-200F to a 757-200F is around 50%. Other smaller aircraft such as Beech 1900 and Cessna 208 are expected to stay in the fleet in the future. However, since cargo volume is projected to decline, the airlines are not expected to increase capacity at routes with lower load factors. Therefore the current tons per operation is assumed to stay the same in the future.

Figure C-16: All Cargo vs. Belly Cargo for the System Airports



Sources: BTS T100 & HNTB Analysis

C.6 General Aviation and Military Activity Forecast

GA refers to all flights other than military, and scheduled and unscheduled passenger and cargo operations. The state aviation plan includes 135 public airports, the majority of which are GA airports that accommodate GA operations with little commercial traffic. A forecast of the future fleet and operation levels is the key to future infrastructure planning. This section describes methodologies applied in forecasting the GA fleet composition and the number of operations by each aircraft category. The inventory survey offers based aircraft counts by category. Figure C-17 exhibits the current GA fleet composition in the state. Single engine piston aircraft account for almost 85% of the total number of based aircraft, followed by 5% multi engine piston, 2% turboprops, and 1.4% jets.

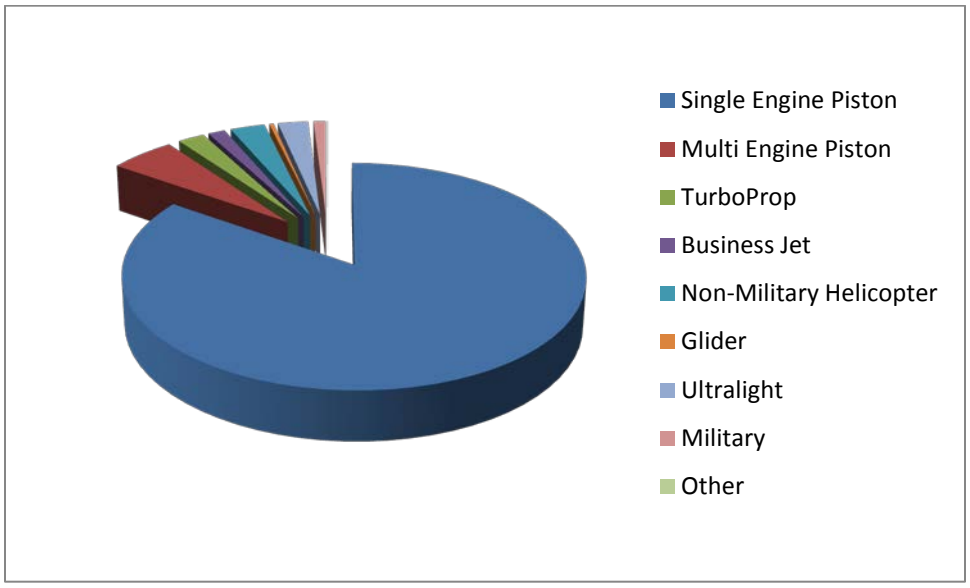
C.6.1 Market Share

GA based aircraft in Minnesota have gained an increasing share of the U.S. GA market (see Figure C-18). Historical data indicates the percentage of local GA aircraft grew from around 2.0% in 1990 to 2.5% in 2008. A time series analysis was conducted to estimate future market share. Various trend line fitting techniques were employed and an average was calculated. As a result, the market share is expected to increase to 2.63 percent in 2015, 2.70 percent in 2020 and 2.83 percent in 2030. This forecast is used in conjunction with the FAA TAF forecast of total GA aircraft to predict future GA fleet.

C.6.2 Trend Line

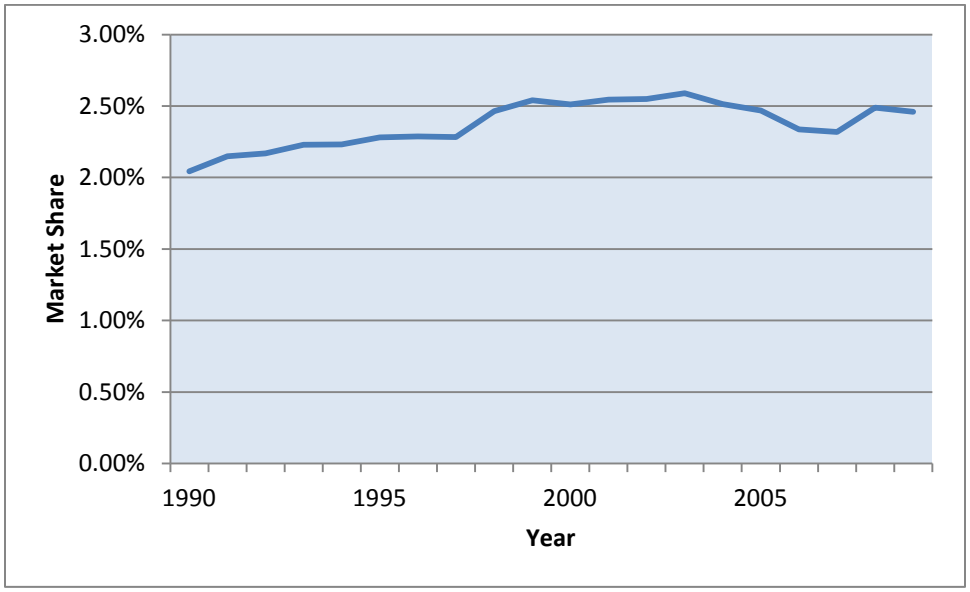
Historical based aircraft data derived from the Airport Master Records (Form 5010) shows a general expanding trend in the GA fleet (See Figure C-19). The total number of based aircraft grew from less than 3,000 in 1980 to nearly 4,400 in 2009 with the peak number close to 5,000 in 2003. This trend can be interpreted by a linear growth equation. Future fleet size is then extrapolated using this equation.

Figure C-17: GA Fleet Compositions at System Airports



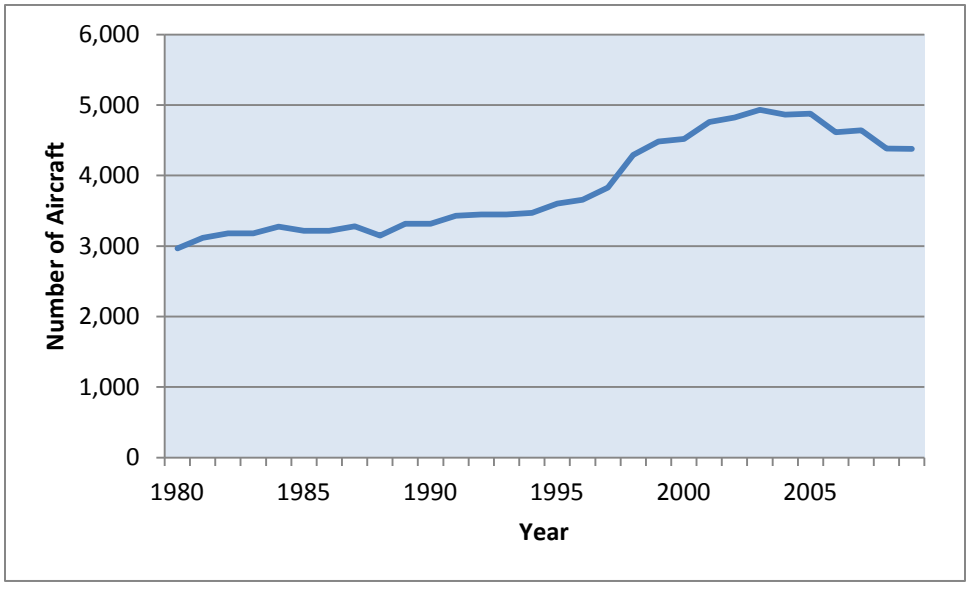
Sources: BTS T100 & HNTB Analysis

Figure C-18: Historical Minnesota General Aviation Based Aircraft Market Share of U.S



Sources: FAA Master Records (Form 5010) & HNTB Analysis

Figure C-19: Historical Number of General Aviation Aircraft



Sources: FAA Master Records (Form 5010) & HNTB Analysis

C.6.3 FAA TAF Forecast

The TAF is the FAA's official forecast for terminal area aviation activities. It incorporates historical and forecast data on based aircraft by aircraft type such as single-engine, multi-engine, and jet as well as amount of operations of air carrier, air taxi, general aviation and military. The TAF forecast of based aircraft in the state of Minnesota was used as one of the forecast alternatives.

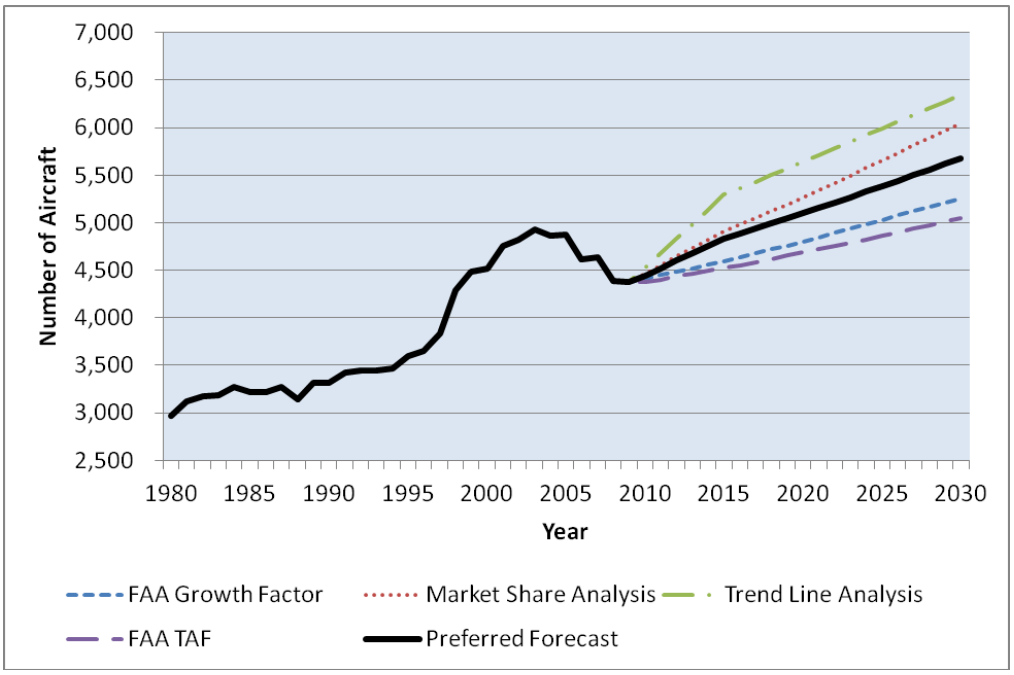
C.6.4 Preferred Forecast

An average of the above-mentioned forecasts was selected as the preferred forecast. Figure C-20 illustrates the results of the various techniques used and the preferred forecast.

After the total number of GA aircraft is estimated, it is necessary to allocate them to each airport. Two primary factors were considered during the allocation process. The first one focused on local socio-economic development. The total income forecasts of the airport service area were collected from the Woods & Poole CEDDS data based on the airport catchment area. The second factor took into account of growth rate of each aircraft category based on the FAA TAF forecast for Minnesota.

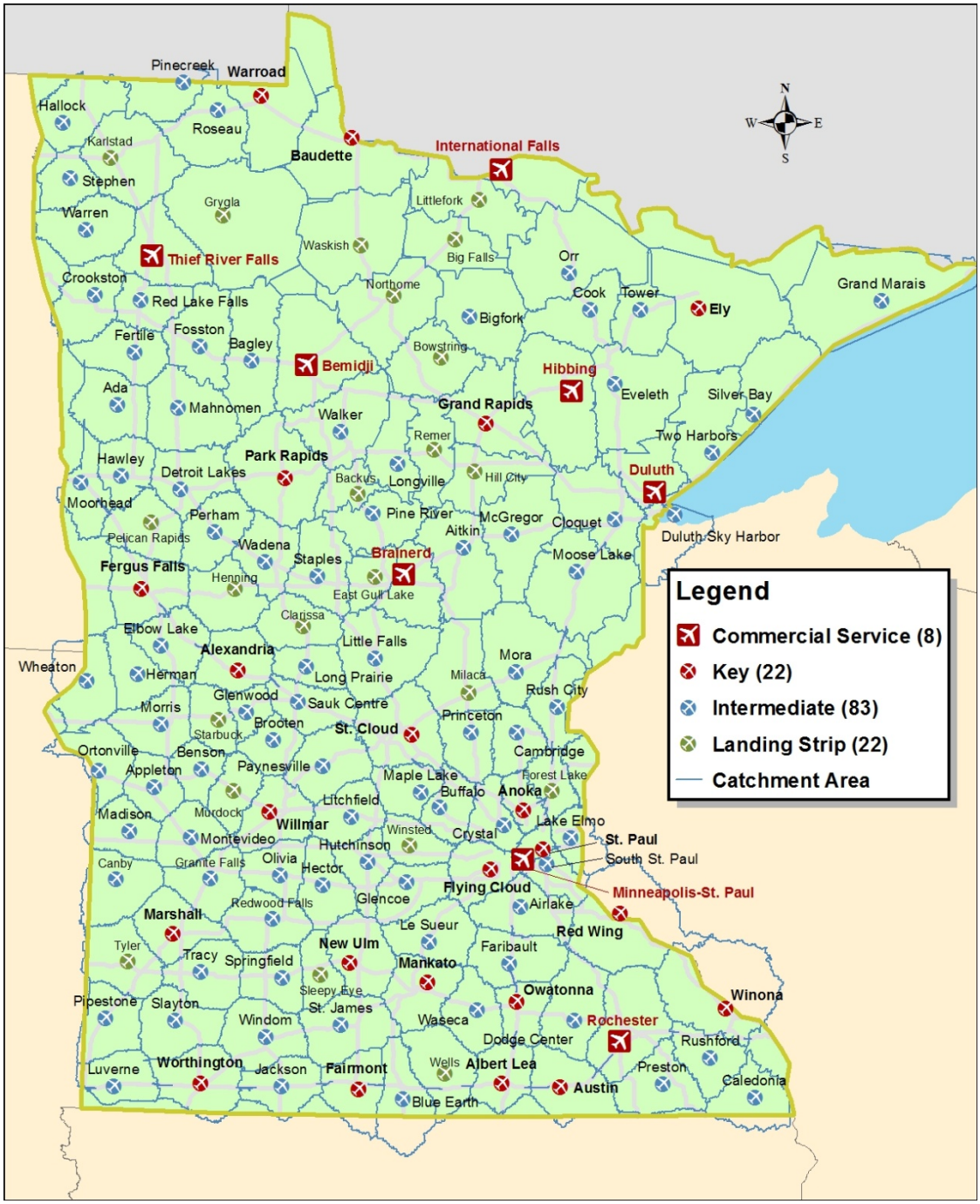
Besides the traditional aircraft categories, there are two emergent aircraft types that have implication for future infrastructure requirement. The introduction of lighter and quieter micro-jets may bring business travelers to rural airports currently not equipped to accommodate jet traffic. On the leisure side, the fleet of recreational aircraft has enjoyed rapid expansion recently. The LSA, in particular, has drawn much attention. In the FAA Aerospace Forecast, the LSA and Turbojets represent the fastest growing categories. As TAF does not provide an individual forecast of LSA, the FAA Aerospace forecast was used where the national level LSA forecast is available. It is assumed that LSA activity in the state will follow the national pace.

Figure C-20: General Aviation Aircraft Fleet Forecast



Sources: FAA TAF, FAA Aerospace Forecast, FAA GAATA, FAA Airport Master Records, MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

Figure C-21: General Aviation Airport Catchment Area



Sources: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

One micro-jet, an Eclipse E500, was identified from the Minnesota registered aircraft database. The database also showed 88 LSA based in Minnesota according to the FAA LSA aircraft list[xxii]. An effort was made to separate LSA aircraft from other aircraft in the inventory list. The number of LSA based in the state and the current fast growth warrant an individual forecast in addition to traditional aircraft categories.

The allocation procedure is similar to the passenger origin and destination assignment. The baseline based aircraft were assumed to grow at the same pace as the catchment area (see Figure C-21) total income growth. During this step, an additional growth factor derived from the FAA TAF forecast was employed to account for relative growth of each aircraft category. Then the total was compared with the forecast total to develop a global adjustment factor. This factor was applied to match the forecast total.

The GA fleet at MAC airports was adopted from the MAC LTCP plans. The LTCP forecasts were adjusted by applying the ratio of actual based aircraft from the inventory to projected 2010 based aircraft from the LTCP forecasts to the LTCP forecast numbers. Due to facility constraints, based aircraft at MSP are assumed to be capped at 30 in the future.

C.6.5 General Aviation Operations Forecast

The number of operations per aircraft type was derived from the GAATA number of landings by aircraft type divided by number of aircraft. This rate was applied to inventory based aircraft to estimate operations by each category. The total at each airport was compared with reported operations at the base year to calculate an adjustment factor for each airport. These factors were applied to the horizon years 2015, 2020 and 2030. The numbers were also adjusted by utilization rate for each aircraft category, which comes from the number of hours flown from the FAA Aerospace forecast.

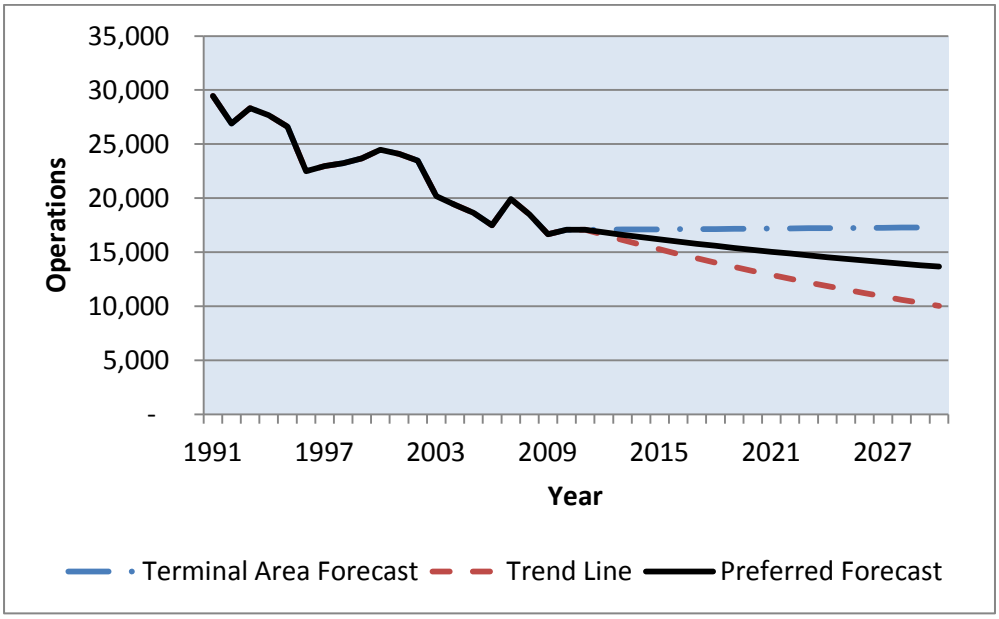
GA operations were also estimated based on trip type and purpose. Trip type includes local and itinerant flights. Operation purpose consists of business, leisure and training. The Minnesota state DOT aviation inventory supplies such breakdowns for some system airports. These percentages were applied to calculate operation breakdowns by trip type and purpose and assumed to remain constant in the future. A general percentage distribution of operation by type and purpose was formulated from airports that submitted such information. It was used to estimate activity at airports that did not submit this information to the inventory survey. The inventory shows around 60% of GA operations to be local and 40% to be itinerant. In terms of flight purpose, about 40% of trips are business related, 40% to be leisure and 20% to be training.

Similar to the based aircraft forecast for MAC airports, the operations forecast was based on the previous LTCP forecast. The LTCP forecast growth rates were applied to the 2010 base year totals from the inventory.

C.6.6 Military Activity Forecast

Military operations in Minnesota declined from about 30,000 operations in 1991 to 19,000 in 2010. The FAA TAF forecasts near constant military operations from 2010 to 2030. An alternative forecast assumes the decreasing trend continues into the future. The average of the two forecasts was chosen as the preferred forecast for future military operations (shown in Figure C-22).

Figure C-22: Military Operations Forecast



Sources: FAA TAF & HNTB Analysis

C.7 Peak Hour Activity Level

Peak hour activity was projected for MAC airports in the previous LTCP studies. The average peak month operations were based on the tower observations. Peak hour operations were assumed to be a percentage of average day operations in the peak month. This percentage, which varies from airport to airport, was adopted in this study. It is also assumed that this percentage will stay constant for forecast years. For outstate airports, towered and non-towered facilities were processed differently. For airports with a control tower, including Rochester, Duluth and St. Cloud, hourly operations distributions provided by the FAA Distributed OPSNET[xxiii] in 2010 was gathered. The peak Month for each airport was identified for each airport. Then the day with operations closest to the peak month average was determined. By analyzing the hourly operation distribution pattern of that day, the peak hour activity level was established.

Dividing the peak hour activity level by total annual operations provided a peak-hour ratio that was assumed to stay constant in the planning period. The projections of future peak hour operations at the towered airport are the product of this ratio and annual operation forecast.

For non-towered airports, a formula was employed that uses a 240 day year to determine the average day activity level and assumes that 15 percent of the average day activity occurs in the peak hour. This ratio has been used by the Office of Aeronautics and previous systems plans.

Peak hour operations obtained from the above-mentioned methodologies are exhibited in Table C-29 beginning on page C-99.

C.8 Summary

First, Minnesota inventory survey results were processed to provide a baseline for forecasts. Forecasts from the previous MAC LTCP were adjusted to reflect the current operation level. The total operations were allocated by aircraft categories, operation types and operation purposes. There are an estimated total of 5,092 based aircraft with 1,761,944 GA and military operations.

Passenger enplanements at outstate commercial airports were projected by correlating socio-economic factors, i.e. total income, and supply side parameter, i.e. scheduled flights, with passenger flow. Since enplanements and scheduled flights are inter-dependent, an iterative process was developed to explore the correlation between demand and supply. Passenger forecasts for MSP were adopted from the Environmental Assessment (EA) study. Enplanements for Minnesota commercial airports are projected to grow at an average annual growth rate of 2.17% for the near term. In terms of midterm growth from 2010 to 2020, the average growth rate increases to 2.46%. The long term annual growth is projected to be 2.61% through 2030. From 2010 to 2015, commercial flight frequency increases at 0.12% each year. It increases to 1.04% from 2010 to 2020. The long term growth rate was estimated to be 1.36%. This growth rate trails the FAA aerospace forecast for commercial and regional passenger enplanements in both the midterm and long term. The FAA projects annual growth of commercial passenger traffic to be 3.2% in the midterm and 2.5% in the long term. The FAA projections of regional carriers' growth are similar at 3.4% in the midterm and 2.8% in the long term.

Cargo tonnage and operations were evaluated based on revenue ton-miles and haul distance trend analysis. Cargo forecasts at MSP were adopted from the EA. Cargo tonnage and operations are forecasted to increase at MSP while declining at outstate airports. In the short term, cargo tonnage is projected to grow at an annual rate of 1.85%. In the mid-term and long term, cargo tonnage growth is expected to be lower at 0.84% and 0.35% respectively. All-cargo operations are expected to decrease slightly as cargo airlines upgrade to larger freighters.

The General Aviation section includes based aircraft and operation forecasts. The LTCP forecasts for MAC airports were used with adjustments to match baseline numbers. The short term growth of based aircraft (average 1.42% annually) is higher than the long term (average 0.94% annually) growth. Meanwhile, the total number of operations fluctuates: increasing at 1.40% annual rate during the first five years, 1.25% annually from 2010 to 2020, and 1.56% from 2010 to 2030. To put it in perspective, the FAA Aerospace Forecast 2010 projects future GA fleet to add 0.6% annually in the midterm, compared with 1.15% in Minnesota, and 0.91% in the long term, similar to the projected 0.96% in Minnesota.

Lastly, peak hour operations were estimated to facilitate infrastructure planning in the subsequent section. For towered airports, radar records were used. For non-towered airports, a formula was applied to calculate peak hour operations.

A summary of the main forecast results and Average Annual Growth Rates are summarized on the following page.

Aviation Activity Forecast Summary

Year	Passenger		Cargo		General Aviation and Military	
	Enplanements	Departures	Tonnage	All-Cargo Operations	Based Aircraft	Operations
2010	16,612,035	211,243	236,737	14,778	5,092	1,761,944
2015	18,498,403	212,532	259,401	14,555	5,465	1,888,731
2020	21,180,802	234,271	257,343	14,422	5,698	1,995,493
2030	27,786,958	276,848	253,725	14,306	6,135	2,403,658

Average Annual Growth Rate Summary

Average Annual Growth Rate	Passenger		Cargo		General Aviation and Military	
	Enplanements	Departures	Tonnage	All-Cargo Operations	Based Aircraft	Operations
(2010 – 2015)	2.17%	0.12%	1.85%	-0.30%	1.42%	1.40%
(2010 – 2020)	2.46%	1.04%	0.84%	-0.24%	1.13%	1.25%
(2010 – 2030)	2.61%	1.36%	0.35%	-0.16%	0.94%	1.56%

C.9 Supporting Figures and Tables

Table C-1: Number of Based Aircraft (2010)

Baseline Based Aircraft (2010)								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Crystal Airport	MIC	195	1	13	1	1	-	7
Airlake Airport	LVN	133	-	10	1	2	-	1
Lake Elmo Airport	21D	205	-	11	-	9	-	5
St. Paul Downtown Airport - Holman Field	STP	23	52	8	9	1	-	6
Anoka County/Blaine Airport - Janes Field	ANE	346	15	48	7	6	-	11
Flying Cloud Airport	FCM	310	29	35	20	3	-	7
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	27	-	-	-	-	-
Hawley Municipal Airport	04Y	26	-	1	-	2	-	2
Henning Municipal Airport	05Y	11	-	-	-	-	-	2
Herman Municipal Airport	06Y	4	-	-	-	-	-	-
Hill City-Quadna Mountain Airport	07Y	2	-	-	-	-	-	-
Winsted Municipal Airport	10D	32	-	1	-	-	-	12
Tower Municipal Airport	12D	38	1	3	-	1	-	3
Le Sueur Municipal Airport	12Y	21	-	1	-	2	-	48
Littlefork Municipal Airport - Hanover Airport	13Y	2	-	-	-	1	-	-
Long Prairie Municipal Airport - Todd Field	14Y	15	-	1	-	1	-	-
Perham Municipal Airport	16D	11	1	-	1	-	-	1
Milaca Municipal Airport	18Y	28	-	-	-	-	-	-
Hector Municipal Airport	1D6	35	-	-	-	1	-	4
Karlstad Municipal Airport	23D	-	-	-	-	-	-	-
Murdock Municipal Airport	23Y	-	-	-	-	-	-	-
Forest Lake Airport	25D	31	-	1	-	1	-	1
Grygla Municipal Airport - Mel Wilkens Field	3G2	2	-	-	-	-	-	-
Mahnomen County Airport	3N8	19	-	-	-	-	-	-
Northome Municipal Airport	43Y	1	-	-	-	-	-	-
Pelican Rapids Municipal Airport - Lyon's Field	47Y	16	-	-	-	-	-	-
Piney-Pinecreek Border Airport	48Y	-	-	-	-	-	-	-
Remer Municipal Airport	52Y	3	-	-	-	-	-	1
Rushford Municipal Airport	55Y	8	-	-	-	2	-	-
Tyler Municipal Airport	63Y	5	-	-	-	-	-	-
Wells Municipal Airport	68Y	8	-	-	-	-	-	-

Baseline Based Aircraft (2010)								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Brooten Municipal Airport	6D1	5	-	-	-	-	-	2
Backus Municipal Airport	7Y3	7	-	1	-	-	-	-
Bagley Municipal Airport	7Y4	5	-	-	-	-	-	-
Big Falls Municipal Airport	7Y9	2	-	-	-	-	-	1
Clarissa Municipal Airport	8Y5	1	-	-	-	-	-	-
Bowstring Airport	9Y0	7	-	-	-	-	-	-
East Gull Lake Airport	9Y2	2	-	-	-	-	-	-
Waseca Municipal Airport	ACQ	23	-	-	-	-	-	-
Wadena Municipal Airport	ADC	9	-	-	-	-	-	-
Albert Lea Municipal Airport	AEL	33	2	3	-	-	-	8
Aitkin Municipal Airport - Steve Kurtz Field	AIT	35	-	2	2	1	-	-
Appleton Municipal Airport	AQP	6	-	-	4	-	-	-
Austin Municipal Airport	AUM	25	2	1	1	-	-	-
Alexandria Municipal Airport - Chandler Field	AXN	48	-	2	2	-	-	-
Benson Municipal Airport - Veterans Field	BBB	13	-	4	2	-	-	1
Baudette International Airport	BDE	13	-	1	-	1	-	-
Willmar Municipal Airport - John L. Rice Field	BDH	40	1	3	-	-	-	-
Silver Bay Municipal Airport - Wayne Johnson	BFW	4	-	-	-	-	-	2
Bemidji Regional Airport	BJI	20	-	23	12	-	-	1
Brainerd Lakes Regional Airport	BRD	65	1	6	2	3	-	8
Cambridge Municipal Airport	CBG	39	-	1	-	4	-	2
Buffalo Municipal Airport	CFE	61	-	2	-	2	-	-
Houston County Airport	CHU	13	-	1	-	-	-	-
Grand Marais-Cook County Airport	CKC	13	-	-	-	1	-	-
Crookston Municipal Airport - Kirkwood Field	CKN	47	-	-	3	-	-	-
Canby Municipal Airport - Myers Field	CNB	20	-	5	-	-	-	-
Cloquet-Carlton County Airport	COQ	41	-	-	1	1	-	-
Cook Municipal Airport	CQM	18	-	-	1	-	-	1
Norman County/Ada/Twin Valley Airport	D00	7	-	-	-	-	-	-
Fertile Municipal Airport	D14	3	-	-	-	-	-	-
Starbuck Municipal Airport	D32	3	-	-	-	-	-	-
Warren Municipal Airport	D37	6	-	-	2	-	-	-
Sauk Centre Municipal Airport	D39	12	-	1	-	-	-	2
Stephen Municipal Airport	D41	7	-	-	1	-	-	1

Baseline Based Aircraft (2010)								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Springfield Municipal Airport	D42	3	-	-	-	1	-	-
Red Lake Falls Municipal Airport	D81	6	-	-	-	-	-	-
Duluth International Airport	DLH	51	2	11	-	1	22	1
Detroit Lakes Municipal Airport - Wething Field	DTL	24	2	-	4	-	-	2
Slayton Municipal Airport	DVP	4	-	-	-	-	-	1
Lac Qui Parle County Airport - Bud Frye Field	DXX	7	-	-	-	-	-	2
Duluth Sky Harbor Airport	DYT	29	-	3	-	-	-	-
Ely Municipal Airport	ELO	20	-	2	-	1	-	-
Wheaton Municipal Airport	ETH	4	-	-	-	-	-	-
Eveleth-Virginia Municipal Airport	EVM	36	-	1	1	1	-	1
Faribault Municipal Airport	FBL	64	-	6	-	1	-	9
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	46	-	1	1	2	-	-
Preston - Fillmore County Airport	FKA	22	-	-	-	1	-	2
Bigfork Municipal Airport	FOZ	4	-	-	-	-	-	-
Fairmont Municipal Airport	FRM	28	2	2	-	-	-	-
Fosston Municipal Airport	FSE	9	-	1	-	-	-	1
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	13	2	2	-	-	-	-
Glenwood Municipal Airport	GHW	11	-	-	-	-	-	-
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	74	1	3	-	2	-	-
Glencoe Municipal Airport - Vernon Perschau Field	GYL	29	-	1	-	-	-	5
Hutchinson Municipal Airport - Butler Field	HCD	38	-	3	1	2	-	2
Hallock Municipal Airport	HCO	11	-	-	2	-	-	-
Range Regional Airport	HIB	44	-	2	-	1	-	6
McGregor - Isedor Iverson Airport	HZX	13	-	-	-	-	-	1
Falls International Airport	INL	26	-	-	-	7	-	-
Moorhead Municipal Airport	JKJ	34	-	5	-	-	-	-
Mora Municipal Airport	JMR	25	-	-	-	3	-	1
St. James Municipal Airport	JYG	11	-	-	-	1	-	-
Litchfield Municipal Airport	LJF	27	-	1	-	-	-	2
Little Falls-Morrison County Airport	LXL	28	-	1	-	-	-	-
Luverne Municipal Airport - Quentin Aanenson Field	LYV	18	-	-	-	-	-	1
Maple Lake Municipal Airport	MGG	43	-	4	-	-	-	-
Jackson Municipal Airport	MJQ	19	-	-	-	-	-	1
Mankato Regional Airport - Sohler Field	MKT	54	3	8	3	2	-	5

Baseline Based Aircraft (2010)								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Southwest Minnesota Regional-Marshall/Ryan Field	MML	19	5	3	5	-	-	1
Morris Municipal Airport - Charlie Schmidt Field	MOX	11	-	4	2	1	-	1
Montevideo-Chippewa County Airport	MVE	22	-	1	-	-	-	2
Windom Municipal Airport	MWM	15	-	1	-	-	-	-
Moose Lake-Carlton County Airport	MZH	10	-	-	-	-	-	3
Winona Municipal Airport - Max Conrad Field	ONA	32	2	5	1	1	-	2
Orr Regional Airport	ORB	8	-	-	-	-	-	-
Worthington Municipal Airport	OTG	21	-	3	-	-	-	-
Olivia Regional Airport	OVL	8	-	-	-	-	-	5
Owatonna Degner Regional Airport	OWA	48	-	2	-	-	-	2
Paynesville Municipal Airport	PEX	22	-	1	-	-	-	1
Park Rapids Municipal Airport - Konshok Field	PKD	26	-	3	-	-	-	-
Princeton Municipal Airport	PNM	44	-	2	-	1	-	-
Pipestone Municipal Airport	PQN	17	-	1	-	-	-	-
Pine River Regional Airport	PWC	38	1	2	1	-	-	2
Red Wing Regional Airport	RGK	55	5	3	1	-	-	-
Rush City Regional Airport	ROS	56	-	1	-	1	-	1
Roseau Municipal Airport - Rudy Billberg Field	ROX	16	-	-	-	-	-	2
Warroad International Memorial Airport	RRT	16	1	1	3	-	-	1
Rochester International Airport	RST	57	3	3	-	1	-	1
Redwood Falls Municipal Airport	RWF	11	-	3	-	1	-	3
Staples Municipal Airport	SAZ	17	-	1	-	-	-	2
Blue Earth Municipal Airport	SBU	26	-	-	2	1	-	-
South St. Paul Municipal Airport - Fleming Field	SGS	217	-	10	12	3	-	6
St. Cloud Regional Airport	STC	82	8	5	-	-	12	-
Tracy Municipal Airport	TKC	7	-	-	-	-	-	-
Dodge Center Municipal Airport	TOB	39	-	-	-	1	-	4
Thief River Falls Regional Airport	TVF	21	3	1	1	-	-	1
Two Harbors Municipal - Richard B. Helgeson Field	TWM	36	-	1	-	1	-	6
New Ulm Municipal Airport	ULM	20	-	4	1	-	-	-
Ortonville Municipal Airport - Martinson Field	VVV	3	-	-	-	-	-	-
Waskish Municipal Airport	VWU	1	-	-	-	-	-	-
Longville Municipal Airport	XVG	15	-	1	-	-	-	-
Walker Municipal Airport	Y49	23	-	2	-	4	-	-

Baseline Based Aircraft (2010)								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Sleepy Eye Municipal Airport	Y58	6	-	-	1	1	-	3
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	17	-	-	-	-	-	1

Table C-1 Notes

[1] SEP: Single-Engine Piston
[2] JET: Turbojet
[3] MEP: Multi-Engine Piston
[4] TP: Turboprop
[5] LSA: Light Sport Aircraft
[6] MIL: Military
[7] OTH: Other aircraft including helicopter, ultra-light and glider.
Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

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Table C-2: Baseline Number of GA Operations (2010)

Baseline GA Operations (2010)													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Crystal Airport	MIC	36,510	1,139	3,528	1,376	36	-	1,641	23,675	20,554	18,410	17,225	8,595
Airlake Airport	LVN	32,266	490	1,746	987	78	-	95	7,133	28,529	14,844	13,888	6,930
Lake Elmo Airport	21D	32,034	25	1,225	296	377	-	417	13,389	20,985	14,308	13,387	6,680
St. Paul Downtown Airport - Holman Field	STP	33,321	15,635	16,238	5,974	79	-	17,748	58,031	30,964	37,043	34,658	17,294
Anoka County/Blaine Airport - Janes Field	ANE	52,719	4,552	15,035	2,788	590	-	3,905	43,828	35,761	33,128	30,995	15,466
Flying Cloud Airport	FCM	66,720	5,868	10,214	5,002	256	-	6,184	55,126	39,118	39,228	36,702	18,314
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	27,921	-	-	-	2,145	-	26,082	-	25,821	261	-
Hawley Municipal Airport	04Y	7,527	-	305	-	434	-	334	4,644	3,956	3,580	3,349	1,671
Henning Municipal Airport	05Y	3,259	-	-	-	-	-	341	2,124	1,476	720	2,520	360
Herman Municipal Airport	06Y	2,400	-	-	-	-	-	-	1,440	960	960	1,200	240
Hill City-Quadna Mountain Airport	07Y	1,400	-	-	-	-	-	-	826	574	583	545	272
Winsted Municipal Airport	10D	8,807	-	290	-	-	-	1,904	8,030	2,970	1,100	7,700	2,200
Tower Municipal Airport	12D	6,305	260	524	-	124	-	287	6,000	1,500	375	6,975	150
Le Sueur Municipal Airport	12Y	5,880	-	295	-	420	60	7,746	5,760	8,640	2,880	8,640	2,880
Littlefork Municipal Airport - Hanover Airport	13Y	1,745	-	-	-	655	-	-	1,200	1,200	-	2,280	120
Long Prairie Municipal Airport - Todd Field	14Y	6,240	-	438	-	312	10	-	1,860	5,140	1,400	4,900	700
Perham Municipal Airport	16D	5,108	726	-	1,097	-	-	268	5,040	2,160	720	5,760	720
Milaca Municipal Airport	18Y	11,000	-	-	-	-	-	-	6,491	4,509	4,579	4,284	2,138
Hector Municipal Airport	1D6	6,990	-	-	-	150	-	460	1,086	6,514	3,163	2,960	1,477
Karlstad Municipal Airport	23D	1,000	-	-	-	-	-	-	-	1,000	-	1,000	-
Murdock Municipal Airport	23Y	1,000	-	-	-	-	-	-	-	1,000	800	100	100
Forest Lake Airport	25D	8,554	-	290	-	207	-	159	5,526	3,684	1,842	5,526	1,842
Grygla Municipal Airport - Mel Wilkens Field	3G2	1,400	-	-	-	-	-	-	826	574	583	545	272
Mahnomen County Airport	3N8	4,800	-	-	-	-	-	-	4,560	240	4,080	672	48
Northome Municipal Airport	43Y	1,200	-	-	-	-	-	-	120	1,080	120	960	120
Pelican Rapids Municipal Airport - Lyon's Field	47Y	2,800	-	-	-	-	-	-	1,400	1,400	-	2,800	-
Piney-Pinecreek Border Airport	48Y	1,800	-	-	-	-	-	-	1,062	738	612	1,188	-
Remer Municipal Airport	52Y	1,510	-	-	-	-	-	290	1,800	-	-	1,620	180
Rushford Municipal Airport	55Y	1,684	-	-	-	316	-	-	1,200	800	200	600	1,200
Tyler Municipal Airport	63Y	1,500	-	-	-	-	-	-	1,350	150	750	750	-
Wells Municipal Airport	68Y	5,200	-	-	-	-	-	-	4,160	1,040	4,160	780	260
Brooten Municipal Airport	6D1	4,876	-	-	-	-	-	1,124	4,800	1,200	3,000	2,400	600
Backus Municipal Airport	7Y3	2,260	-	340	-	-	-	-	2,574	26	26	260	2,314
Bagley Municipal Airport	7Y4	2,100	-	-	-	-	-	-	2,100	-	874	818	408

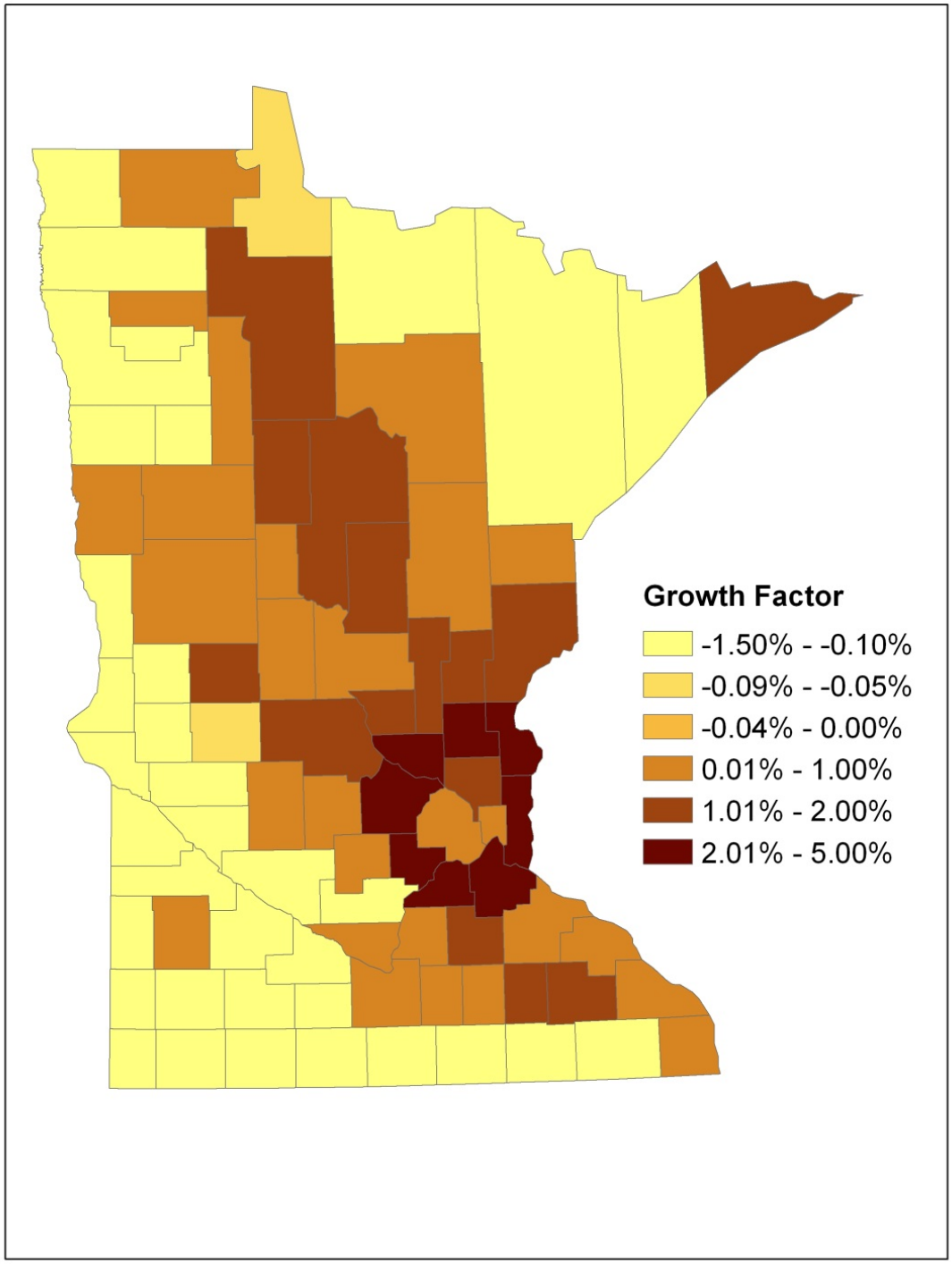
Baseline GA Operations (2010)													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Big Falls Municipal Airport	7Y9	1,242	-	-	-	-	-	358	1,200	400	400	800	400
Clarissa Municipal Airport	8Y5	1,200	-	-	-	-	-	-	648	552	499	467	233
Bowstring Airport	9Y0	1,900	-	-	-	-	-	-	950	950	380	1,330	190
East Gull Lake Airport	9Y2	1,400	-	-	-	-	-	-	826	574	-	1,400	-
Waseca Municipal Airport	ACQ	5,800	-	-	-	-	-	-	4,640	1,160	580	4,930	290
Wadena Municipal Airport	ADC	5,394	-	-	-	-	6	-	1,403	3,997	2,248	2,103	1,049
Albert Lea Municipal Airport	AEL	19,452	1,844	1,860	-	-	300	2,718	21,202	4,973	10,895	10,194	5,086
Aitkin Municipal Airport - Steve Kurtz Field	AIT	16,439	-	988	2,220	352	-	-	14,600	5,400	1,000	18,000	1,000
Appleton Municipal Airport	AQP	777	-	-	1,223	-	-	-	2,000	-	1,780	200	20
Austin Municipal Airport	AUM	20,051	2,509	844	1,895	-	120	-	21,607	3,813	10,168	2,542	12,710
Alexandria Municipal Airport - Chandler Field	AXN	22,266	-	976	2,193	-	300	-	16,225	9,510	10,712	10,022	5,001
Benson Municipal Airport - Veterans Field	BBB	2,888	-	935	1,050	-	-	128	4,500	500	4,750	250	-
Baudette International Airport	BDE	9,595	-	776	-	554	75	-	1,100	9,900	2,750	7,150	1,100
Willmar Municipal Airport - John L. Rice Field	BDH	15,921	623	1,256	-	-	50	-	5,250	12,600	7,430	6,952	3,469
Silver Bay Municipal Airport - Wayne Johnson	BFW	2,562	-	-	-	-	-	738	1,650	1,650	165	2,805	330
Bemidji Regional Airport	BJI	2,234	-	2,703	3,168	-	500	64	2,601	6,068	6,935	1,300	433
Brainerd Lakes Regional Airport	BRD	27,261	656	2,647	1,982	944	400	1,934	10,663	25,161	14,911	13,951	6,961
Cambridge Municipal Airport	CBG	15,018	-	405	-	1,155	100	444	8,177	8,945	7,127	6,668	3,327
Buffalo Municipal Airport	CFE	21,257	-	733	-	523	220	-	15,913	6,820	2,273	18,186	2,273
Houston County Airport	CHU	3,238	-	262	-	-	-	-	3,150	350	2,450	1,050	-
Grand Marais-Cook County Airport	CKC	3,025	-	-	-	175	-	-	960	2,240	640	2,240	320
Crookston Municipal Airport - Kirkwood Field	CKN	24,287	-	-	3,663	-	50	-	14,000	14,000	5,600	2,800	19,600
Canby Municipal Airport - Myers Field	CNB	5,321	-	1,399	-	-	-	-	3,360	3,360	5,040	1,344	336
Cloquet-Carlton County Airport	COQ	9,201	-	-	530	168	100	-	9,000	1,000	3,000	3,000	4,000
Cook Municipal Airport	CQM	5,115	-	-	672	-	-	164	2,975	2,975	1,785	4,165	-
Norman County/Ada/Twin Valley Airport	D00	2,400	-	-	-	-	-	-	2,160	240	240	1,920	240
Fertile Municipal Airport	D14	9,600	-	-	-	-	-	-	9,600	-	-	9,600	-
Starbuck Municipal Airport	D32	1,600	-	-	-	-	-	-	944	656	666	623	311
Warren Municipal Airport	D37	1,342	-	-	1,058	-	-	-	1,416	984	999	935	466
Sauk Centre Municipal Airport	D39	4,953	-	434	-	-	30	476	4,420	1,473	4,420	1,473	-
Stephen Municipal Airport	D41	3,718	-	-	1,255	-	-	306	5,280	-	5,280	-	-
Springfield Municipal Airport	D42	1,936	-	-	-	484	-	-	484	1,936	1,452	968	-
Red Lake Falls Municipal Airport	D81	3,040	-	-	-	-	-	-	1,824	1,216	1,216	1,216	608
Duluth International Airport	DLH	26,455	1,623	6,003	-	389	7,983	299	11,543	31,209	36,339	2,138	4,275
Detroit Lakes Municipal Airport - Wething Field	DTL	10,240	1,335	-	4,033	-	100	492	5,400	10,800	6,743	6,309	3,148

Baseline GA Operations (2010)													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Slayton Municipal Airport	DVP	2,098	-	-	-	-	-	302	1,416	984	999	935	466
Lac Qui Parle County Airport - Bud Frye Field	DXX	1,717	-	-	-	-	-	283	1,400	600	800	1,000	200
Duluth Sky Harbor Airport	DYT	12,536	-	1,364	-	-	-	-	10,981	2,919	417	13,205	278
Ely Municipal Airport	ELO	7,176	-	755	-	269	-	-	3,280	4,920	6,970	820	410
Wheaton Municipal Airport	ETH	1,800	-	-	-	-	-	-	1,800	-	1,800	-	-
Eveleth-Virginia Municipal Airport	EVM	7,069	-	207	464	147	-	113	7,600	400	7,200	640	160
Faribault Municipal Airport	FBL	15,524	-	1,531	-	182	100	1,258	13,017	5,579	930	13,017	4,649
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	8,538	-	195	439	278	100	-	3,248	6,302	3,975	3,719	1,856
Preston - Fillmore County Airport	FKA	5,983	-	-	-	204	-	313	4,550	1,950	2,275	2,600	1,625
Bigfork Municipal Airport	FOZ	2,400	-	-	-	-	-	-	480	1,920	960	1,440	-
Fairmont Municipal Airport	FRM	6,007	671	451	-	-	100	-	3,615	3,615	5,423	1,808	-
Fosston Municipal Airport	FSE	7,790	-	911	-	-	-	499	5,612	3,588	920	8,004	276
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	3,922	944	635	-	-	-	-	2,475	3,025	3,300	1,650	550
Glenwood Municipal Airport	GHW	4,900	-	-	-	-	-	-	1,715	3,185	980	2,940	980
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	18,074	382	771	-	366	60	-	9,827	9,827	11,792	3,931	3,931
Glencoe Municipal Airport - Vernon Perschau Field	GYL	9,347	-	339	-	-	-	929	4,246	6,369	1,592	7,961	1,062
Hutchinson Municipal Airport - Butler Field	HCD	9,962	-	827	620	393	45	302	6,683	5,468	5,057	4,732	2,361
Hallock Municipal Airport	HCO	3,357	-	-	1,443	-	-	-	3,120	1,680	4,752	48	-
Range Regional Airport	HIB	23,636	-	1,130	-	403	100	1,858	8,138	18,989	18,989	5,425	2,713
McGregor - Isedor Iverson Airport	HZX	3,830	-	-	-	-	-	170	2,360	1,640	1,665	1,558	777
Falls International Airport	INL	13,278	-	-	-	2,682	100	-	4,818	11,242	2,730	12,848	482
Moorhead Municipal Airport	JKJ	7,794	-	1,206	-	-	-	-	6,030	2,970	3,746	3,505	1,749
Mora Municipal Airport	JMR	8,445	-	-	-	760	-	195	2,460	6,940	3,913	3,661	1,827
St. James Municipal Airport	JYG	4,494	-	-	-	306	-	-	3,840	960	960	3,840	-
Litchfield Municipal Airport	LJF	8,321	-	324	-	-	-	355	4,500	4,500	900	6,300	1,800
Little Falls-Morrison County Airport	LXL	9,011	-	339	-	-	50	-	1,709	7,691	3,913	3,661	1,827
Luverne Municipal Airport - Quentin Aanenson Field	LYV	10,562	-	-	-	-	-	338	4,360	6,540	3,270	3,270	4,360
Maple Lake Municipal Airport	MGG	8,562	-	838	-	-	-	-	8,742	658	1,880	2,350	5,170
Jackson Municipal Airport	MJQ	5,814	-	-	-	-	10	176	1,800	4,200	6,000	-	-
Mankato Regional Airport - Sohler Field	MKT	70,093	6,092	10,924	9,203	1,947	500	3,741	69,700	32,800	20,500	30,750	51,250
Southwest Minnesota Regional-Marshall/Ryan Field	MML	10,201	4,199	1,694	6,344	-	100	309	8,682	14,166	17,136	3,427	2,285
Morris Municipal Airport - Charlie Schmidt Field	MOX	3,053	-	1,168	1,312	208	6	160	4,725	1,181	5,020	591	295
Montevideo-Chippewa County Airport	MVE	10,889	-	521	-	-	20	571	6,000	6,000	10,800	960	240
Windom Municipal Airport	MWM	7,756	-	544	-	-	-	-	4,150	4,150	4,150	3,320	830
Moose Lake-Carlton County Airport	MZH	4,178	-	-	-	-	-	722	2,205	2,695	1,960	1,470	1,470

Baseline GA Operations (2010)													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Winona Municipal Airport - Max Conrad Field	ONA	7,491	732	1,231	553	176	25	270	8,383	2,096	6,287	2,096	2,096
Orr Regional Airport	ORB	2,500	-	-	-	-	-	-	1,000	1,500	750	1,750	-
Worthington Municipal Airport	OTG	8,286	-	1,245	-	-	509	-	4,016	6,024	5,020	5,020	-
Olivia Regional Airport	OVL	2,676	-	-	-	-	-	964	2,148	1,492	1,515	1,418	707
Owatonna Degner Regional Airport	OWA	27,907	-	1,223	-	-	250	670	14,469	15,581	12,508	11,703	5,839
Paynesville Municipal Airport	PEX	4,655	-	223	-	-	-	122	3,350	1,650	500	4,000	500
Park Rapids Municipal Airport - Konshok Field	PKD	14,001	-	1,699	-	-	25	-	7,863	7,863	6,545	6,124	3,056
Princeton Municipal Airport	PNM	11,269	-	539	-	192	300	-	6,150	6,150	1,845	9,225	1,230
Pipestone Municipal Airport	PQN	7,694	-	476	-	-	30	-	4,100	4,100	8,200	-	-
Pine River Regional Airport	PWC	9,251	381	512	575	-	-	281	6,600	4,400	1,100	8,250	1,650
Red Wing Regional Airport	RGK	10,744	1,528	617	462	-	700	-	4,215	9,835	10,538	2,810	703
Rush City Regional Airport	ROS	21,155	-	397	-	283	10	218	11,032	11,032	2,206	8,826	11,032
Roseau Municipal Airport - Rudy Billberg Field	ROX	8,395	-	-	-	-	-	605	900	8,100	8,100	900	-
Warroad International Memorial Airport	RRT	5,296	518	348	2,347	-	-	191	6,090	2,610	6,960	1,305	435
Rochester International Airport	RST	27,210	2,240	1,507	-	358	233	275	18,457	13,366	25,458	4,773	1,591
Redwood Falls Municipal Airport	RWF	9,274	-	2,661	-	632	300	1,458	9,741	4,584	4,298	9,741	287
Staples Municipal Airport	SAZ	8,498	-	526	-	-	-	576	4,800	4,800	1,920	6,720	960
Blue Earth Municipal Airport	SBU	11,564	-	-	2,102	334	-	-	10,500	3,500	6,300	6,300	1,400
South St. Paul Municipal Airport - Fleming Field	SGS	51,432	-	2,493	6,721	533	-	820	40,300	21,700	23,560	34,100	4,340
St. Cloud Regional Airport	STC	28,628	4,369	1,836	-	-	2,876	-	28,283	9,428	11,313	7,542	18,855
Tracy Municipal Airport	TKC	3,040	-	-	-	-	-	-	1,824	1,216	1,216	1,520	304
Dodge Center Municipal Airport	TOB	8,161	-	-	-	157	-	482	2,200	6,600	2,640	2,640	3,520
Thief River Falls Regional Airport	TVF	20,995	4,692	1,052	2,363	-	100	576	10,124	19,653	8,933	5,955	14,889
Two Harbors Municipal - Richard B. Helgeson Field	TWM	7,678	-	224	-	160	-	738	5,280	3,520	880	6,160	1,760
New Ulm Municipal Airport	ULM	7,519	-	1,582	888	-	10	-	7,500	2,500	7,000	2,000	1,000
Ortonville Municipal Airport - Martinson Field	VVV	5,000	-	-	-	-	-	-	1,500	3,500	2,500	2,000	500
Waskish Municipal Airport	VWU	200	-	-	-	-	-	-	130	70	30	170	-
Longville Municipal Airport	XVG	6,284	-	441	-	-	-	-	2,354	4,371	336	6,389	-
Walker Municipal Airport	Y49	7,619	-	697	-	994	-	-	6,517	2,793	1,862	7,448	-
Sleepy Eye Municipal Airport	Y58	1,217	-	-	480	152	-	351	1,298	902	916	857	428
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	4,062	-	-	-	-	-	138	1,400	2,800	1,748	1,636	816

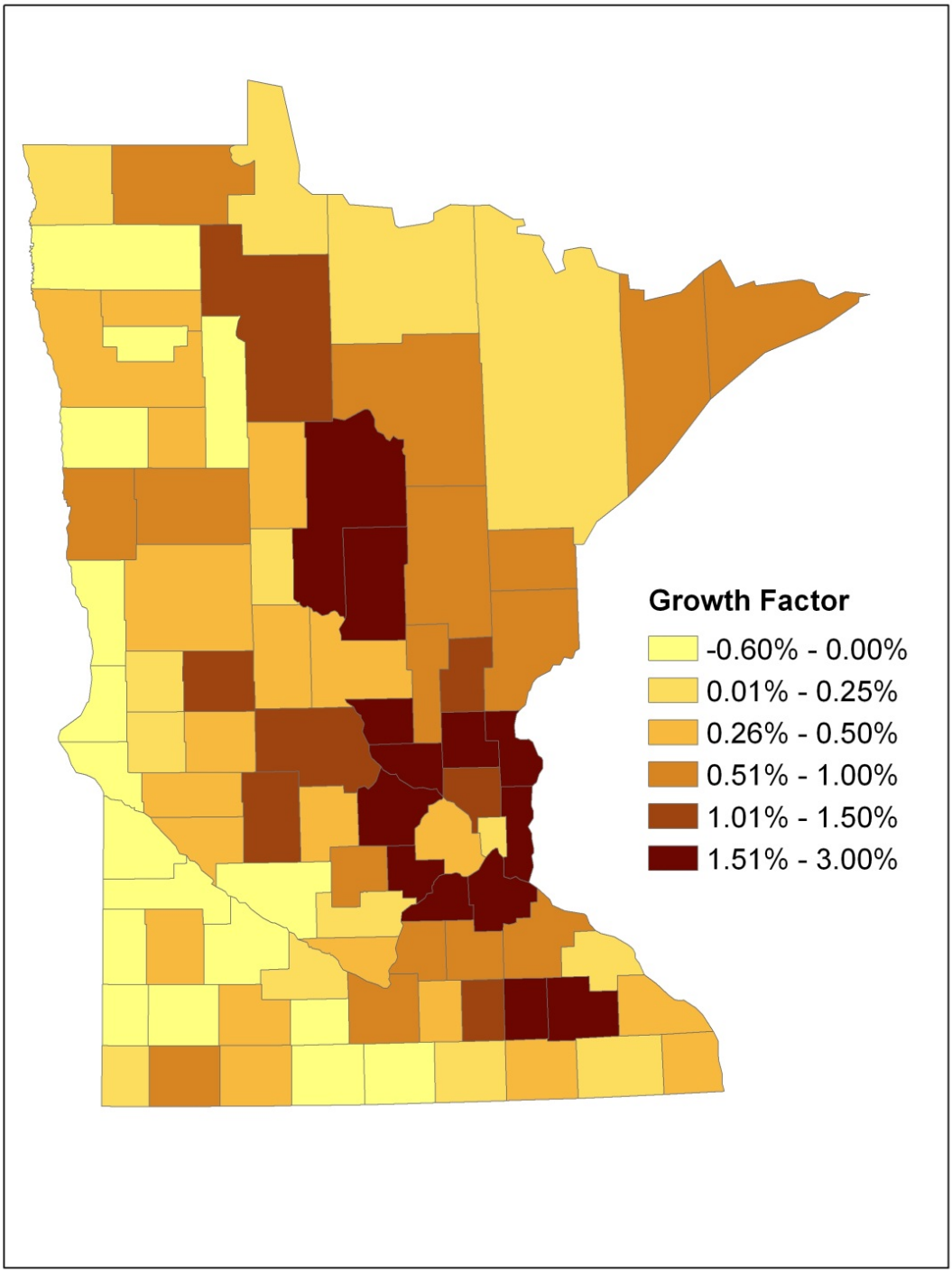
Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Figure C-23: Population Growth (Historical Figure from 1970 to 2010)



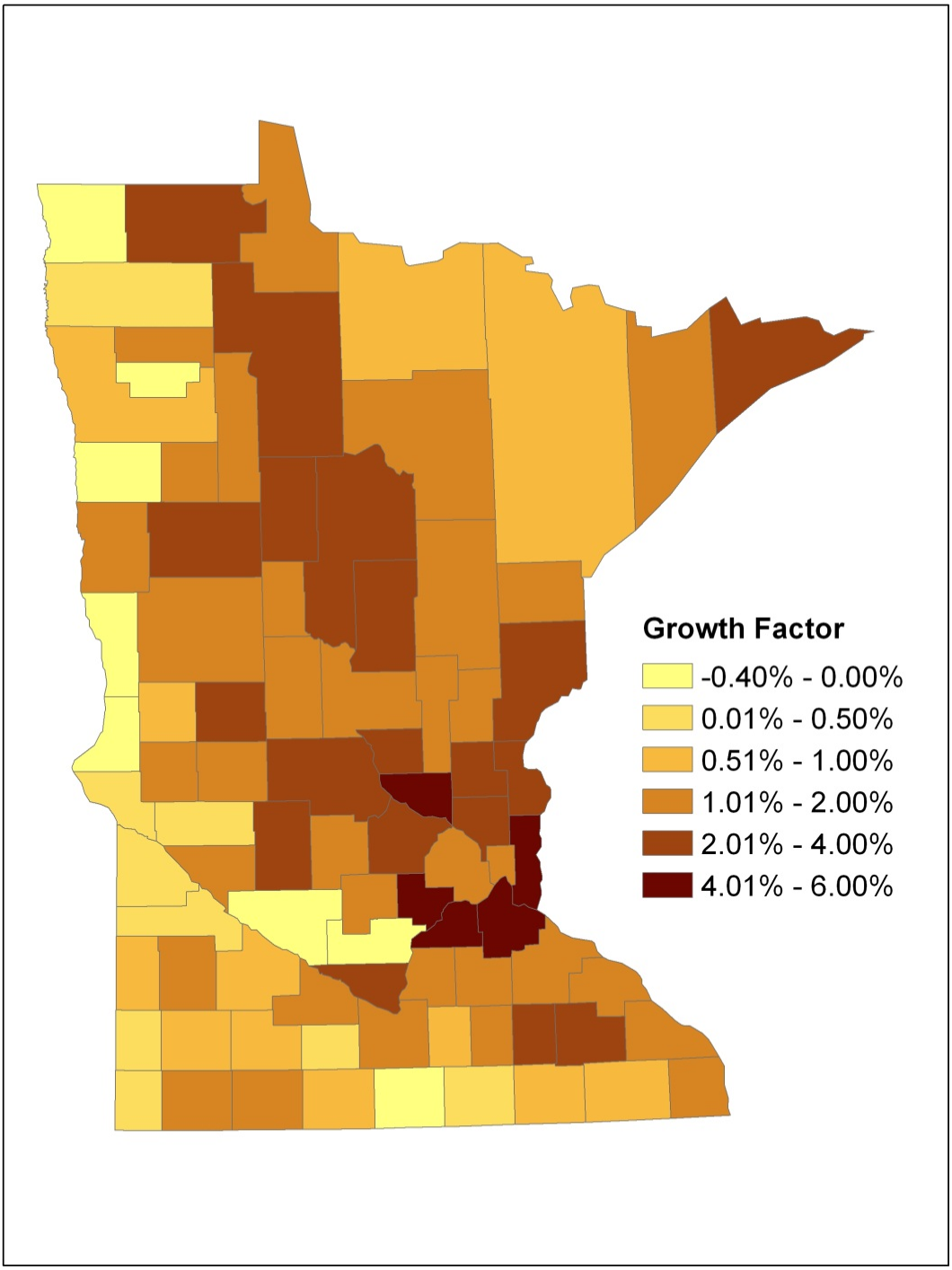
Source: BTS T100 Data & HNTB Analysis

Figure C-24: Population Growth (Forecast from 2011 to 2030)



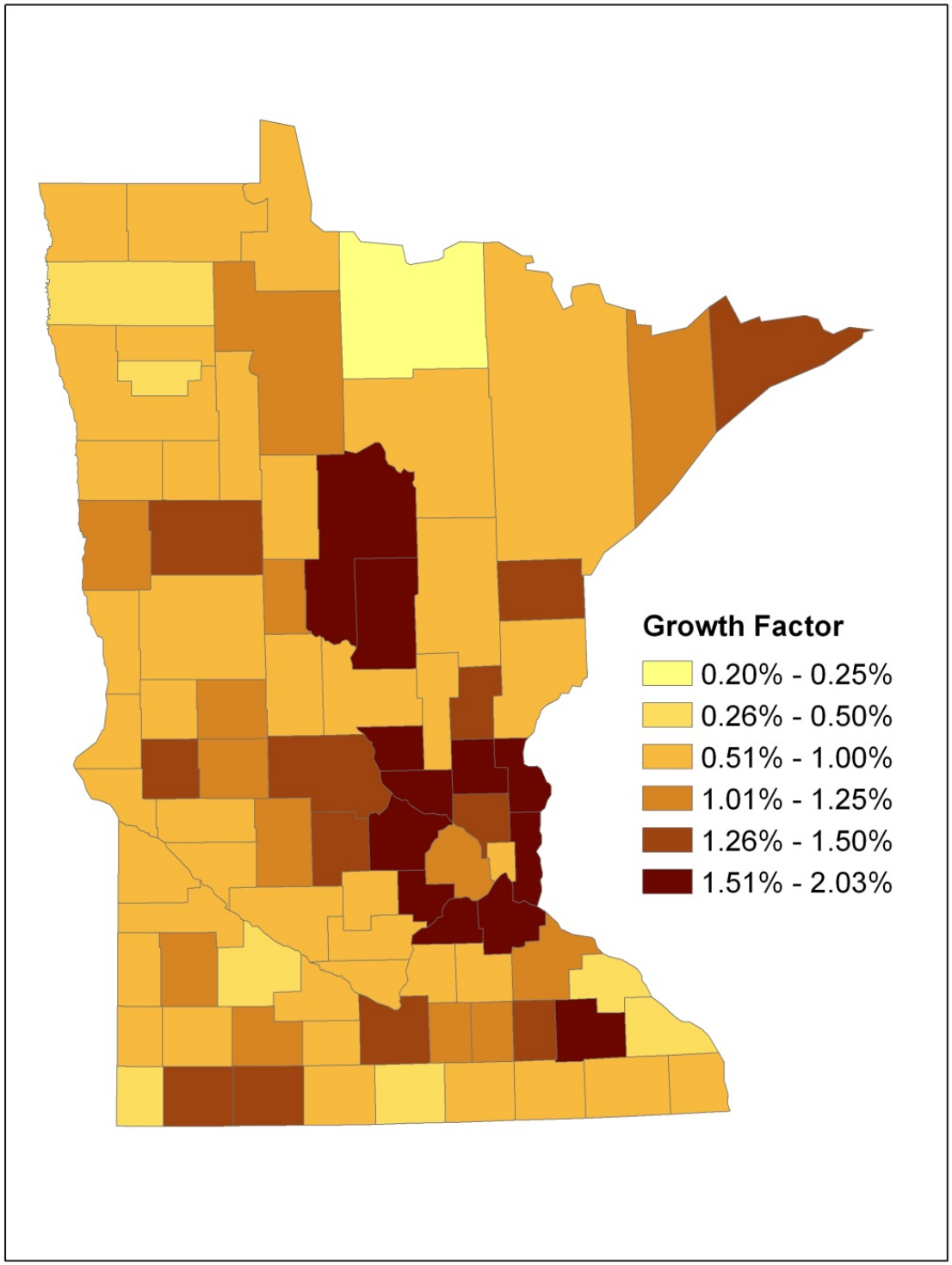
Source: BTS T100 Data & HNTB Analysis

Figure C-25: Employment Growth (Historical Figure from 1970 to 2010)



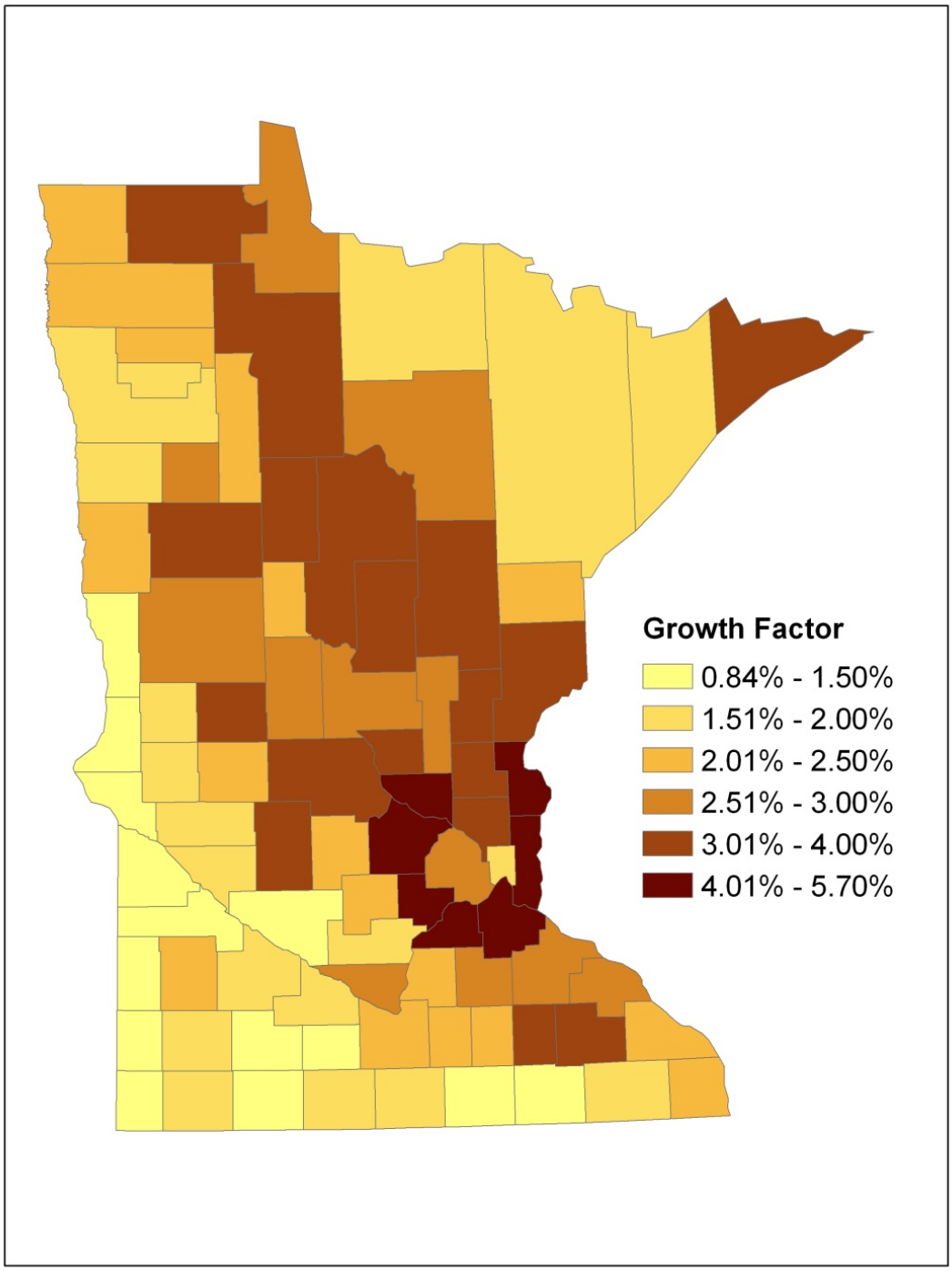
Source: BTS T100 Data & HNTB Analysis

Figure C-26: Employment Growth (Forecast from 2011 to 2030)



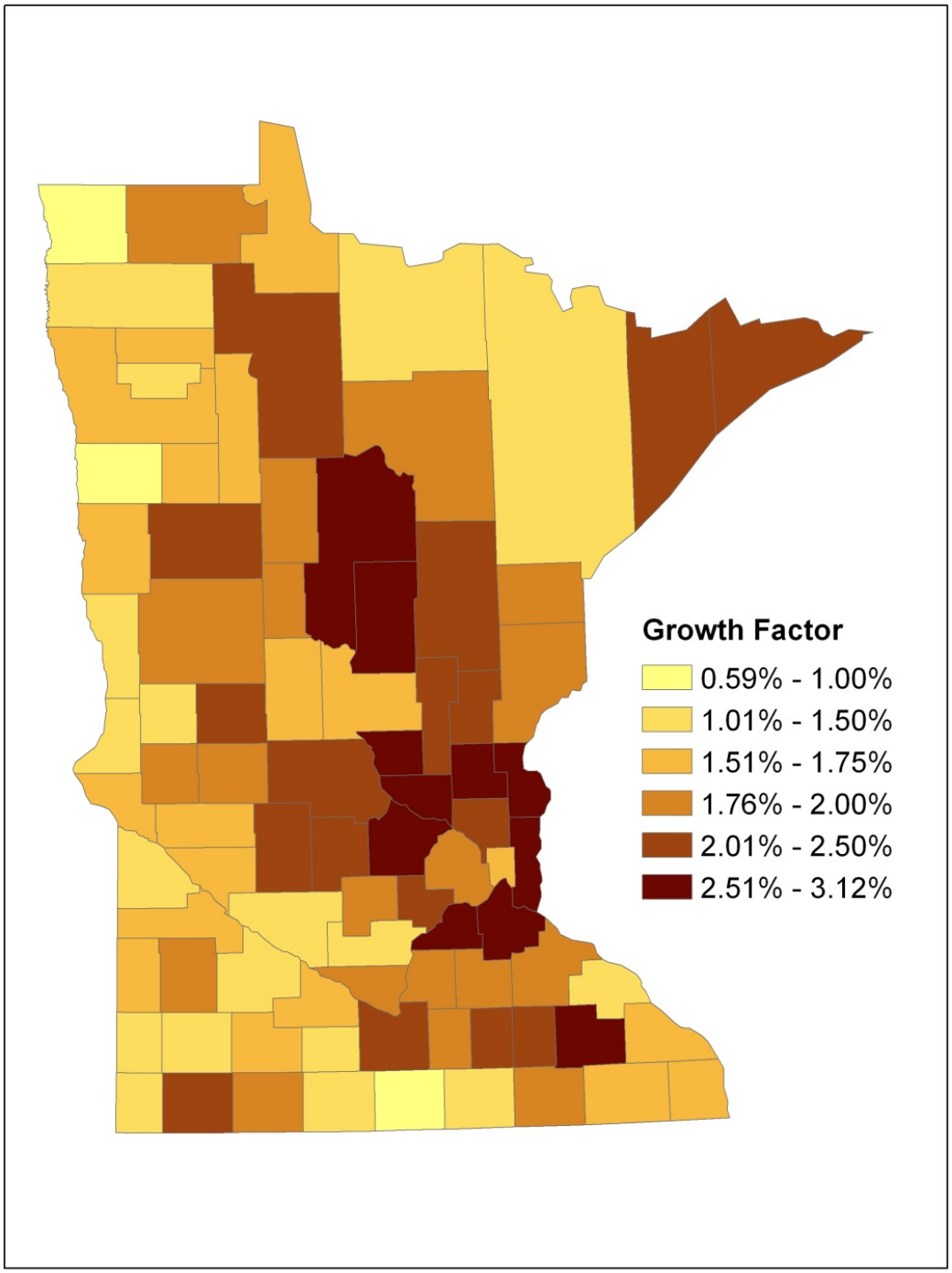
Source: BTS T100 Data & HNTB Analysis

Figure C-27: Total Income Growth (Historical Figure from 1970 to 2010)



Source: BTS T100 Data & HNTB Analysis

Figure C-28: Total Income Growth (Forecast from 2011 to 2030)



Source: BTS T100 Data & HNTB Analysis

Figure C-29: Regression Equations Used

$Log_{10}(Passenger) = -2.97 + 0.495 * Log_{10}(Schedule) + 1.6 * Log_{10}(Total\ Income) + 0.214 * BJI - 0.988 * BRD - 0.347 * HIB + 1.289 * INL - 0.272 * RST$

R-Square: 0.9868; Adjusted R-Square: 0.9738

Passenger: annual passenger enplanements

Schedule: OAG annual scheduled passenger aircraft departures

Total Income: millions of dollars in 2010 prices within airport catchment area

BJI: dummy variable, equals 1 when the airport is Bemidji Regional, 0 otherwise

BRD: dummy variable, equals 1 when the airport is Brainerd Lakes Regional, 0 otherwise

HIB: dummy variable, equals 1 when the airport is Hibbing Range Regional, 0 otherwise

INL: dummy variable, equals 1 when the airport is Falls International, 0 otherwise

RST: dummy variable, equals 1 when the airport is Rochester International, 0 otherwise

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Table C-3: Commercial Fleet Forecast for Bemidji Regional Airport

Airline	Equipment	Seats	2010 Departures	Fleet Mix				Seats / Departure			
				2010	2015	2020	2030	2010	2015	2020	2030
Bemidji Airlines	BEECH QUEEN AIR	9	51	4.0%	4.0%	4.0%	0.0%	0.4	0.4	0.4	0.0
	BEECH 99	12	117	9.2%	9.2%	9.2%	13.2%	1.1	1.1	1.1	1.6
	BEECH C99	12	86	6.8%	6.8%	6.8%	6.8%	0.8	0.8	0.8	0.8
Delta	SAAB-FAIRCHD 340/B	34	891	70.0%	0.0%	0.0%	0.0%	23.8	0.0	0.0	0.0
	CANAD RJ-200ER/RJ440	50	125	9.8%	79.8%	53.8%	59.8%	4.9	39.9	26.9	29.9
	Canadair CR-7	70		0.0%	0.0%	26.0%	20.0%		0.0	18.2	14.0
USA Jet Airlines- Inc.	DOUGLAS DC-9-15F	50	2	0.2%	0.0%	0.0%	0.0%	0.1	0.0	0.0	0.0
	MCDON MD-80,1,2,3,7,	150			0.2%	0.2%	0.2%	0.0	0.3	0.3	0.3
Total			1,272	100%	100%	100%	100%	31.1	42.5	47.7	46.6

Source: BTS T100 Data & HNTB Analysis

Table C-4: Commercial Fleet Forecast for Brainerd Lakes Regional Airport

Airline	Equipment	Seats	2010 Departures	Fleet Mix				Seats / Departure			
				2010	2015	2020	2030	2010	2015	2020	2030
Bemidji Airlines	BEECH QUEEN AIR	9	5	0.6%	0.6%	0.6%	0.6%	0.1	0.1	0.1	0.1
	BEECH 99	12	2	0.2%	0.2%	0.2%	0.2%	0.0	0.0	0.0	0.0
	BEECH C99	12	2	0.2%	0.2%	0.2%	0.2%	0.0	0.0	0.0	0.0
Delta	SAAB-FAIRCHD 340/B	34	841	94.5%	32.8%	0.0%	0.0%	32.1	11.2	0.0	0.0
	CANAD RJ-200ER/RJ440	50	28	3.1%	65.0%	97.7%	87.5%	1.6	32.5	48.9	43.8
	Canadair CR-9	76					10.0%	0.0	0.0	0.0	0.0
	EMBRAER-175	76	2	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
Sun Country Airlines	BOEING 737-800	162	10	1.1%	1.2%	1.3%	1.5%	1.8	1.9	2.1	2.4
Total			890	99.8%	100%	100%	100%	35.6	45.7	51.1	53.9

Source: BTS T100 Data & HNTB Analysis

Table C-5: Commercial Fleet Forecast for Duluth International Airport

Airline	Equipment	Seats	2010 Departures	Fleet Mix				Seats / Departure			
				2010	2015	2020	2030	2010	2015	2020	2030
Casino Express	BOEING 737-400	146	8	0.2%	0.2%	0.2%	0.2%	0.3	0.3	0.3	0.3
Delta	SAAB-FAIRCHD 340/B	34	202	5.2%				1.8	0.0	0.0	0.0
	CANADAIR RJ-100/ER	50	123	3.2%				1.6	0.0	0.0	0.0
	CANAD RJ-200ER/RJ440	50	3,114	80.4%	52.0%	52.0%	31.5%	40.2	26.0	26.0	15.8
	CANADAIR RJ 700	70			10.5%			0.0	7.4	0.0	0.0
	CANADAIR RJ 900	76	1	0.0%	10.7%	21.2%	31.5%	0.0	8.1	16.1	23.9
	EMBRAER-175	76	102	2.6%	10.5%	10.5%	10.2%	2.0	8.0	8.0	7.8
	AIRBUS A319	124	2	0.1%	10.5%		10.5%	0.1	13.0	0.0	13.0
	DOUGLAS DC-9-50	125	34	0.9%				1.1	0.0	0.0	0.0
	MCDON MD-80,1,2,3,7,	149				10.5%			0.0	15.6	0.0
	AIRB A320-100/200	148	1	0.0%				0.0	0.0	0.0	0.0
	MCDONNELL D-90	150	1	0.0%				0.0	0.0	0.0	0.0
	Boeing 737-800	160					10.5%		0.0	0.0	16.8
	BOEING 757-200	183	1	0.0%				0.0	0.0	0.0	0.0
	BOEING 757-300	224	1	0.0%				0.1	0.0	0.0	0.0
Allegiant Air	MCDON MD-80,1,2,3,7,	150	194	5.0%	5.0%	5.0%	5.0%	7.5	7.5	7.5	7.5
Other	CITATION X CE750X	8	2	0.1%	0.1%	0.1%	0.1%	0.0	0.0	0.0	0.0
	BAE HS-125	8	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	AIRBUS A-318	19	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
Sun Country Airlines	BOEING 737-800	162	21	0.5%	0.5%	0.5%	0.5%	0.9	0.8	0.8	0.8
United	EMBRAER-146	50	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	BOEING 747-400	374	1	0.0%	0.0%	0.0%	0.0%	0.1	0.0	0.0	0.0
USA Jet Airlines- Inc.	DOUGLAS DC-9-15F	50	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	MCDON MD-80,1,2,3,7,	150						0.0	0.0	0.0	0.0
	DOUGLAS DC-9-30	100	58	1.5%	0.0%	0.0%	0.0%	1.5	0.0	0.0	0.0
Southwest Airlines	BOEING 737-300	137	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
Total			3,871	100%	100%	100%	100%	57.3	71.1	74.3	85.9

Source: BTS T100 Data & HNTB Analysis

Table C-6: Commercial Fleet Forecast for Chisholm / Hibbing Municipal – Range Regional Airport

Airline	Equipment	Seats	2010 Departures	Fleet Mix				Seats / Departure			
				2010	2015	2020	2030	2010	2015	2020	2030
Delta	SAAB-FAIRCHD 340/B	34	1,568	99.1%	99.0%	78.9%		33.7	33.7	26.8	0.0
	CANAD RJ-200ER/RJ440	50				20.0%	98.7%	0.0	0.0	10.0	49.4
Sun Country Airlines	BOEING 737-800	162	14	0.9%	1.0%	1.1%	1.3%	1.4	1.6	1.8	2.1
Total			1,582	100%	100%	100%	100%	35.1	35.3	38.6	51.5

Source: BTS T100 Data & HNTB Analysis

Table C-7: Commercial Fleet Forecast for Falls International Airport

Airline	Equipment	Seats	2010 Departures	Fleet Mix				Seats / Departure			
				2010	2015	2020	2030	2010	2015	2020	2030
Delta	SAAB-FAIRCHD 340/B	34	791	97.4%	65.7%	32.7%		33.1	22.3	11.1	0.0
	CANAD RJ-200ER/RJ440	50	10	1.2%	32.8%	65.6%	98.0%	0.6	16.4	32.8	49.0
Allegiant Air	MCDON MD-80,1,2,3,7,	162	2	0.2%	0.3%	0.4%	0.6%	0.4	0.5	0.6	1.0
Other	GULFSTREAM G150	9	1	0.1%	0.1%	0.1%	0.1%	0.0	0.0	0.0	0.0
	GULFSTREAM G450	14	2	0.2%	0.2%	0.2%	0.2%	0.0	0.0	0.0	0.0
Sun Country Airlines	BOEING 737-800	162	6	0.7%	0.8%	0.9%	1.0%	1.2	1.3	1.5	1.6
Total			812	100%	100%	100%	100%	35.4	40.6	46.1	51.6

Source: BTS T100 Data & HNTB Analysis

Table C-8: Commercial Fleet Forecast for Rochester International Airport

Airline	Equipment	Seats	2010 Departures	Fleet Mix				Seats / Departure			
				2010	2015	2020	2030	2010	2015	2020	2030
American Airlines	EMBRAER-135	37	10	0.2%				0.1	0.0	0.0	0.0
	EMBRAER-140	44	877	21.0%				9.3	0.0	0.0	0.0
	EMBRAER-145	50	937	22.5%	33.0%	19.0%		11.2	16.5	9.5	0.0
	CANADAIR RJ 700	70			11.0%	22.0%	33.0%	0.0	7.7	15.4	23.1
	Boeing 737-800	160				3.0%	11.0%	0.0	0.0	4.8	17.6
Casino Express	BOEING 737-400	144	2	0.0%	0.0%	0.0%	0.0%	0.1	0.0	0.0	0.0
Delta	BOEING 757-200	182	1	0.0%				0.0	0.0	0.0	0.0
	Airbus 319	124					10.8%		0.0	0.0	13.4
	DOUGLAS DC-9-30	100	1	0.0%				0.0	0.0	0.0	0.0
	EMBRAER-175	76	2	0.0%				0.0	0.0	0.0	0.0
	CANADAIR RJ-100/ER	50	4	0.1%				0.0	0.0	0.0	0.0
	DOUGLAS DC-9-50	125	4	0.1%				0.1	0.0	0.0	0.0
	CANADAIR RJ 700	70				10.9%			0.0	7.6	0.0
	CANADAIR RJ 900	76	29	0.7%			10.8%	0.5	0.0	0.0	8.2
	SAAB-FAIRCHD 340/B	34	99	2.4%				0.8	0.0	0.0	0.0
	CANAD RJ-200ER/RJ440	50	2,151	51.6%	54.6%	43.5%	32.4%	25.8	27.3	21.8	16.2
Allegiant Air	MCDON MD-80,1,2,3,7,	150	13	0.3%	0.4%	0.5%	0.7%	0.5	0.6	0.8	1.1
Other	CESSNA 206/207/209	9	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	BOEING 777-200/ER	400	1	0.0%	0.1%	0.1%	0.1%	0.1	0.4	0.4	0.4
	CESSNA CITATION II	8	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	CITATION III 650/550	7	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	GULFSTREAM G-200	8	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	GULFSTREAM G150	9	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	GULFSTREAM G450	16	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	AIRBUS A319	124	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	DASSAULT FALCON 7X	15	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	BOEING 747SP	300	1	0.0%	0.0%	0.0%	0.0%	0.1	0.0	0.0	0.0
	GULFSTREAM G-IV	15	2	0.0%	0.2%	0.2%	0.2%	0.0	0.0	0.0	0.0
Sun Country Airlines	BOEING 737-700/LR	128	1	0.0%	0.0%	0.0%	0.0%	0.0	0.0	0.0	0.0
	BOEING 737-800	175	21	0.5%	0.6%	0.7%	0.9%	0.9	1.1	1.2	1.6
US Airways	AIRBUS A321	183	3	0.1%	0.1%	0.1%	0.1%	0.1	0.2	0.2	0.2
Total			4167	100.0%	100.0%	100.0%	100.0%	49.8	53.8	61.7	81.7

Source: BTS T100 Data & HNTB Analysis

Table C-9: Top 30 Origin Market of Bemidji Regional Airport

Inbound Passenger to Bemidji Regional Airport						
Destination	Origin	Origin Name	2010	2015	2020	2030
BJI	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	1,311	1,380	1,631	2,881
BJI	ORD	Chicago, IL: O Hare	931	990	1,175	2,085
BJI	PHX	Phoenix, AZ: Sky Harbor International	825	854	1,006	1,775
BJI	LAX	Los Angeles, CA: Los Angeles International	677	731	878	1,596
BJI	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	635	674	807	1,460
BJI	DCA	Washington, DC: Washington National	592	628	740	1,303
BJI	MCO	Orlando, FL: Orlando International	550	580	692	1,248
BJI	DEN	Denver, CO: Denver International	571	592	699	1,243
BJI	ATL	Atlanta, GA: Hartsfield-Jackson	560	586	694	1,236
BJI	DTW	Detroit, MI: Detroit Metro Wayne County	476	529	636	1,156
BJI	LAS	Las Vegas, NV: McCarran International	476	498	600	1,112
BJI	SEA	Seattle, WA: Seattle/Tacoma International	497	522	615	1,082
BJI	PHL	Philadelphia, PA: Philadelphia International	423	463	558	1,023
BJI	BOS	Boston, MA: Logan International	412	449	536	964
BJI	MDW	Chicago, IL: Chicago Midway	423	450	534	948
BJI	IAH	Houston, TX: Houston Intercontinental	423	440	520	927
BJI	PDX	Portland, OR: Portland International	423	442	521	921
BJI	EWR	Newark, NJ: Newark Liberty International	381	417	496	888
BJI	MKE	Milwaukee, WI: General Mitchell Field	338	363	434	784
BJI	SFO	San Francisco, CA: International	338	356	423	756
BJI	ABQ	Albuquerque, NM: Albuquerque International	317	338	401	717
BJI	LGA	New York, NY: La Guardia	307	336	400	715
BJI	STL	St. Louis, MO: Lambert International	307	330	395	712
BJI	ANC	Anchorage, AK: Anchorage International	307	330	388	682
BJI	BWI	Baltimore, MD: Baltimore/Washington International	296	317	376	670
BJI	SAN	San Diego, CA: San Diego International Lindbergh Field	286	300	354	626
BJI	TPA	Tampa, FL: Tampa International	254	268	319	573
BJI	IND	Indianapolis, IN: Indianapolis International	254	268	317	560
BJI	FLL	Fort Lauderdale, FL: Fort Lauderdale International	233	247	296	535
BJI	RSW	Ft. Myers, FL: Southwest Florida International Airport	222	234	283	530
Percent of Total			65.13%	64.95%	64.91%	64.85%

Source: BTS OD1A Data & HNTB Analysis

Table C-10: Top 30 Destination Market of Bemidji Regional Airport

Outbound Passenger from Bemidji Regional Airport						
Origin	Destination	Destination Name	2010	2015	2020	2030
BJI	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	1,201	1,264	1,494	2,639
BJI	ORD	Chicago, IL: O Hare	884	941	1,116	1,982
BJI	PHX	Phoenix, AZ: Sky Harbor International	863	893	1,052	1,857
BJI	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	611	650	777	1,407
BJI	LAX	Los Angeles, CA: Los Angeles International	590	637	765	1,390
BJI	DCA	Washington, DC: Washington National	600	637	750	1,322
BJI	DTW	Detroit, MI: Detroit Metro Wayne County	513	570	685	1,247
BJI	LAS	Las Vegas, NV: McCarran International	524	548	661	1,225
BJI	ATL	Atlanta, GA: Hartsfield-Jackson	546	571	676	1,204
BJI	SEA	Seattle, WA: Seattle/Tacoma International	546	573	675	1,188
BJI	MCO	Orlando, FL: Orlando International	513	541	646	1,165
BJI	IAH	Houston, TX: Houston Intercontinental	459	477	564	1,005
BJI	PHL	Philadelphia, PA: Philadelphia International	415	454	548	1,003
BJI	DEN	Denver, CO: Denver International	459	475	561	998
BJI	MDW	Chicago, IL: Chicago Midway	404	430	510	905
BJI	PDX	Portland, OR: Portland International	404	422	498	880
BJI	BOS	Boston, MA: Logan International	371	404	483	868
BJI	MKE	Milwaukee, WI: General Mitchell Field	371	398	476	860
BJI	EWR	Newark, NJ: Newark Liberty International	360	394	470	840
BJI	SFO	San Francisco, CA: International	371	390	464	829
BJI	BWI	Baltimore, MD: Baltimore/Washington International	338	362	430	766
BJI	ANC	Anchorage, AK: Anchorage International	338	364	428	752
BJI	SAN	San Diego, CA: San Diego International Lindbergh Field	338	355	420	743
BJI	STL	St. Louis, MO: Lambert International	306	329	394	709
BJI	LGA	New York, NY: La Guardia	295	323	384	688
BJI	ABQ	Albuquerque, NM: Albuquerque International	295	314	372	666
BJI	IND	Indianapolis, IN: Indianapolis International	284	300	355	627
BJI	TPA	Tampa, FL: Tampa International	262	277	329	592
BJI	SMF	Sacramento, CA: Sacramento Metropolitan	273	284	334	590
BJI	MCI	Kansas City, MO: Kansas City International	240	255	303	539
Percent of Total			64.81%	64.60%	64.53%	64.39%

Source: BTS OD1A Data & HNTB Analysis

Table C-11: Top 30 Origin Market of Brainerd Lakes Regional Airport

Inbound Passenger to the Brainerd Lakes Regional Airport						
Destination	Origin	Origin Name	2010	2015	2020	2030
BRD	DEN	Denver, CO: Denver International	877	926	1,185	2,011
BRD	PHX	Phoenix, AZ: Sky Harbor International	790	832	1,063	1,789
BRD	ORD	Chicago, IL: O Hare	537	582	748	1,268
BRD	RSW	Ft. Myers, FL: Southwest Florida International Airport	504	541	710	1,267
BRD	DCA	Washington, DC: Washington National	537	580	741	1,245
BRD	LAX	Los Angeles, CA: Los Angeles International	493	543	707	1,225
BRD	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	493	534	692	1,195
BRD	ATL	Atlanta, GA: Hartsfield-Jackson	493	526	675	1,145
BRD	MDW	Chicago, IL: Chicago Midway	450	487	626	1,061
BRD	MCO	Orlando, FL: Orlando International	428	459	594	1,022
BRD	SFO	San Francisco, CA: International	373	399	515	877
BRD	EWR	Newark, NJ: Newark Liberty International	351	391	505	862
BRD	TPA	Tampa, FL: Tampa International	329	354	457	783
BRD	SEA	Seattle, WA: Seattle/Tacoma International	329	352	449	754
BRD	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	318	341	437	736
BRD	LAS	Las Vegas, NV: McCarran International	296	315	412	729
BRD	BOS	Boston, MA: Logan International	263	291	378	648
BRD	DTW	Detroit, MI: Detroit Metro Wayne County	252	285	372	645
BRD	MCI	Kansas City, MO: Kansas City International	263	284	366	622
BRD	IND	Indianapolis, IN: Indianapolis International	263	283	363	612
BRD	LGA	New York, NY: La Guardia	241	269	347	592
BRD	PDX	Portland, OR: Portland International	252	268	343	578
BRD	IAH	Houston, TX: Houston Intercontinental	241	256	328	557
BRD	MKE	Milwaukee, WI: General Mitchell Field	219	240	311	535
BRD	PHL	Philadelphia, PA: Philadelphia International	208	232	304	530
BRD	STL	St. Louis, MO: Lambert International	197	216	280	482
BRD	RDU	Raleigh/Durham, NC: Raleigh Durham	186	204	265	458
BRD	SAN	San Diego, CA: San Diego International Lindbergh Field	186	199	255	431
BRD	CMH	Columbus, OH: Columbus International	175	190	244	414
BRD	PIT	Pittsburgh, PA: Pittsburgh International	154	173	226	397
Percent of Total			68.68%	68.51%	68.49%	68.48%

Source: BTS OD1A Data & HNTB Analysis

Table C-12: Top 30 Destination Market of Brainerd Lakes Regional Airport

Outbound Passenger from the Brainerd Lakes Regional Airport						
Origin	Destination	Destination Name	2009	2015	2020	2030
BRD	DEN	Denver, CO: Denver International	893	942	1,215	2,046
BRD	PHX	Phoenix, AZ: Sky Harbor International	850	896	1,155	1,925
BRD	ORD	Chicago, IL: O Hare	581	629	812	1,370
BRD	RSW	Ft. Myers, FL: Southwest Florida International Airport	484	519	669	1,215
BRD	LAX	Los Angeles, CA: Los Angeles International	484	532	686	1,201
BRD	ATL	Atlanta, GA: Hartsfield-Jackson	516	550	709	1,198
BRD	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	484	524	676	1,172
BRD	DCA	Washington, DC: Washington National	462	499	644	1,072
BRD	MCO	Orlando, FL: Orlando International	398	427	551	951
BRD	LAS	Las Vegas, NV: McCarran International	366	389	502	900
BRD	MDW	Chicago, IL: Chicago Midway	366	396	511	863
BRD	SEA	Seattle, WA: Seattle/Tacoma International	355	379	489	813
BRD	SFO	San Francisco, CA: International	344	368	475	809
BRD	EWR	Newark, NJ: Newark Liberty International	312	347	448	766
BRD	TPA	Tampa, FL: Tampa International	312	335	432	742
BRD	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	301	323	416	697
BRD	DTW	Detroit, MI: Detroit Metro Wayne County	269	304	392	688
BRD	MCI	Kansas City, MO: Kansas City International	290	314	405	686
BRD	MKE	Milwaukee, WI: General Mitchell Field	280	306	394	682
BRD	PHL	Philadelphia, PA: Philadelphia International	247	276	355	630
BRD	PDX	Portland, OR: Portland International	247	263	339	567
BRD	BOS	Boston, MA: Logan International	226	250	323	556
BRD	LGA	New York, NY: La Guardia	226	252	325	555
BRD	IND	Indianapolis, IN: Indianapolis International	215	232	299	500
BRD	RDU	Raleigh/Durham, NC: Raleigh Durham	194	211	273	476
BRD	STL	St. Louis, MO: Lambert International	183	200	258	447
BRD	IAH	Houston, TX: Houston Intercontinental	183	194	250	422
BRD	SMF	Sacramento, CA: Sacramento Metropolitan	183	194	250	416
BRD	CMH	Columbus, OH: Columbus International	161	175	226	381
BRD	ANC	Anchorage, AK: Anchorage International	161	177	228	377
Percent of Total			67.84%	67.63%	67.63%	67.55%

Source: BTS OD1A Data & HNTB Analysis

Table C-13: Top 30 Origin Market of Duluth International Airport

Inbound Passenger to Duluth International Airport						
Destination	Origin	Origin Name	2010	2015	2020	2030
DLH	LAS	Las Vegas, NV: McCarran International	21,223	20,927	25,117	35,472
DLH	PHX	Phoenix, AZ: Sky Harbor International	5,571	5,437	6,376	8,575
DLH	DTW	Detroit, MI: Detroit Metro Wayne County	4,521	4,734	5,666	7,855
DLH	MCO	Orlando, FL: Orlando International	4,285	4,257	5,058	6,953
DLH	ORD	Chicago, IL: O Hare	4,119	4,132	4,878	6,601
DLH	DEN	Denver, CO: Denver International	4,060	3,968	4,661	6,320
DLH	DCA	Washington, DC: Washington National	3,270	3,269	3,831	5,146
DLH	RSW	Ft. Myers, FL: Southwest Florida International Airport	2,644	2,624	3,165	4,509
DLH	SEA	Seattle, WA: Seattle/Tacoma International	2,750	2,721	3,191	4,280
DLH	LAX	Los Angeles, CA: Los Angeles International	2,491	2,536	3,032	4,199
DLH	BOS	Boston, MA: Logan International	2,455	2,518	2,996	4,105
DLH	ATL	Atlanta, GA: Hartsfield-Jackson	2,384	2,351	2,772	3,759
DLH	TPA	Tampa, FL: Tampa International	2,325	2,314	2,743	3,757
DLH	IAH	Houston, TX: Houston Intercontinental	2,384	2,340	2,752	3,737
DLH	MDW	Chicago, IL: Chicago Midway	2,325	2,333	2,754	3,726
DLH	SFO	San Francisco, CA: International	2,302	2,280	2,702	3,676
DLH	LGA	New York, NY: La Guardia	2,172	2,240	2,657	3,622
DLH	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	2,125	2,129	2,534	3,495
DLH	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	2,113	2,096	2,465	3,320
DLH	EWR	Newark, NJ: Newark Liberty International	1,747	1,802	2,137	2,913
DLH	PHL	Philadelphia, PA: Philadelphia International	1,582	1,631	1,959	2,734
DLH	SFB	Sanford, FL: Sanford International	1,676	1,665	1,979	2,720
DLH	PDX	Portland, OR: Portland International	1,653	1,627	1,911	2,572
DLH	SAN	San Diego, CA: San Diego International Lindbergh Field	1,617	1,600	1,881	2,536
DLH	CLE	Cleveland, OH: Hopkins International	1,475	1,520	1,819	2,525
DLH	BWI	Baltimore, MD: Baltimore/Washington International	1,475	1,488	1,759	2,387
DLH	JFK	New York, NY: Kennedy International	1,381	1,424	1,690	2,303
DLH	STL	St. Louis, MO: Lambert International	1,369	1,389	1,654	2,271
DLH	PIT	Pittsburgh, PA: Pittsburgh International	1,251	1,304	1,567	2,195
DLH	IFP	Bullhead City, AZ: Laughlin Bullhead International	1,239	1,247	1,497	2,129
Percent of Total			66.84%	66.65%	66.71%	66.87%

Source: BTS OD1A Data & HNTB Analysis

Table C-14: Top 30 Destination Market of Duluth International Airport

Outbound Passenger from Duluth International Airport						
Origin	Destination	Destination Name	2010	2015	2020	2030
DLH	LAS	Las Vegas, NV: McCarran International	21,877	21,581	25,901	36,571
DLH	PHX	Phoenix, AZ: Sky Harbor International	5,695	5,560	6,520	8,767
DLH	MCO	Orlando, FL: Orlando International	4,419	4,392	5,218	7,171
DLH	DEN	Denver, CO: Denver International	4,178	4,084	4,798	6,504
DLH	DTW	Detroit, MI: Detroit Metro Wayne County	3,660	3,835	4,589	6,361
DLH	ORD	Chicago, IL: O Hare	3,817	3,830	4,521	6,116
DLH	DCA	Washington, DC: Washington National	3,359	3,360	3,937	5,288
DLH	SEA	Seattle, WA: Seattle/Tacoma International	2,950	2,919	3,424	4,591
DLH	LAX	Los Angeles, CA: Los Angeles International	2,685	2,735	3,270	4,527
DLH	RSW	Ft. Myers, FL: Southwest Florida International Airport	2,528	2,510	3,027	4,312
DLH	BOS	Boston, MA: Logan International	2,396	2,458	2,925	4,007
DLH	TPA	Tampa, FL: Tampa International	2,336	2,325	2,757	3,774
DLH	ATL	Atlanta, GA: Hartsfield-Jackson	2,372	2,340	2,758	3,740
DLH	IAH	Houston, TX: Houston Intercontinental	2,300	2,258	2,655	3,605
DLH	SFO	San Francisco, CA: International	2,215	2,195	2,601	3,539
DLH	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	2,143	2,148	2,557	3,526
DLH	MDW	Chicago, IL: Chicago Midway	2,191	2,199	2,596	3,512
DLH	LGA	New York, NY: La Guardia	1,938	2,000	2,372	3,233
DLH	SFB	Sanford, FL: Sanford International	1,938	1,927	2,289	3,146
DLH	PDX	Portland, OR: Portland International	1,746	1,719	2,020	2,718
DLH	EWR	Newark, NJ: Newark Liberty International	1,601	1,652	1,960	2,671
DLH	PHL	Philadelphia, PA: Philadelphia International	1,541	1,590	1,909	2,665
DLH	CLE	Cleveland, OH: Hopkins International	1,481	1,526	1,827	2,535
DLH	BWI	Baltimore, MD: Baltimore/Washington International	1,541	1,555	1,838	2,493
DLH	STL	St. Louis, MO: Lambert International	1,409	1,430	1,702	2,337
DLH	JFK	New York, NY: Kennedy International	1,397	1,441	1,709	2,330
DLH	SAN	San Diego, CA: San Diego International Lindbergh Field	1,481	1,466	1,724	2,323
DLH	PIT	Pittsburgh, PA: Pittsburgh International	1,276	1,331	1,599	2,239
DLH	IFP	Bullhead City, AZ: Laughlin Bullhead International	1,252	1,261	1,513	2,151
DLH	SLC	Salt Lake City, UT: Salt Lake International	1,288	1,281	1,532	2,136
Percent of Total			66.13%	65.93%	66.00%	66.21%

Source: BTS OD1A Data & HNTB Analysis

Table C-15: Top 30 Origin Market of Range Regional Airport (Hibbing)

Inbound Passenger to Chisholm / Hibbing Municipal – Range Regional Airport						
Destination	Origin	Origin Name	2010	2015	2020	2030
HIB	PHX	Phoenix, AZ: Sky Harbor International	670	814	954	1,160
HIB	LAX	Los Angeles, CA: Los Angeles International	439	556	665	832
HIB	DEN	Denver, CO: Denver International	473	576	677	829
HIB	LAS	Las Vegas, NV: McCarran International	404	496	595	760
HIB	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	358	442	520	633
HIB	MCO	Orlando, FL: Orlando International	277	343	407	506
HIB	ORD	Chicago, IL: O Hare	242	303	357	437
HIB	ATL	Atlanta, GA: Hartsfield-Jackson	242	298	351	430
HIB	MDW	Chicago, IL: Chicago Midway	219	274	323	395
HIB	MKE	Milwaukee, WI: General Mitchell Field	208	262	312	387
HIB	SFO	San Francisco, CA: International	208	256	304	373
HIB	SAN	San Diego, CA: San Diego International Lindbergh Field	208	256	301	367
HIB	PHL	Philadelphia, PA: Philadelphia International	185	237	285	359
HIB	TPA	Tampa, FL: Tampa International	185	229	271	336
HIB	RSW	Ft. Myers, FL: Southwest Florida International Airport	173	214	258	332
HIB	BNA	Nashville, TN: Nashville Metropolitan	173	216	256	318
HIB	PDX	Portland, OR: Portland International	173	212	249	303
HIB	SEA	Seattle, WA: Seattle/Tacoma International	173	213	250	303
HIB	DCA	Washington, DC: Washington National	162	201	236	286
HIB	IAH	Houston, TX: Houston Intercontinental	162	198	232	285
HIB	LGA	New York, NY: La Guardia	150	193	229	282
HIB	SMF	Sacramento, CA: Sacramento Metropolitan	162	197	231	281
HIB	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	150	187	223	278
HIB	BOS	Boston, MA: Logan International	139	177	210	261
HIB	MCI	Kansas City, MO: Kansas City International	139	173	204	250
HIB	GEG	Spokane, WA: Spokane International	139	172	203	247
HIB	JFK	New York, NY: Kennedy International	127	163	193	238
HIB	CLE	Cleveland, OH: Hopkins International	115	148	177	222
HIB	ABQ	Albuquerque, NM: Albuquerque International	115	144	170	210
HIB	PIT	Pittsburgh, PA: Pittsburgh International	104	135	162	205
Percent of Total			65.76%	65.52%	65.51%	65.51%

Source: BTS OD1A Data & HNTB Analysis

Table C-16: Top 30 Destination Market of Range Regional Airport (Hibbing)

Outbound Passenger from Chisholm / Hibbing Municipal – Range Regional Airport						
Origin	Destination	Destination Name	2010	2015	2020	2030
HIB	PHX	Phoenix, AZ: Sky Harbor International	703	855	1,003	1,219
HIB	DEN	Denver, CO: Denver International	485	590	694	850
HIB	LAX	Los Angeles, CA: Los Angeles International	424	538	644	806
HIB	LAS	Las Vegas, NV: McCarran International	400	492	590	753
HIB	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	291	360	423	515
HIB	MCO	Orlando, FL: Orlando International	255	315	375	465
HIB	ATL	Atlanta, GA: Hartsfield-Jackson	243	298	351	431
HIB	ORD	Chicago, IL: O Hare	230	288	340	416
HIB	SFO	San Francisco, CA: International	218	269	319	393
HIB	IAH	Houston, TX: Houston Intercontinental	218	267	314	385
HIB	PDX	Portland, OR: Portland International	218	268	315	383
HIB	RSW	Ft. Myers, FL: Southwest Florida International Airport	194	240	289	373
HIB	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	194	242	288	359
HIB	PHL	Philadelphia, PA: Philadelphia International	182	234	281	354
HIB	SEA	Seattle, WA: Seattle/Tacoma International	194	239	281	340
HIB	MKE	Milwaukee, WI: General Mitchell Field	182	229	273	339
HIB	TPA	Tampa, FL: Tampa International	182	225	267	331
HIB	SAN	San Diego, CA: San Diego International Lindbergh Field	170	209	246	300
HIB	BOS	Boston, MA: Logan International	158	201	240	297
HIB	BNA	Nashville, TN: Nashville Metropolitan	158	197	234	289
HIB	MDW	Chicago, IL: Chicago Midway	158	197	233	284
HIB	SMF	Sacramento, CA: Sacramento Metropolitan	158	192	226	274
HIB	ABQ	Albuquerque, NM: Albuquerque International	146	182	215	265
HIB	GEG	Spokane, WA: Spokane International	146	181	213	259
HIB	CLE	Cleveland, OH: Hopkins International	133	171	205	257
HIB	LGA	New York, NY: La Guardia	133	171	203	251
HIB	PIT	Pittsburgh, PA: Pittsburgh International	121	157	189	240
HIB	ANC	Anchorage, AK: Anchorage International	133	168	197	239
HIB	DCA	Washington, DC: Washington National	133	166	195	236
HIB	MCI	Kansas City, MO: Kansas City International	121	151	179	219
Percent of Total			65.83%	65.60%	65.60%	65.61%

Source: BTS OD1A Data & HNTB Analysis

Table C-17: Top 30 Origin Market of Falls International Airport

Inbound Passenger to Falls International Airport						
Destination	Origin	Origin Name	2010	2015	2020	2030
INL	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	779	805	841	1,061
INL	ORD	Chicago, IL: O Hare	651	680	705	891
INL	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	523	545	571	729
INL	ATL	Atlanta, GA: Hartsfield-Jackson	503	516	544	690
INL	MCO	Orlando, FL: Orlando International	473	490	516	658
INL	PHX	Phoenix, AZ: Sky Harbor International	454	461	488	617
INL	DEN	Denver, CO: Denver International	394	401	425	541
INL	LAS	Las Vegas, NV: McCarran International	365	375	402	521
INL	IND	Indianapolis, IN: Indianapolis International	335	348	361	457
INL	IFP	Bullhead City, AZ: Laughlin Bullhead International	306	320	337	440
INL	PDX	Portland, OR: Portland International	306	313	329	416
INL	PHL	Philadelphia, PA: Philadelphia International	286	307	315	404
INL	DTW	Detroit, MI: Detroit Metro Wayne County	286	312	314	401
INL	IAH	Houston, TX: Houston Intercontinental	286	292	308	393
INL	LAX	Los Angeles, CA: Los Angeles International	256	272	281	359
INL	TPA	Tampa, FL: Tampa International	256	266	279	355
INL	STL	St. Louis, MO: Lambert International	237	250	258	329
INL	SFO	San Francisco, CA: International	237	244	257	326
INL	BNA	Nashville, TN: Nashville Metropolitan	227	236	247	315
INL	CMH	Columbus, OH: Columbus International	217	227	235	297
INL	DCA	Washington, DC: Washington National	217	226	233	295
INL	CVG	Covington, KY: Cincinnati/ Northern Kentucky International	207	219	226	288
INL	MDW	Chicago, IL: Chicago Midway	207	216	224	283
INL	SEA	Seattle, WA: Seattle/Tacoma International	207	213	223	281
INL	CLE	Cleveland, OH: Hopkins International	187	201	206	263
INL	MKE	Milwaukee, WI: General Mitchell Field	187	197	205	261
INL	LGA	New York, NY: La Guardia	187	201	204	258
INL	RSW	Ft. Myers, FL: Southwest Florida International Airport	178	183	196	256
INL	BOS	Boston, MA: Logan International	178	190	194	246
INL	CLT	Charlotte, NC: Douglas Municipal	168	176	182	233
Percent of Total			66.78%	66.58%	66.80%	66.84%

Source: BTS OD1A Data & HNTB Analysis

Table C-18: Top 30 Destination Market of Falls International Airport

Outbound Passenger from Falls International Airport						
Origin	Destination	Destination Name	2010	2015	2020	2030
INL	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	685	708	739	933
INL	ORD	Chicago, IL: O Hare	628	656	680	860
INL	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	533	556	582	744
INL	ATL	Atlanta, GA: Hartsfield-Jackson	533	547	576	731
INL	PHX	Phoenix, AZ: Sky Harbor International	523	532	563	712
INL	MCO	Orlando, FL: Orlando International	485	502	529	675
INL	DEN	Denver, CO: Denver International	390	397	420	535
INL	LAS	Las Vegas, NV: McCarran International	352	362	388	503
INL	IND	Indianapolis, IN: Indianapolis International	343	356	369	467
INL	DTW	Detroit, MI: Detroit Metro Wayne County	305	332	334	427
INL	IAH	Houston, TX: Houston Intercontinental	305	311	328	418
INL	IFP	Bullhead City, AZ: Laughlin Bullhead International	295	309	325	424
INL	MDW	Chicago, IL: Chicago Midway	276	288	299	378
INL	PDX	Portland, OR: Portland International	276	283	297	376
INL	PHL	Philadelphia, PA: Philadelphia International	266	286	293	376
INL	TPA	Tampa, FL: Tampa International	266	276	290	369
INL	DCA	Washington, DC: Washington National	238	248	256	323
INL	LAX	Los Angeles, CA: Los Angeles International	228	242	251	320
INL	STL	St. Louis, MO: Lambert International	228	241	249	317
INL	BNA	Nashville, TN: Nashville Metropolitan	228	238	249	317
INL	SFO	San Francisco, CA: International	228	236	248	314
INL	CLE	Cleveland, OH: Hopkins International	209	225	230	294
INL	CVG	Covington, KY: Cincinnati/ Northern Kentucky International	200	211	218	278
INL	CMH	Columbus, OH: Columbus International	200	209	216	274
INL	MKE	Milwaukee, WI: General Mitchell Field	190	200	208	265
INL	LGA	New York, NY: La Guardia	190	204	207	262
INL	SEA	Seattle, WA: Seattle/Tacoma International	190	196	205	258
INL	RSW	Ft. Myers, FL: Southwest Florida International Airport	171	177	190	247
INL	BOS	Boston, MA: Logan International	171	183	187	237
INL	MCI	Kansas City, MO: Kansas City International	162	169	175	222
Percent of Total			66.78%	66.58%	66.79%	66.81%

Source: BTS OD1A Data & HNTB Analysis

Table C-19: Top 30 Origin Market of Rochester International Airport

Inbound Passenger to Rochester International Airport						
Destination	Origin	Origin Name	2010	2015	2020	2030
RST	LAS	Las Vegas, NV: McCarran International	17,683	23,787	28,881	43,318
RST	ORD	Chicago, IL: O Hare	14,504	19,848	23,702	34,061
RST	LGA	New York, NY: La Guardia	4,272	6,010	7,212	10,442
RST	DTW	Detroit, MI: Detroit Metro Wayne County	3,996	5,708	6,911	10,176
RST	DCA	Washington, DC: Washington National	4,228	5,766	6,836	9,752
RST	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	3,554	4,858	5,850	8,569
RST	PHX	Phoenix, AZ: Sky Harbor International	3,135	4,174	4,951	7,071
RST	MCO	Orlando, FL: Orlando International	2,649	3,591	4,316	6,300
RST	ATL	Atlanta, GA: Hartsfield-Jackson	2,605	3,504	4,179	6,018
RST	BOS	Boston, MA: Logan International	2,417	3,382	4,071	5,924
RST	SEA	Seattle, WA: Seattle/Tacoma International	2,042	2,756	3,270	4,657
RST	DEN	Denver, CO: Denver International	1,976	2,634	3,130	4,507
RST	LAX	Los Angeles, CA: Los Angeles International	1,755	2,438	2,949	4,336
RST	SFO	San Francisco, CA: International	1,832	2,476	2,968	4,289
RST	MIA	Miami, FL: Miami International	1,722	2,354	2,835	4,153
RST	PHL	Philadelphia, PA: Philadelphia International	1,556	2,190	2,660	3,943
RST	RDU	Raleigh/Durham, NC: Raleigh Durham	1,534	2,117	2,555	3,755
RST	IAH	Houston, TX: Houston Intercontinental	1,479	1,981	2,356	3,398
RST	STL	St. Louis, MO: Lambert International	1,314	1,818	2,190	3,194
RST	JAX	Jacksonville, FL: Jacksonville International	1,303	1,775	2,133	3,109
RST	IFP	Bullhead City, AZ: Laughlin Bullhead International	1,225	1,682	2,043	3,084
RST	BNA	Nashville, TN: Nashville Metropolitan	1,269	1,733	2,083	3,032
RST	RSW	Ft. Myers, FL: Southwest Florida International Airport	1,137	1,539	1,878	2,841
RST	EWR	Newark, NJ: Newark Liberty International	1,104	1,553	1,864	2,698
RST	AUS	Austin, TX: Austin - Bergstrom International	1,170	1,559	1,850	2,692
RST	TPA	Tampa, FL: Tampa International	1,137	1,543	1,851	2,692
RST	GRR	Grand Rapids, MI: Gerald R. Ford International	1,071	1,490	1,791	2,611
RST	IND	Indianapolis, IN: Indianapolis International	1,126	1,531	1,821	2,605
RST	BWI	Baltimore, MD: Baltimore/Washington International	1,038	1,428	1,707	2,460
RST	SAN	San Diego, CA: San Diego International Lindbergh Field	1,004	1,356	1,613	2,309
Percent of Total			69.69%	69.51%	69.56%	69.71%

Source: BTS OD1A Data & HNTB Analysis

Table C-20: Top 30 Destination Market of Rochester International Airport

Outbound Passenger from Rochester International Airport						
Origin	Destination	Destination Name	2010	2015	2020	2030
RST	LAS	Las Vegas, NV: McCarran International	16,116	21,673	26,320	39,494
RST	ORD	Chicago, IL: O Hare	13,897	19,012	22,709	32,648
RST	LGA	New York, NY: La Guardia	4,351	6,120	7,345	10,639
RST	DCA	Washington, DC: Washington National	4,394	5,992	7,105	10,140
RST	DTW	Detroit, MI: Detroit Metro Wayne County	3,691	5,271	6,383	9,402
RST	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	3,593	4,910	5,914	8,666
RST	PHX	Phoenix, AZ: Sky Harbor International	3,063	4,077	4,837	6,912
RST	ATL	Atlanta, GA: Hartsfield-Jackson	2,868	3,858	4,601	6,629
RST	MCO	Orlando, FL: Orlando International	2,717	3,681	4,425	6,463
RST	BOS	Boston, MA: Logan International	2,392	3,345	4,028	5,864
RST	DEN	Denver, CO: Denver International	2,100	2,798	3,326	4,792
RST	SEA	Seattle, WA: Seattle/Tacoma International	2,046	2,760	3,275	4,667
RST	SFO	San Francisco, CA: International	1,883	2,544	3,050	4,410
RST	MIA	Miami, FL: Miami International	1,808	2,470	2,976	4,361
RST	PHL	Philadelphia, PA: Philadelphia International	1,710	2,405	2,922	4,334
RST	LAX	Los Angeles, CA: Los Angeles International	1,753	2,435	2,946	4,334
RST	RDU	Raleigh/Durham, NC: Raleigh Durham	1,472	2,030	2,451	3,604
RST	IAH	Houston, TX: Houston Intercontinental	1,548	2,072	2,465	3,557
RST	STL	St. Louis, MO: Lambert International	1,385	1,917	2,309	3,370
RST	BNA	Nashville, TN: Nashville Metropolitan	1,299	1,773	2,131	3,103
RST	IFP	Bullhead City, AZ: Laughlin Bullhead International	1,201	1,649	2,003	3,025
RST	JAX	Jacksonville, FL: Jacksonville International	1,256	1,711	2,056	2,998
RST	EWR	Newark, NJ: Newark Liberty International	1,147	1,614	1,937	2,805
RST	TPA	Tampa, FL: Tampa International	1,180	1,601	1,921	2,794
RST	AUS	Austin, TX: Austin - Bergstrom International	1,212	1,615	1,916	2,790
RST	JFK	New York, NY: Kennedy International	1,126	1,583	1,900	2,752
RST	RSW	Ft. Myers, FL: Southwest Florida International Airport	1,093	1,480	1,805	2,733
RST	IND	Indianapolis, IN: Indianapolis International	1,169	1,589	1,890	2,705
RST	GRR	Grand Rapids, MI: Gerald R. Ford International	1,072	1,491	1,792	2,614
RST	BWI	Baltimore, MD: Baltimore/Washington International	1,028	1,415	1,691	2,439
Percent of Total			68.68%	68.52%	68.57%	68.72%

Source: BTS OD1A Data & HNTB Analysis

Table C-21: Top 30 Origin Market of Thief River Falls Airport

Inbound Passenger to Thief River Falls Airport						
Destination	Origin	Origin Name	2010	2015	2020	2030
TVF	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	324	355	363	539
TVF	ORD	Chicago, IL: O Hare	124	137	141	210
TVF	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	114	127	131	199
TVF	PHX	Phoenix, AZ: Sky Harbor International	114	123	126	186
TVF	LAS	Las Vegas, NV: McCarran International	95	104	108	169
TVF	DTW	Detroit, MI: Detroit Metro Wayne County	86	99	103	158
TVF	MDW	Chicago, IL: Chicago Midway	76	85	87	129
TVF	CLE	Cleveland, OH: Hopkins International	67	76	79	121
TVF	ATL	Atlanta, GA: Hartsfield-Jackson	67	73	74	111
TVF	RSW	Ft. Myers, FL: Southwest Florida International Airport	57	63	66	103
TVF	LAX	Los Angeles, CA: Los Angeles International	57	64	67	102
TVF	BOS	Boston, MA: Logan International	57	65	67	101
TVF	MKE	Milwaukee, WI: General Mitchell Field	57	64	66	100
TVF	CLT	Charlotte, NC: Douglas Municipal	57	64	65	99
TVF	TPA	Tampa, FL: Tampa International	57	63	65	98
TVF	SEA	Seattle, WA: Seattle/Tacoma International	57	63	64	94
TVF	RDU	Raleigh/Durham, NC: Raleigh Durham	48	53	55	84
TVF	MCO	Orlando, FL: Orlando International	48	52	54	82
TVF	STL	St. Louis, MO: Lambert International	38	43	44	67
TVF	MCI	Kansas City, MO: Kansas City International	38	42	43	65
TVF	RIC	Richmond, VA: Richard Elelyn Byrd International	38	42	42	63
TVF	PIT	Pittsburgh, PA: Pittsburgh International	29	33	34	53
TVF	PHL	Philadelphia, PA: Philadelphia International	29	33	34	52
TVF	LGA	New York, NY: La Guardia	29	33	34	50
TVF	GRR	Grand Rapids, MI: Gerald R. Ford International	29	32	33	50
TVF	HNL	Honolulu, HI: Honolulu International	29	32	33	50
TVF	FLL	Fort Lauderdale, FL: Fort Lauderdale International	29	32	33	50
TVF	MIA	Miami, FL: Miami International	29	32	33	50
TVF	SJC	San Jose, CA: San Jose International	29	32	33	49
TVF	BWI	Baltimore, MD: Baltimore/Washington International	29	32	33	49
Percent of Total			73.82%	73.85%	73.91%	74.02%

Source: BTS OD1A Data & HNTB Analysis

Table C-22: Top 30 Destination Market of Thief River Falls Airport

Outbound Passenger from Thief River Falls Airport						
Origin	Destination	Destination Name	2010	2015	2020	2030
TVF	MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	303	332	340	504
TVF	DFW	Dallas/Ft. Worth, TX: Dallas/Ft Worth International	129	142	147	224
TVF	ORD	Chicago, IL: O Hare	110	122	125	187
TVF	DTW	Detroit, MI: Detroit Metro Wayne County	101	117	122	186
TVF	PHX	Phoenix, AZ: Sky Harbor International	110	119	121	180
TVF	CLE	Cleveland, OH: Hopkins International	74	84	87	133
TVF	LAS	Las Vegas, NV: McCarran International	74	80	84	130
TVF	MDW	Chicago, IL: Chicago Midway	74	81	84	125
TVF	LAX	Los Angeles, CA: Los Angeles International	64	72	75	115
TVF	MKE	Milwaukee, WI: General Mitchell Field	64	72	74	113
TVF	CLT	Charlotte, NC: Douglas Municipal	64	71	74	112
TVF	TPA	Tampa, FL: Tampa International	64	71	73	110
TVF	RSW	Ft. Myers, FL: Southwest Florida International Airport	55	60	63	100
TVF	ATL	Atlanta, GA: Hartsfield-Jackson	55	60	62	92
TVF	BOS	Boston, MA: Logan International	46	52	54	81
TVF	RDU	Raleigh/Durham, NC: Raleigh Durham	46	51	53	81
TVF	MIA	Miami, FL: Miami International	46	51	53	80
TVF	MCO	Orlando, FL: Orlando International	46	50	52	79
TVF	SEA	Seattle, WA: Seattle/Tacoma International	46	50	51	76
TVF	STL	St. Louis, MO: Lambert International	37	41	43	65
TVF	FLL	Fort Lauderdale, FL: Fort Lauderdale International	37	41	42	64
TVF	RIC	Richmond, VA: Richard Elelyn Byrd International	37	40	41	61
TVF	PDX	Portland, OR: Portland International	37	40	41	61
TVF	PHL	Philadelphia, PA: Philadelphia International	28	31	33	50
TVF	GRR	Grand Rapids, MI: Gerald R. Ford International	28	31	32	49
TVF	BWI	Baltimore, MD: Baltimore/Washington International	28	31	32	47
TVF	SFO	San Francisco, CA: International	28	30	31	47
TVF	DCA	Washington, DC: Washington National	28	30	31	46
TVF	IAD	Washington, DC: Dulles International	28	30	31	46
TVF	AUS	Austin, TX: Austin - Bergstrom International	28	30	30	46
Percent of Total			72.98%	72.86%	72.88%	72.94%

Source: BTS OD1A Data & HNTB Analysis

Table C-23: 2015 GA Fleet Forecast

2015 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Crystal Airport	MIC	214	4	14	1	1	-	9
Airlake Airport	LVN	139	-	10	1	2	-	3
Lake Elmo Airport	21D	220	-	11	-	9	-	5
St. Paul Downtown Airport - Holman Field	STP	22	65	7	9	2	-	8
Anoka County/Blaine Airport - Janes Field	ANE	342	24	47	7	8	-	11
Flying Cloud Airport	FCM	297	40	31	19	4	-	7
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	30	-	-	-	-	-
Hawley Municipal Airport	04Y	28	-	1	-	3	-	2
Henning Municipal Airport	05Y	12	-	-	-	-	-	2
Herman Municipal Airport	06Y	4	-	-	-	-	-	-
Hill City-Quadna Mountain Airport	07Y	2	-	-	-	-	-	-
Winsted Municipal Airport	10D	35	-	1	-	-	-	13
Tower Municipal Airport	12D	40	1	3	-	1	-	3
Le Sueur Municipal Airport	12Y	23	-	1	-	3	-	51
Littlefork Municipal Airport - Hanover Airport	13Y	2	-	-	-	1	-	-
Long Prairie Municipal Airport - Todd Field	14Y	16	-	1	-	1	-	-
Perham Municipal Airport	16D	12	1	-	1	-	-	1
Milaca Municipal Airport	18Y	31	-	-	-	-	-	-
Hector Municipal Airport	1D6	36	-	-	-	1	-	4
Karlstad Municipal Airport	23D	-	-	-	-	-	-	-
Murdock Municipal Airport	23Y	-	-	-	-	-	-	-
Forest Lake Airport	25D	34	-	1	-	1	-	1
Grygla Municipal Airport - Mel Wilkens Field	3G2	2	-	-	-	-	-	-
Mahnomen County Airport	3N8	21	-	-	-	-	-	-
Northome Municipal Airport	43Y	1	-	-	-	-	-	-
Pelican Rapids Municipal Airport - Lyon's Field	47Y	17	-	-	-	-	-	-
Piney-Pinecreek Border Airport	48Y	-	-	-	-	-	-	-
Remer Municipal Airport	52Y	3	-	-	-	-	-	1
Rushford Municipal Airport	55Y	9	-	-	-	3	-	-
Tyler Municipal Airport	63Y	6	-	-	-	-	-	-
Wells Municipal Airport	68Y	8	-	-	-	-	-	-
Brooten Municipal Airport	6D1	6	-	-	-	-	-	2
Backus Municipal Airport	7Y3	8	-	1	-	-	-	-

2015 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Bagley Municipal Airport	7Y4	6	-	-	-	-	-	-
Big Falls Municipal Airport	7Y9	2	-	-	-	-	-	1
Clarissa Municipal Airport	8Y5	1	-	-	-	-	-	-
Bowstring Airport	9Y0	8	-	-	-	-	-	-
East Gull Lake Airport	9Y2	2	-	-	-	-	-	-
Waseca Municipal Airport	ACQ	25	-	-	-	-	-	-
Wadena Municipal Airport	ADC	10	-	-	-	-	-	-
Albert Lea Municipal Airport	AEL	35	2	3	-	-	-	8
Aitkin Municipal Airport - Steve Kurtz Field	AIT	39	-	2	2	1	-	-
Appleton Municipal Airport	AQP	7	-	-	4	-	-	-
Austin Municipal Airport	AUM	28	2	1	1	-	-	-
Alexandria Municipal Airport - Chandler Field	AXN	52	-	2	2	-	-	-
Benson Municipal Airport - Veterans Field	BBB	14	-	4	2	-	-	1
Baudette International Airport	BDE	14	-	1	-	1	-	-
Willmar Municipal Airport - John L. Rice Field	BDH	44	1	3	-	-	-	-
Silver Bay Municipal Airport - Wayne Johnson	BFW	4	-	-	-	-	-	2
Bemidji Regional Airport	BJI	22	-	26	13	-	-	1
Brainerd Lakes Regional Airport	BRD	74	1	7	2	5	-	9
Cambridge Municipal Airport	CBG	44	-	1	-	6	-	2
Buffalo Municipal Airport	CFE	69	-	2	-	3	-	-
Houston County Airport	CHU	14	-	1	-	-	-	-
Grand Marais-Cook County Airport	CKC	15	-	-	-	2	-	-
Crookston Municipal Airport - Kirkwood Field	CKN	51	-	-	3	-	-	-
Canby Municipal Airport - Myers Field	CNB	22	-	6	-	-	-	-
Cloquet-Carlton County Airport	COQ	44	-	-	1	1	-	-
Cook Municipal Airport	CQM	19	-	-	1	-	-	1
Norman County/Ada/Twin Valley Airport	D00	7	-	-	-	-	-	-
Fertile Municipal Airport	D14	3	-	-	-	-	-	-
Starbuck Municipal Airport	D32	3	-	-	-	-	-	-
Warren Municipal Airport	D37	6	-	-	2	-	-	-
Sauk Centre Municipal Airport	D39	13	-	1	-	-	-	2
Stephen Municipal Airport	D41	7	-	-	1	-	-	1
Springfield Municipal Airport	D42	3	-	-	-	1	-	-
Red Lake Falls Municipal Airport	D81	7	-	-	-	-	-	-
Duluth International Airport	DLH	53	2	11	-	1	23	1

2015 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Detroit Lakes Municipal Airport - Wething Field	DTL	27	2	-	5	-	-	2
Slayton Municipal Airport	DVP	4	-	-	-	-	-	1
Lac Qui Parle County Airport - Bud Frye Field	DXX	8	-	-	-	-	-	2
Duluth Sky Harbor Airport	DYT	30	-	3	-	-	-	-
Ely Municipal Airport	ELO	21	-	2	-	1	-	-
Wheaton Municipal Airport	ETH	4	-	-	-	-	-	-
Eveleth-Virginia Municipal Airport	EVM	37	-	1	1	1	-	1
Faribault Municipal Airport	FBL	70	-	7	-	1	-	9
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	49	-	1	1	3	-	-
Preston - Fillmore County Airport	FKA	24	-	-	-	1	-	2
Bigfork Municipal Airport	FOZ	4	-	-	-	-	-	-
Fairmont Municipal Airport	FRM	29	2	2	-	-	-	-
Fosston Municipal Airport	FSE	10	-	1	-	-	-	1
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	14	2	2	-	-	-	-
Glenwood Municipal Airport	GHW	12	-	-	-	-	-	-
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	80	1	3	-	3	-	-
Glencoe Municipal Airport - Vernon Perschau Field	GYL	32	-	1	-	-	-	5
Hutchinson Municipal Airport - Butler Field	HCD	40	-	3	1	3	-	2
Hallock Municipal Airport	HCO	11	-	-	2	-	-	-
Range Regional Airport	HIB	46	-	2	-	1	-	6
McGregor - Isedor Iverson Airport	HZX	14	-	-	-	-	-	1
Falls International Airport	INL	27	-	-	-	10	-	-
Moorhead Municipal Airport	JKJ	36	-	5	-	-	-	-
Mora Municipal Airport	JMR	28	-	-	-	5	-	1
St. James Municipal Airport	JYG	12	-	-	-	1	-	-
Litchfield Municipal Airport	LJF	28	-	1	-	-	-	2
Little Falls-Morrison County Airport	LXL	31	-	1	-	-	-	-
Luverne Municipal Airport - Quentin Aanenson Field	LYV	19	-	-	-	-	-	1
Maple Lake Municipal Airport	MGG	49	-	5	-	-	-	-
Jackson Municipal Airport	MJQ	21	-	-	-	-	-	1
Mankato Regional Airport - Sohler Field	MKT	59	3	9	3	3	-	5
Southwest Minnesota Regional-Marshall/Ryan Field	MML	20	5	3	5	-	-	1
Morris Municipal Airport - Charlie Schmidt Field	MOX	12	-	4	2	1	-	1
Montevideo-Chippewa County Airport	MVE	23	-	1	-	-	-	2
Windom Municipal Airport	MWM	17	-	1	-	-	-	-

2015 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Moose Lake-Carlton County Airport	MZH	11	-	-	-	-	-	3
Winona Municipal Airport - Max Conrad Field	ONA	34	2	5	1	1	-	2
Orr Regional Airport	ORB	8	-	-	-	-	-	-
Worthington Municipal Airport	OTG	23	-	3	-	-	-	-
Olivia Regional Airport	OVL	8	-	-	-	-	-	5
Owatonna Degner Regional Airport	OWA	52	-	2	-	-	-	2
Paynesville Municipal Airport	PEX	24	-	1	-	-	-	1
Park Rapids Municipal Airport - Konshok Field	PKD	28	-	3	-	-	-	-
Princeton Municipal Airport	PNM	50	-	2	-	2	-	-
Pipestone Municipal Airport	PQN	18	-	1	-	-	-	-
Pine River Regional Airport	PWC	44	1	2	1	-	-	2
Red Wing Regional Airport	RGK	60	5	3	1	-	-	-
Rush City Regional Airport	ROS	63	-	1	-	2	-	1
Roseau Municipal Airport - Rudy Billberg Field	ROX	17	-	-	-	-	-	2
Warroad International Memorial Airport	RRT	17	1	1	3	-	-	1
Rochester International Airport	RST	65	3	3	-	2	-	1
Redwood Falls Municipal Airport	RWF	12	-	3	-	1	-	3
Staples Municipal Airport	SAZ	19	-	1	-	-	-	2
Blue Earth Municipal Airport	SBU	27	-	-	2	1	-	-
South St. Paul Municipal Airport - Fleming Field	SGS	241	-	11	13	4	-	6
St. Cloud Regional Airport	STC	92	9	6	-	-	14	-
Tracy Municipal Airport	TKC	7	-	-	-	-	-	-
Dodge Center Municipal Airport	TOB	44	-	-	-	2	-	4
Thief River Falls Regional Airport	TVF	23	3	1	1	-	-	1
Two Harbors Municipal - Richard B. Helgeson Field	TWM	38	-	1	-	1	-	6
New Ulm Municipal Airport	ULM	21	-	4	1	-	-	-
Ortonville Municipal Airport - Martinson Field	VVV	3	-	-	-	-	-	-
Waskish Municipal Airport	VWU	1	-	-	-	-	-	-
Longville Municipal Airport	XVG	18	-	1	-	-	-	-
Walker Municipal Airport	Y49	26	-	2	-	6	-	-
Sleepy Eye Municipal Airport	Y58	6	-	-	1	1	-	3
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	18	-	-	-	-	-	1

Source: HNTB Analysis

Table C-24: 2020 GA Fleet Forecast

2020 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Crystal Airport	MIC	212	6	15	1	1	-	10
Airlake Airport	LVN	141	-	10	1	2	-	3
Lake Elmo Airport	21D	224	-	12	-	11	-	6
St. Paul Downtown Airport - Holman Field	STP	21	77	7	9	2	-	9
Anoka County/Blaine Airport - Janes Field	ANE	323	29	42	7	9	-	12
Flying Cloud Airport	FCM	284	51	28	19	4	-	8
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	30	-	-	-	-	-
Hawley Municipal Airport	04Y	29	-	1	-	3	-	2
Henning Municipal Airport	05Y	12	-	-	-	-	-	2
Herman Municipal Airport	06Y	4	-	-	-	-	-	-
Hill City-Quadna Mountain Airport	07Y	2	-	-	-	-	-	-
Winsted Municipal Airport	10D	38	-	1	-	-	-	14
Tower Municipal Airport	12D	40	1	3	-	2	-	3
Le Sueur Municipal Airport	12Y	24	-	1	-	3	-	53
Littlefork Municipal Airport - Hanover Airport	13Y	2	-	-	-	2	-	-
Long Prairie Municipal Airport - Todd Field	14Y	16	-	1	-	2	-	-
Perham Municipal Airport	16D	12	1	-	1	-	-	1
Milaca Municipal Airport	18Y	32	-	-	-	-	-	-
Hector Municipal Airport	1D6	36	-	-	-	2	-	4
Karlstad Municipal Airport	23D	-	-	-	-	-	-	-
Murdock Municipal Airport	23Y	-	-	-	-	-	-	-
Forest Lake Airport	25D	37	-	1	-	2	-	1
Grygla Municipal Airport - Mel Wilkens Field	3G2	2	-	-	-	-	-	-
Mahnomen County Airport	3N8	22	-	-	-	-	-	-
Northome Municipal Airport	43Y	1	-	-	-	-	-	-
Pelican Rapids Municipal Airport - Lyon's Field	47Y	18	-	-	-	-	-	-
Piney-Pinecreek Border Airport	48Y	-	-	-	-	-	-	-
Remer Municipal Airport	52Y	4	-	-	-	-	-	1
Rushford Municipal Airport	55Y	9	-	-	-	3	-	-
Tyler Municipal Airport	63Y	6	-	-	-	-	-	-
Wells Municipal Airport	68Y	8	-	-	-	-	-	-
Brooten Municipal Airport	6D1	6	-	-	-	-	-	2
Backus Municipal Airport	7Y3	9	-	1	-	-	-	-

2020 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Bagley Municipal Airport	7Y4	6	-	-	-	-	-	-
Big Falls Municipal Airport	7Y9	2	-	-	-	-	-	1
Clarissa Municipal Airport	8Y5	1	-	-	-	-	-	-
Bowstring Airport	9Y0	8	-	-	-	-	-	-
East Gull Lake Airport	9Y2	3	-	-	-	-	-	-
Waseca Municipal Airport	ACQ	26	-	-	-	-	-	-
Wadena Municipal Airport	ADC	10	-	-	-	-	-	-
Albert Lea Municipal Airport	AEL	35	2	3	-	-	-	8
Aitkin Municipal Airport - Steve Kurtz Field	AIT	42	-	2	2	2	-	-
Appleton Municipal Airport	AQP	7	-	-	5	-	-	-
Austin Municipal Airport	AUM	29	2	1	1	-	-	-
Alexandria Municipal Airport - Chandler Field	AXN	55	-	2	2	-	-	-
Benson Municipal Airport - Veterans Field	BBB	15	-	5	2	-	-	1
Baudette International Airport	BDE	15	-	1	-	2	-	-
Willmar Municipal Airport - John L. Rice Field	BDH	46	1	4	-	-	-	-
Silver Bay Municipal Airport - Wayne Johnson	BFW	5	-	-	-	-	-	2
Bemidji Regional Airport	BJI	24	-	28	15	-	-	1
Brainerd Lakes Regional Airport	BRD	81	1	8	3	6	-	10
Cambridge Municipal Airport	CBG	48	-	1	-	7	-	2
Buffalo Municipal Airport	CFE	75	-	3	-	4	-	-
Houston County Airport	CHU	14	-	1	-	-	-	-
Grand Marais-Cook County Airport	CKC	16	-	-	-	2	-	-
Crookston Municipal Airport - Kirkwood Field	CKN	53	-	-	3	-	-	-
Canby Municipal Airport - Myers Field	CNB	23	-	6	-	-	-	-
Cloquet-Carlton County Airport	COQ	45	-	-	1	2	-	-
Cook Municipal Airport	CQM	19	-	-	1	-	-	1
Norman County/Ada/Twin Valley Airport	D00	7	-	-	-	-	-	-
Fertile Municipal Airport	D14	3	-	-	-	-	-	-
Starbuck Municipal Airport	D32	3	-	-	-	-	-	-
Warren Municipal Airport	D37	6	-	-	2	-	-	-
Sauk Centre Municipal Airport	D39	14	-	1	-	-	-	2
Stephen Municipal Airport	D41	7	-	-	1	-	-	1
Springfield Municipal Airport	D42	3	-	-	-	2	-	-
Red Lake Falls Municipal Airport	D81	7	-	-	-	-	-	-
Duluth International Airport	DLH	54	2	12	-	2	24	1

2020 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Detroit Lakes Municipal Airport - Wething Field	DTL	29	2	-	5	-	-	2
Slayton Municipal Airport	DVP	4	-	-	-	-	-	1
Lac Qui Parle County Airport - Bud Frye Field	DXX	8	-	-	-	-	-	2
Duluth Sky Harbor Airport	DYT	31	-	3	-	-	-	-
Ely Municipal Airport	ELO	21	-	2	-	2	-	-
Wheaton Municipal Airport	ETH	4	-	-	-	-	-	-
Eveleth-Virginia Municipal Airport	EVM	38	-	1	1	2	-	1
Faribault Municipal Airport	FBL	72	-	7	-	2	-	10
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	51	-	1	1	3	-	-
Preston - Fillmore County Airport	FKA	25	-	-	-	2	-	2
Bigfork Municipal Airport	FOZ	5	-	-	-	-	-	-
Fairmont Municipal Airport	FRM	29	2	2	-	-	-	-
Fosston Municipal Airport	FSE	10	-	1	-	-	-	1
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	15	2	2	-	-	-	-
Glenwood Municipal Airport	GHW	13	-	-	-	-	-	-
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	84	1	3	-	3	-	-
Glencoe Municipal Airport - Vernon Perschau Field	GYL	34	-	1	-	-	-	6
Hutchinson Municipal Airport - Butler Field	HCD	42	-	3	1	3	-	2
Hallock Municipal Airport	HCO	11	-	-	2	-	-	-
Range Regional Airport	HIB	47	-	2	-	2	-	6
McGregor - Isedor Iverson Airport	HZX	15	-	-	-	-	-	1
Falls International Airport	INL	28	-	-	-	11	-	-
Moorhead Municipal Airport	JKJ	37	-	6	-	-	-	-
Mora Municipal Airport	JMR	30	-	-	-	5	-	1
St. James Municipal Airport	JYG	12	-	-	-	2	-	-
Litchfield Municipal Airport	LJF	30	-	1	-	-	-	2
Little Falls-Morrison County Airport	LXL	32	-	1	-	-	-	-
Luverne Municipal Airport - Quentin Aanenson Field	LYV	19	-	-	-	-	-	1
Maple Lake Municipal Airport	MGG	54	-	5	-	-	-	-
Jackson Municipal Airport	MJQ	22	-	-	-	-	-	1
Mankato Regional Airport - Sohler Field	MKT	62	3	9	4	3	-	6
Southwest Minnesota Regional-Marshall/Ryan Field	MML	21	5	3	6	-	-	1
Morris Municipal Airport - Charlie Schmidt Field	MOX	12	-	4	2	2	-	1
Montevideo-Chippewa County Airport	MVE	24	-	1	-	-	-	2
Windom Municipal Airport	MWM	17	-	1	-	-	-	-

2020 GA and Military Fleet Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Moose Lake-Carlton County Airport	MZH	11	-	-	-	-	-	3
Winona Municipal Airport - Max Conrad Field	ONA	35	2	6	1	2	-	2
Orr Regional Airport	ORB	8	-	-	-	-	-	-
Worthington Municipal Airport	OTG	25	-	4	-	-	-	-
Olivia Regional Airport	OVL	8	-	-	-	-	-	5
Owatonna Degner Regional Airport	OWA	56	-	2	-	-	-	2
Paynesville Municipal Airport	PEX	26	-	1	-	-	-	1
Park Rapids Municipal Airport - Konshok Field	PKD	30	-	3	-	-	-	-
Princeton Municipal Airport	PNM	54	-	2	-	2	-	-
Pipestone Municipal Airport	PQN	19	-	1	-	-	-	-
Pine River Regional Airport	PWC	48	1	3	1	-	-	2
Red Wing Regional Airport	RGK	62	5	3	1	-	-	-
Rush City Regional Airport	ROS	68	-	1	-	2	-	1
Roseau Municipal Airport - Rudy Billberg Field	ROX	17	-	-	-	-	-	2
Warroad International Memorial Airport	RRT	17	1	1	3	-	-	1
Rochester International Airport	RST	71	4	4	-	2	-	1
Redwood Falls Municipal Airport	RWF	12	-	3	-	2	-	3
Staples Municipal Airport	SAZ	19	-	1	-	-	-	2
Blue Earth Municipal Airport	SBU	27	-	-	2	2	-	-
South St. Paul Municipal Airport - Fleming Field	SGS	264	-	12	15	5	-	7
St. Cloud Regional Airport	STC	99	9	6	-	-	15	-
Tracy Municipal Airport	TKC	8	-	-	-	-	-	-
Dodge Center Municipal Airport	TOB	47	-	-	-	2	-	5
Thief River Falls Regional Airport	TVF	23	3	1	1	-	-	1
Two Harbors Municipal - Richard B. Helgeson Field	TWM	40	-	1	-	2	-	6
New Ulm Municipal Airport	ULM	22	-	4	1	-	-	-
Ortonville Municipal Airport - Martinson Field	VVV	3	-	-	-	-	-	-
Waskish Municipal Airport	VWU	1	-	-	-	-	-	-
Longville Municipal Airport	XVG	19	-	1	-	-	-	-
Walker Municipal Airport	Y49	28	-	3	-	7	-	-
Sleepy Eye Municipal Airport	Y58	7	-	-	1	2	-	3
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	19	-	-	-	-	-	1

Source: HNTB Analysis

Table C-25: 2030 GA Fleet Forecast

GA Fleet and Military Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Crystal Airport	MIC	209	11	16	1	1	-	12
Airlake Airport	LVN	142	1	10	1	3	-	3
Lake Elmo Airport	21D	229	-	13	-	14	-	6
St. Paul Downtown Airport - Holman Field	STP	19	88	7	9	2	-	9
Anoka County/Blaine Airport - Janes Field	ANE	291	39	30	7	11	-	12
Flying Cloud Airport	FCM	265	66	24	19	6	-	8
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	30	-	-	-	-	-
Hawley Municipal Airport	04Y	30	-	1	-	4	-	2
Henning Municipal Airport	05Y	13	-	-	-	-	-	2
Herman Municipal Airport	06Y	4	-	-	-	-	-	-
Hill City-Quadna Mountain Airport	07Y	3	-	-	-	-	-	-
Winsted Municipal Airport	10D	44	-	1	-	-	-	15
Tower Municipal Airport	12D	41	1	3	-	2	-	3
Le Sueur Municipal Airport	12Y	27	-	1	-	5	-	58
Littlefork Municipal Airport - Hanover Airport	13Y	2	-	-	-	2	-	-
Long Prairie Municipal Airport - Todd Field	14Y	17	-	1	-	2	-	-
Perham Municipal Airport	16D	14	1	-	1	-	-	1
Milaca Municipal Airport	18Y	36	-	-	-	-	-	-
Hector Municipal Airport	1D6	37	-	-	-	2	-	4
Karlstad Municipal Airport	23D	-	-	-	-	-	-	-
Murdock Municipal Airport	23Y	-	-	-	-	-	-	-
Forest Lake Airport	25D	43	-	1	-	2	-	1
Grygla Municipal Airport - Mel Wilkens Field	3G2	2	-	-	-	-	-	-
Mahnomen County Airport	3N8	23	-	-	-	-	-	-
Northome Municipal Airport	43Y	1	-	-	-	-	-	-
Pelican Rapids Municipal Airport - Lyon's Field	47Y	19	-	-	-	-	-	-
Piney-Pinecreek Border Airport	48Y	-	-	-	-	-	-	-
Remer Municipal Airport	52Y	5	-	-	-	-	-	1
Rushford Municipal Airport	55Y	9	-	-	-	4	-	-
Tyler Municipal Airport	63Y	6	-	-	-	-	-	-
Wells Municipal Airport	68Y	8	-	-	-	-	-	-
Brooten Municipal Airport	6D1	7	-	-	-	-	-	2
Backus Municipal Airport	7Y3	11	-	2	-	-	-	-

GA Fleet and Military Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Bagley Municipal Airport	7Y4	6	-	-	-	-	-	-
Big Falls Municipal Airport	7Y9	2	-	-	-	-	-	1
Clarissa Municipal Airport	8Y5	1	-	-	-	-	-	-
Bowstring Airport	9Y0	9	-	-	-	-	-	-
East Gull Lake Airport	9Y2	3	-	-	-	-	-	-
Waseca Municipal Airport	ACQ	28	-	-	-	-	-	-
Wadena Municipal Airport	ADC	11	-	-	-	-	-	-
Albert Lea Municipal Airport	AEL	37	2	3	-	-	-	8
Aitkin Municipal Airport - Steve Kurtz Field	AIT	47	-	3	3	2	-	-
Appleton Municipal Airport	AQP	7	-	-	5	-	-	-
Austin Municipal Airport	AUM	31	2	1	1	-	-	-
Alexandria Municipal Airport - Chandler Field	AXN	64	-	3	3	-	-	-
Benson Municipal Airport - Veterans Field	BBB	16	-	5	2	-	-	1
Baudette International Airport	BDE	16	-	1	-	2	-	-
Willmar Municipal Airport - John L. Rice Field	BDH	52	1	4	-	-	-	-
Silver Bay Municipal Airport - Wayne Johnson	BFW	5	-	-	-	-	-	2
Bemidji Regional Airport	BJI	27	-	32	17	-	-	1
Brainerd Lakes Regional Airport	BRD	98	1	9	3	8	-	11
Cambridge Municipal Airport	CBG	57	-	2	-	11	-	3
Buffalo Municipal Airport	CFE	89	-	3	-	5	-	-
Houston County Airport	CHU	15	-	1	-	-	-	-
Grand Marais-Cook County Airport	CKC	18	-	-	-	2	-	-
Crookston Municipal Airport - Kirkwood Field	CKN	56	-	-	4	-	-	-
Canby Municipal Airport - Myers Field	CNB	24	-	6	-	-	-	-
Cloquet-Carlton County Airport	COQ	48	-	-	1	2	-	-
Cook Municipal Airport	CQM	20	-	-	1	-	-	1
Norman County/Ada/Twin Valley Airport	D00	7	-	-	-	-	-	-
Fertile Municipal Airport	D14	3	-	-	-	-	-	-
Starbuck Municipal Airport	D32	4	-	-	-	-	-	-
Warren Municipal Airport	D37	6	-	-	2	-	-	-
Sauk Centre Municipal Airport	D39	16	-	1	-	-	-	3
Stephen Municipal Airport	D41	7	-	-	1	-	-	1
Springfield Municipal Airport	D42	3	-	-	-	2	-	-
Red Lake Falls Municipal Airport	D81	7	-	-	-	-	-	-
Duluth International Airport	DLH	55	2	12	-	2	25	1

GA Fleet and Military Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Detroit Lakes Municipal Airport - Wething Field	DTL	32	2	-	6	-	-	2
Slayton Municipal Airport	DVP	4	-	-	-	-	-	1
Lac Qui Parle County Airport - Bud Frye Field	DXX	8	-	-	-	-	-	2
Duluth Sky Harbor Airport	DYT	32	-	3	-	-	-	-
Ely Municipal Airport	ELO	22	-	2	-	2	-	-
Wheaton Municipal Airport	ETH	4	-	-	-	-	-	-
Eveleth-Virginia Municipal Airport	EVM	39	-	1	1	2	-	1
Faribault Municipal Airport	FBL	78	-	8	-	2	-	10
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	55	-	1	1	4	-	-
Preston - Fillmore County Airport	FKA	26	-	-	-	2	-	2
Bigfork Municipal Airport	FOZ	5	-	-	-	-	-	-
Fairmont Municipal Airport	FRM	30	2	2	-	-	-	-
Fosston Municipal Airport	FSE	11	-	1	-	-	-	1
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	15	2	2	-	-	-	-
Glenwood Municipal Airport	GHW	14	-	-	-	-	-	-
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	92	1	4	-	4	-	-
Glencoe Municipal Airport - Vernon Perschau Field	GYL	38	-	1	-	-	-	6
Hutchinson Municipal Airport - Butler Field	HCD	46	-	4	1	4	-	2
Hallock Municipal Airport	HCO	11	-	-	2	-	-	-
Range Regional Airport	HIB	49	-	2	-	2	-	6
McGregor - Isedor Iverson Airport	HZX	17	-	-	-	-	-	1
Falls International Airport	INL	29	-	-	-	14	-	-
Moorhead Municipal Airport	JKJ	40	-	6	-	-	-	-
Mora Municipal Airport	JMR	34	-	-	-	7	-	1
St. James Municipal Airport	JYG	12	-	-	-	2	-	-
Litchfield Municipal Airport	LJF	33	-	1	-	-	-	2
Little Falls-Morrison County Airport	LXL	35	-	1	-	-	-	-
Luverne Municipal Airport - Quentin Aanenson Field	LYV	20	-	-	-	-	-	1
Maple Lake Municipal Airport	MGG	64	-	6	-	-	-	-
Jackson Municipal Airport	MJQ	24	-	-	-	-	-	1
Mankato Regional Airport - Sohler Field	MKT	69	4	11	4	5	-	6
Southwest Minnesota Regional-Marshall/Ryan Field	MML	23	6	4	6	-	-	1
Morris Municipal Airport - Charlie Schmidt Field	MOX	13	-	5	2	2	-	1
Montevideo-Chippewa County Airport	MVE	26	-	1	-	-	-	2
Windom Municipal Airport	MWM	18	-	1	-	-	-	-

GA Fleet and Military Forecast								
Airport Name	ID	SEP	JET	MEP	TP	LSA	MIL	OTH
Moose Lake-Carlton County Airport	MZH	12	-	-	-	-	-	3
Winona Municipal Airport - Max Conrad Field	ONA	37	2	6	1	2	-	2
Orr Regional Airport	ORB	9	-	-	-	-	-	-
Worthington Municipal Airport	OTG	27	-	4	-	-	-	-
Olivia Regional Airport	OVL	8	-	-	-	-	-	5
Owatonna Degner Regional Airport	OWA	63	-	3	-	-	-	2
Paynesville Municipal Airport	PEX	29	-	1	-	-	-	1
Park Rapids Municipal Airport - Konshok Field	PKD	32	-	4	-	-	-	-
Princeton Municipal Airport	PNM	63	-	3	-	3	-	-
Pipestone Municipal Airport	PQN	20	-	1	-	-	-	-
Pine River Regional Airport	PWC	58	1	3	2	-	-	3
Red Wing Regional Airport	RGK	67	6	4	1	-	-	-
Rush City Regional Airport	ROS	79	-	1	-	3	-	1
Roseau Municipal Airport - Rudy Billberg Field	ROX	19	-	-	-	-	-	2
Warroad International Memorial Airport	RRT	19	1	1	4	-	-	1
Rochester International Airport	RST	83	4	4	-	3	-	1
Redwood Falls Municipal Airport	RWF	12	-	3	-	2	-	3
Staples Municipal Airport	SAZ	21	-	1	-	-	-	2
Blue Earth Municipal Airport	SBU	26	-	-	2	2	-	-
South St. Paul Municipal Airport - Fleming Field	SGS	316	-	15	18	8	-	8
St. Cloud Regional Airport	STC	114	10	7	-	-	17	-
Tracy Municipal Airport	TKC	8	-	-	-	-	-	-
Dodge Center Municipal Airport	TOB	54	-	-	-	2	-	5
Thief River Falls Regional Airport	TVF	25	3	1	1	-	-	1
Two Harbors Municipal - Richard B. Helgeson Field	TWM	43	-	1	-	2	-	7
New Ulm Municipal Airport	ULM	23	-	5	1	-	-	-
Ortonville Municipal Airport - Martinson Field	VVV	3	-	-	-	-	-	-
Waskish Municipal Airport	VWU	1	-	-	-	-	-	-
Longville Municipal Airport	XVG	23	-	2	-	-	-	-
Walker Municipal Airport	Y49	33	-	3	-	10	-	-
Sleepy Eye Municipal Airport	Y58	7	-	-	1	2	-	3
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	20	-	-	-	-	-	1

Source: HNTB Analysis

Table C-26: 2015 GA Operations Forecast

2015 GA and Military Operations Forecast													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Crystal Airport	MIC	41,793	2,750	3,913	1,309	40	-	1,946	27,701	24,050	21,541	20,154	10,056
Airlake Airport	LVN	34,813	790	1,835	1,878	86	-	188	7,918	31,672	16,479	15,418	7,693
Lake Elmo Airport	21D	34,699	56	1,288	313	416	-	412	14,483	22,701	15,477	14,481	7,226
St. Paul Downtown Airport - Holman Field	STP	29,621	23,612	12,508	5,868	87	-	21,699	60,900	32,494	38,874	36,371	18,149
Anoka County/Blaine Airport - Janes Field	ANE	49,737	10,739	12,820	2,739	651	-	3,897	44,375	36,207	33,541	31,382	15,659
Flying Cloud Airport	FCM	61,762	11,192	7,901	4,678	283	-	6,169	53,804	38,181	38,288	35,823	17,875
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	29,751	-	-	-	2,145	-	31,896	-	31,577	319	-
Hawley Municipal Airport	04Y	7,812	-	309	-	683	-	383	4,961	4,226	3,824	3,578	1,785
Henning Municipal Airport	05Y	3,412	-	-	-	-	-	395	2,247	1,561	762	2,665	381
Herman Municipal Airport	06Y	2,465	-	-	-	-	-	-	1,479	986	986	1,233	247
Hill City-Quadna Mountain Airport	07Y	1,506	-	-	-	-	-	-	889	617	627	587	293
Winsted Municipal Airport	10D	9,490	-	305	-	-	-	2,268	8,806	3,257	1,206	8,444	2,413
Tower Municipal Airport	12D	6,389	329	518	-	191	-	321	6,199	1,550	387	7,207	155
Le Sueur Municipal Airport	12Y	6,256	-	306	-	677	57	9,113	6,564	9,845	3,282	9,845	3,282
Littlefork Municipal Airport - Hanover Airport	13Y	1,799	-	-	-	1,022	-	-	1,410	1,410	-	2,680	141
Long Prairie Municipal Airport - Todd Field	14Y	6,488	-	444	-	491	9	-	1,975	5,458	1,487	5,203	743
Perham Municipal Airport	16D	5,402	962	-	1,205	-	-	313	5,518	2,365	788	6,306	788
Milaca Municipal Airport	18Y	11,774	-	-	-	-	-	-	6,948	4,826	4,901	4,585	2,288
Hector Municipal Airport	1D6	6,966	-	-	-	226	-	507	1,100	6,599	3,205	2,998	1,496
Karlstad Municipal Airport	23D	1,000	-	-	-	-	-	-	-	1,000	-	1,000	-
Murdock Municipal Airport	23Y	1,000	-	-	-	-	-	-	-	1,000	800	100	100
Forest Lake Airport	25D	9,162	-	304	-	336	-	188	5,994	3,996	1,998	5,994	1,998
Grygla Municipal Airport - Mel Wilkens Field	3G2	1,462	-	-	-	-	-	-	863	599	609	570	284
Mahnomen County Airport	3N8	5,126	-	-	-	-	-	-	4,869	256	4,357	718	51
Northome Municipal Airport	43Y	1,292	-	-	-	-	-	-	129	1,163	129	1,034	129
Pelican Rapids Municipal Airport - Lyon's Field	47Y	2,934	-	-	-	-	-	-	1,467	1,467	-	2,934	-
Piney-Pinecreek Border Airport	48Y	1,800	-	-	-	-	-	-	1,062	738	612	1,188	-
Remer Municipal Airport	52Y	1,698	-	-	-	-	-	361	2,059	-	-	1,853	206
Rushford Municipal Airport	55Y	1,756	-	-	-	499	-	-	1,353	902	226	677	1,353
Tyler Municipal Airport	63Y	1,615	-	-	-	-	-	-	1,454	162	808	808	-
Wells Municipal Airport	68Y	5,270	-	-	-	-	-	-	4,216	1,054	4,216	790	263
Brooten Municipal Airport	6D1	5,297	-	-	-	-	-	1,350	5,318	1,329	3,324	2,659	665
Backus Municipal Airport	7Y3	2,553	-	375	-	-	-	-	2,898	29	29	293	2,605

2015 GA and Military Operations Forecast													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Bagley Municipal Airport	7Y4	2,327	-	-	-	-	-	-	2,327	-	969	906	452
Big Falls Municipal Airport	7Y9	1,280	-	-	-	-	-	408	1,266	422	422	844	422
Clarissa Municipal Airport	8Y5	1,245	-	-	-	-	-	-	672	573	518	485	242
Bowstring Airport	9Y0	2,002	-	-	-	-	-	-	1,001	1,001	400	1,401	200
East Gull Lake Airport	9Y2	1,563	-	-	-	-	-	-	922	641	-	1,563	-
Waseca Municipal Airport	ACQ	6,031	-	-	-	-	-	-	4,825	1,206	603	5,126	302
Wadena Municipal Airport	ADC	5,692	-	-	-	-	6	-	1,480	4,217	2,372	2,219	1,107
Albert Lea Municipal Airport	AEL	19,914	2,365	1,860	-	-	285	3,076	22,274	5,225	11,446	10,709	5,344
Aitkin Municipal Airport - Steve Kurtz Field	AIT	17,852	-	1,048	2,503	580	-	-	16,047	5,935	1,099	19,784	1,099
Appleton Municipal Airport	AQP	824	-	-	1,348	-	-	-	2,173	-	1,934	217	22
Austin Municipal Airport	AUM	21,542	3,377	885	2,114	-	114	-	23,828	4,205	11,213	2,803	14,016
Alexandria Municipal Airport - Chandler Field	AXN	23,422	-	1,003	2,395	-	285	-	17,087	10,016	11,281	10,555	5,267
Benson Municipal Airport - Veterans Field	BBB	3,086	-	975	1,165	-	-	151	4,839	538	5,108	269	-
Baudette International Airport	BDE	10,336	-	817	-	903	71	-	1,213	10,914	3,032	7,883	1,213
Willmar Municipal Airport - John L. Rice Field	BDH	17,014	833	1,311	-	-	47	-	5,649	13,557	7,994	7,480	3,732
Silver Bay Municipal Airport - Wayne Johnson	BFW	2,696	-	-	-	-	-	859	1,778	1,778	178	3,022	356
Bemidji Regional Airport	BJI	2,440	-	2,882	3,592	-	474	78	2,840	6,626	7,573	1,420	473
Brainerd Lakes Regional Airport	BRD	30,158	909	2,860	2,277	1,582	379	2,365	12,063	28,466	16,870	15,784	7,876
Cambridge Municipal Airport	CBG	16,637	-	438	-	1,939	95	544	9,386	10,267	8,180	7,654	3,819
Buffalo Municipal Airport	CFE	23,262	-	784	-	867	209	-	17,584	7,536	2,512	20,096	2,512
Houston County Airport	CHU	3,399	-	269	-	-	-	-	3,301	367	2,567	1,100	-
Grand Marais-Cook County Airport	CKC	3,329	-	-	-	291	-	-	1,086	2,534	724	2,534	362
Crookston Municipal Airport - Kirkwood Field	CKN	25,926	-	-	4,060	-	47	-	15,017	15,017	6,007	3,003	21,024
Canby Municipal Airport - Myers Field	CNB	5,766	-	1,481	-	-	-	-	3,624	3,624	5,435	1,449	362
Cloquet-Carlton County Airport	COQ	9,549	-	-	571	265	95	-	9,432	1,048	3,144	3,144	4,192
Cook Municipal Airport	CQM	5,187	-	-	707	-	-	184	3,039	3,039	1,823	4,254	-
Norman County/Ada/Twin Valley Airport	D00	2,498	-	-	-	-	-	-	2,248	250	250	1,998	250
Fertile Municipal Airport	D14	10,203	-	-	-	-	-	-	10,203	-	-	10,203	-
Starbuck Municipal Airport	D32	1,700	-	-	-	-	-	-	1,003	697	708	662	330
Warren Municipal Airport	D37	1,391	-	-	1,138	-	-	-	1,492	1,037	1,053	985	491
Sauk Centre Municipal Airport	D39	5,420	-	464	-	-	28	576	4,866	1,622	4,866	1,622	-
Stephen Municipal Airport	D41	3,826	-	-	1,341	-	-	348	5,516	-	5,516	-	-
Springfield Municipal Airport	D42	2,021	-	-	-	766	-	-	557	2,229	1,672	1,115	-
Red Lake Falls Municipal Airport	D81	3,302	-	-	-	-	-	-	1,981	1,321	1,321	1,321	660
Duluth International Airport	DLH	26,806	2,060	5,940	-	597	7,573	335	11,694	31,617	36,814	2,166	4,331

2015 GA and Military Operations Forecast													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Detroit Lakes Municipal Airport - Wething Field	DTL	11,253	1,837	-	4,602	-	95	598	6,128	12,257	7,653	7,160	3,573
Slayton Municipal Airport	DVP	2,210	-	-	-	-	-	352	1,512	1,050	1,066	998	498
Lac Qui Parle County Airport - Bud Frye Field	DXX	1,821	-	-	-	-	-	331	1,507	646	861	1,076	215
Duluth Sky Harbor Airport	DYT	12,714	-	1,351	-	-	-	-	11,111	2,954	422	13,362	281
Ely Municipal Airport	ELO	7,294	-	749	-	414	-	-	3,383	5,074	7,189	846	423
Wheaton Municipal Airport	ETH	1,811	-	-	-	-	-	-	1,811	-	1,811	-	-
Eveleth-Virginia Municipal Airport	EVM	7,163	-	204	488	226	-	127	7,798	410	7,387	657	164
Faribault Municipal Airport	FBL	16,470	-	1,586	-	292	95	1,476	13,944	5,976	996	13,944	4,980
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	8,928	-	199	476	441	95	-	3,449	6,691	4,220	3,949	1,970
Preston - Fillmore County Airport	FKA	6,370	-	-	-	329	-	369	4,948	2,120	2,474	2,827	1,767
Bigfork Municipal Airport	FOZ	2,528	-	-	-	-	-	-	506	2,022	1,011	1,517	-
Fairmont Municipal Airport	FRM	6,075	850	446	-	-	95	-	3,733	3,733	5,600	1,867	-
Fosston Municipal Airport	FSE	8,326	-	950	-	-	-	590	6,018	3,848	987	8,583	296
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	4,178	1,259	660	-	-	-	-	2,744	3,354	3,659	1,829	610
Glenwood Municipal Airport	GHW	5,211	-	-	-	-	-	-	1,824	3,387	1,042	3,127	1,042
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	19,040	504	793	-	585	57	-	10,490	10,490	12,588	4,196	4,196
Glencoe Municipal Airport - Vernon Perschau Field	GYL	9,998	-	354	-	-	-	1,099	4,580	6,871	1,718	8,588	1,145
Hutchinson Municipal Airport - Butler Field	HCD	10,273	-	833	663	614	43	345	7,024	5,747	5,316	4,973	2,482
Hallock Municipal Airport	HCO	3,339	-	-	1,489	-	-	-	3,138	1,690	4,780	48	-
Range Regional Airport	HIB	24,057	-	1,123	-	621	95	2,091	8,396	19,591	19,591	5,598	2,799
McGregor - Isedor Iverson Airport	HZX	4,114	-	-	-	-	-	202	2,547	1,769	1,797	1,681	839
Falls International Airport	INL	13,681	-	-	-	4,185	95	-	5,388	12,573	3,053	14,369	539
Moorhead Municipal Airport	JKJ	8,072	-	1,220	-	-	-	-	6,226	3,066	3,868	3,619	1,806
Mora Municipal Airport	JMR	9,319	-	-	-	1,271	-	238	2,834	7,994	4,507	4,217	2,104
St. James Municipal Airport	JYG	4,683	-	-	-	484	-	-	4,133	1,033	1,033	4,133	-
Litchfield Municipal Airport	LJF	8,500	-	323	-	-	-	401	4,612	4,612	922	6,457	1,845
Little Falls-Morrison County Airport	LXL	9,650	-	354	-	-	47	-	1,828	8,224	4,184	3,915	1,953
Luverne Municipal Airport - Quentin Aanenson Field	LYV	10,934	-	-	-	-	-	387	4,529	6,793	3,396	3,396	4,529
Maple Lake Municipal Airport	MGG	9,454	-	904	-	-	-	-	9,633	725	2,072	2,589	5,697
Jackson Municipal Airport	MJQ	6,274	-	-	-	-	9	210	1,948	4,546	6,494	-	-
Mankato Regional Airport - Sohler Field	MKT	74,871	8,150	11,395	10,206	3,151	474	4,418	76,612	36,053	22,533	33,800	56,333
Southwest Minnesota Regional-Marshall/Ryan Field	MML	10,576	5,453	1,716	6,829	-	95	355	9,509	15,515	18,768	3,754	2,502
Morris Municipal Airport - Charlie Schmidt Field	MOX	3,145	-	1,175	1,403	325	6	182	4,989	1,247	5,301	624	312
Montevideo-Chippewa County Airport	MVE	11,320	-	529	-	-	19	656	6,262	6,262	11,271	1,002	250

2015 GA and Military Operations Forecast													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Windom Municipal Airport	MWM	8,388	-	574	-	-	-	-	4,481	4,481	4,481	3,585	896
Moose Lake-Carlton County Airport	MZH	4,393	-	-	-	-	-	840	2,355	2,878	2,093	1,570	1,570
Winona Municipal Airport - Max Conrad Field	ONA	7,775	952	1,248	596	276	24	310	8,945	2,236	6,709	2,236	2,236
Orr Regional Airport	ORB	2,539	-	-	-	-	-	-	1,016	1,524	762	1,778	-
Worthington Municipal Airport	OTG	9,000	-	1,321	-	-	483	-	4,321	6,482	5,402	5,402	-
Olivia Regional Airport	OVL	2,656	-	-	-	-	-	1,058	2,192	1,522	1,546	1,446	722
Owatonna Degner Regional Airport	OWA	29,742	-	1,273	-	-	237	790	15,428	16,615	13,337	12,479	6,227
Paynesville Municipal Airport	PEX	5,042	-	235	-	-	-	146	3,634	1,790	542	4,339	542
Park Rapids Municipal Airport - Konshok Field	PKD	14,916	-	1,768	-	-	24	-	8,354	8,354	6,954	6,507	3,247
Princeton Municipal Airport	PNM	12,354	-	577	-	319	285	-	6,767	6,767	2,030	10,151	1,353
Pipestone Municipal Airport	PQN	8,066	-	487	-	-	28	-	4,291	4,291	8,581	-	-
Pine River Regional Airport	PWC	10,345	533	559	668	-	-	347	7,472	4,981	1,245	9,340	1,868
Red Wing Regional Airport	RGK	11,326	2,017	635	505	-	664	-	4,544	10,603	11,361	3,029	757
Rush City Regional Airport	ROS	23,132	-	424	-	469	9	263	12,149	12,149	2,430	9,719	12,149
Roseau Municipal Airport - Rudy Billberg Field	ROX	8,462	-	-	-	-	-	674	914	8,223	8,223	914	-
Warroad International Memorial Airport	RRT	5,364	657	344	2,468	-	-	214	6,332	2,714	7,237	1,357	452
Rochester International Airport	RST	30,316	3,126	1,639	-	604	221	339	21,022	15,223	28,996	5,437	1,812
Redwood Falls Municipal Airport	RWF	9,618	-	2,695	-	994	285	1,672	10,378	4,884	4,579	10,378	305
Staples Municipal Airport	SAZ	9,061	-	548	-	-	-	679	5,144	5,144	2,058	7,201	1,029
Blue Earth Municipal Airport	SBU	11,612	-	-	2,192	507	-	-	10,733	3,578	6,440	6,440	1,431
South St. Paul Municipal Airport - Fleming Field	SGS	55,579	-	2,631	7,541	873	-	979	43,943	23,662	25,690	37,182	4,732
St. Cloud Regional Airport	STC	31,415	6,005	1,968	-	-	2,728	-	31,587	10,529	12,635	8,423	21,058
Tracy Municipal Airport	TKC	3,169	-	-	-	-	-	-	1,901	1,268	1,268	1,584	317
Dodge Center Municipal Airport	TOB	8,966	-	-	-	261	-	586	2,453	7,360	2,944	2,944	3,925
Thief River Falls Regional Airport	TVF	22,206	6,216	1,086	2,595	-	95	674	11,176	21,695	9,862	6,574	16,436
Two Harbors Municipal - Richard B. Helgeson Field	TWM	7,975	-	228	-	252	-	847	5,581	3,720	930	6,511	1,860
New Ulm Municipal Airport	ULM	7,812	-	1,605	958	-	9	-	7,788	2,596	7,269	2,077	1,038
Ortonville Municipal Airport - Martinson Field	VVV	5,224	-	-	-	-	-	-	1,567	3,657	2,612	2,090	522
Waskish Municipal Airport	VWU	219	-	-	-	-	-	-	142	77	33	186	-
Longville Municipal Airport	XVG	7,153	-	490	-	-	-	-	2,675	4,968	382	7,260	-
Walker Municipal Airport	Y49	8,442	-	754	-	1,668	-	-	7,605	3,259	2,173	8,691	-
Sleepy Eye Municipal Airport	Y58	1,262	-	-	516	239	-	402	1,428	992	1,007	943	470
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	4,230	-	-	-	-	-	159	1,463	2,926	1,827	1,709	853

Source: HNTB Analysis

Table C-27: 2020 GA Operations Forecast

2020 GA and Military Operations Forecast													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Crystal Airport	MIC	43,513	4,353	4,327	1,246	44	-	2,269	29,843	25,910	23,206	21,713	10,834
Airlake Airport	LVN	37,013	1,058	1,927	1,789	95	-	188	8,414	33,657	17,511	16,384	8,175
Lake Elmo Airport	21D	37,018	87	1,449	327	460	-	549	15,537	24,353	16,604	15,535	7,752
St. Paul Downtown Airport - Holman Field	STP	30,343	30,552	12,740	5,768	96	-	23,963	67,465	35,997	43,065	40,293	20,105
Anoka County/Blaine Airport - Janes Field	ANE	50,472	13,603	11,742	2,692	719	-	4,261	45,975	37,513	34,751	32,514	16,224
Flying Cloud Airport	FCM	63,425	17,638	7,304	4,600	312	-	7,111	58,720	41,669	41,785	39,096	19,508
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	29,934	-	-	-	2,145	-	32,079	-	31,759	321	-
Hawley Municipal Airport	04Y	8,028	-	317	-	874	-	414	5,201	4,431	4,009	3,751	1,872
Henning Municipal Airport	05Y	3,540	-	-	-	-	-	432	2,344	1,628	794	2,780	397
Herman Municipal Airport	06Y	2,509	-	-	-	-	-	-	1,505	1,003	1,003	1,254	251
Hill City-Quadna Mountain Airport	07Y	1,578	-	-	-	-	-	-	931	647	657	614	307
Winsted Municipal Airport	10D	10,181	-	326	-	-	-	2,560	9,539	3,528	1,307	9,147	2,613
Tower Municipal Airport	12D	6,454	328	522	-	240	-	342	6,309	1,577	394	7,334	158
Le Sueur Municipal Airport	12Y	6,607	-	323	-	890	54	10,126	7,200	10,799	3,600	10,799	3,600
Littlefork Municipal Airport - Hanover Airport	13Y	1,827	-	-	-	1,293	-	-	1,560	1,560	-	2,964	156
Long Prairie Municipal Airport - Todd Field	14Y	6,626	-	453	-	625	9	-	2,049	5,663	1,542	5,399	771
Perham Municipal Airport	16D	5,625	989	-	1,255	-	-	343	5,748	2,463	821	6,569	821
Milaca Municipal Airport	18Y	12,388	-	-	-	-	-	-	7,310	5,078	5,156	4,825	2,407
Hector Municipal Airport	1D6	7,048	-	-	-	285	-	540	1,125	6,749	3,277	3,066	1,530
Karlstad Municipal Airport	23D	1,000	-	-	-	-	-	-	-	1,000	-	1,000	-
Murdock Municipal Airport	23Y	1,000	-	-	-	-	-	-	-	1,000	800	100	100
Forest Lake Airport	25D	9,881	-	327	-	451	-	214	6,523	4,349	2,174	6,523	2,174
Grygla Municipal Airport - Mel Wilkens Field	3G2	1,486	-	-	-	-	-	-	877	609	618	579	289
Mahnomen County Airport	3N8	5,315	-	-	-	-	-	-	5,049	266	4,518	744	53
Northome Municipal Airport	43Y	1,362	-	-	-	-	-	-	136	1,226	136	1,090	136
Pelican Rapids Municipal Airport - Lyon's Field	47Y	3,036	-	-	-	-	-	-	1,518	1,518	-	3,036	-
Piney-Pinecreek Border Airport	48Y	1,800	-	-	-	-	-	-	1,062	738	612	1,188	-
Remer Municipal Airport	52Y	1,855	-	-	-	-	-	415	2,270	-	-	2,043	227
Rushford Municipal Airport	55Y	1,798	-	-	-	636	-	-	1,460	973	243	730	1,460
Tyler Municipal Airport	63Y	1,657	-	-	-	-	-	-	1,491	166	828	828	-
Wells Municipal Airport	68Y	5,270	-	-	-	-	-	-	4,216	1,054	4,216	790	263
Brooten Municipal Airport	6D1	5,609	-	-	-	-	-	1,504	5,691	1,423	3,557	2,845	711
Backus Municipal Airport	7Y3	2,789	-	408	-	-	-	-	3,165	32	32	320	2,845
Bagley Municipal Airport	7Y4	2,383	-	-	-	-	-	-	2,383	-	992	928	463

2020 GA and Military Operations Forecast													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Big Falls Municipal Airport	7Y9	1,300	-	-	-	-	-	436	1,302	434	434	868	434
Clarissa Municipal Airport	8Y5	1,273	-	-	-	-	-	-	688	586	530	496	247
Bowstring Airport	9Y0	2,088	-	-	-	-	-	-	1,044	1,044	418	1,462	209
East Gull Lake Airport	9Y2	1,715	-	-	-	-	-	-	1,012	703	-	1,715	-
Waseca Municipal Airport	ACQ	6,299	-	-	-	-	-	-	5,039	1,260	630	5,354	315
Wadena Municipal Airport	ADC	5,886	-	-	-	-	5	-	1,531	4,361	2,452	2,294	1,145
Albert Lea Municipal Airport	AEL	20,244	2,373	1,887	-	-	268	3,291	22,730	5,332	11,680	10,928	5,453
Aitkin Municipal Airport - Steve Kurtz Field	AIT	18,975	-	1,112	2,661	767	-	-	17,165	6,349	1,176	21,163	1,176
Appleton Municipal Airport	AQP	847	-	-	1,386	-	-	-	2,233	-	1,987	223	22
Austin Municipal Airport	AUM	22,383	3,463	918	2,197	-	107	-	24,707	4,360	11,627	2,907	14,534
Alexandria Municipal Airport - Chandler Field	AXN	25,034	-	1,069	2,560	-	268	-	18,240	10,691	12,042	11,267	5,622
Benson Municipal Airport - Veterans Field	BBB	3,178	-	1,002	1,200	-	-	164	4,990	554	5,267	277	-
Baudette International Airport	BDE	10,569	-	833	-	1,150	67	-	1,262	11,357	3,155	8,202	1,262
Willmar Municipal Airport - John L. Rice Field	BDH	17,924	867	1,378	-	-	45	-	5,945	14,268	8,413	7,872	3,928
Silver Bay Municipal Airport - Wayne Johnson	BFW	2,827	-	-	-	-	-	948	1,888	1,888	189	3,209	378
Bemidji Regional Airport	BJI	2,597	-	3,061	3,823	-	446	87	3,004	7,010	8,011	1,502	501
Brainerd Lakes Regional Airport	BRD	33,100	985	3,132	2,499	2,161	357	2,732	13,384	31,582	18,716	17,512	8,738
Cambridge Municipal Airport	CBG	18,104	-	476	-	2,627	89	623	10,468	11,451	9,123	8,536	4,259
Buffalo Municipal Airport	CFE	25,397	-	854	-	1,178	196	-	19,338	8,288	2,763	22,100	2,763
Houston County Airport	CHU	3,467	-	273	-	-	-	-	3,366	374	2,618	1,122	-
Grand Marais-Cook County Airport	CKC	3,540	-	-	-	385	-	-	1,178	2,748	785	2,748	393
Crookston Municipal Airport - Kirkwood Field	CKN	26,528	-	-	4,155	-	45	-	15,364	15,364	6,146	3,073	21,509
Canby Municipal Airport - Myers Field	CNB	5,894	-	1,511	-	-	-	-	3,702	3,702	5,554	1,481	370
Cloquet-Carlton County Airport	COQ	9,815	-	-	587	339	89	-	9,748	1,083	3,249	3,249	4,332
Cook Municipal Airport	CQM	5,243	-	-	715	-	-	195	3,077	3,077	1,846	4,307	-
Norman County/Ada/Twin Valley Airport	D00	2,481	-	-	-	-	-	-	2,233	248	248	1,985	248
Fertile Municipal Airport	D14	10,381	-	-	-	-	-	-	10,381	-	-	10,381	-
Starbuck Municipal Airport	D32	1,772	-	-	-	-	-	-	1,045	726	737	690	344
Warren Municipal Airport	D37	1,392	-	-	1,139	-	-	-	1,493	1,037	1,053	986	492
Sauk Centre Municipal Airport	D39	5,759	-	492	-	-	27	644	5,191	1,730	5,191	1,730	-
Stephen Municipal Airport	D41	3,810	-	-	1,336	-	-	365	5,510	-	5,510	-	-
Springfield Municipal Airport	D42	2,062	-	-	-	972	-	-	607	2,427	1,820	1,214	-
Red Lake Falls Municipal Airport	D81	3,335	-	-	-	-	-	-	2,001	1,334	1,334	1,334	667
Duluth International Airport	DLH	27,078	2,053	5,987	-	751	7,120	356	11,703	31,643	36,844	2,167	4,335
Detroit Lakes Municipal Airport - Wething Field	DTL	11,913	1,920	-	4,872	-	89	666	6,487	12,973	8,100	7,579	3,782

2020 GA and Military Operations Forecast													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Slayton Municipal Airport	DVP	2,227	-	-	-	-	-	373	1,534	1,066	1,082	1,013	505
Lac Qui Parle County Airport - Bud Frye Field	DXX	1,841	-	-	-	-	-	353	1,536	658	878	1,097	219
Duluth Sky Harbor Airport	DYT	12,947	-	1,373	-	-	-	-	11,313	3,007	430	13,604	286
Ely Municipal Airport	ELO	7,392	-	758	-	523	-	-	3,469	5,204	7,372	867	434
Wheaton Municipal Airport	ETH	1,838	-	-	-	-	-	-	1,838	-	1,838	-	-
Eveleth-Virginia Municipal Airport	EVM	7,235	-	206	493	284	-	135	7,936	418	7,518	668	167
Faribault Municipal Airport	FBL	17,085	-	1,642	-	378	89	1,611	14,563	6,241	1,040	14,563	5,201
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	9,238	-	206	493	568	89	-	3,604	6,991	4,410	4,126	2,059
Preston - Fillmore County Airport	FKA	6,560	-	-	-	422	-	400	5,167	2,215	2,584	2,953	1,846
Bigfork Municipal Airport	FOZ	2,635	-	-	-	-	-	-	527	2,108	1,054	1,581	-
Fairmont Municipal Airport	FRM	6,136	848	449	-	-	89	-	3,761	3,761	5,642	1,881	-
Fosston Municipal Airport	FSE	8,519	-	970	-	-	-	635	6,175	3,948	1,012	8,808	304
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	4,274	1,271	674	-	-	-	-	2,799	3,421	3,731	1,866	622
Glenwood Municipal Airport	GHW	5,421	-	-	-	-	-	-	1,897	3,524	1,084	3,253	1,084
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	19,858	519	825	-	759	54	-	11,008	11,008	13,209	4,403	4,403
Glencoe Municipal Airport - Vernon Perschau Field	GYL	10,550	-	373	-	-	-	1,220	4,857	7,286	1,821	9,107	1,214
Hutchinson Municipal Airport - Butler Field	HCD	10,701	-	866	691	797	40	378	7,410	6,063	5,608	5,247	2,618
Hallock Municipal Airport	HCO	3,273	-	-	1,460	-	-	-	3,077	1,657	4,686	47	-
Range Regional Airport	HIB	24,394	-	1,137	-	784	89	2,231	8,591	20,045	20,045	5,727	2,864
McGregor - Isedor Iverson Airport	HZX	4,302	-	-	-	-	-	222	2,670	1,854	1,883	1,762	879
Falls International Airport	INL	13,894	-	-	-	5,293	89	-	5,783	13,493	3,277	15,420	578
Moorhead Municipal Airport	JKJ	8,316	-	1,254	-	-	-	-	6,411	3,158	3,983	3,727	1,860
Mora Municipal Airport	JMR	9,881	-	-	-	1,678	-	265	3,095	8,729	4,922	4,605	2,298
St. James Municipal Airport	JYG	4,749	-	-	-	611	-	-	4,288	1,072	1,072	4,288	-
Litchfield Municipal Airport	LJF	8,893	-	338	-	-	-	442	4,836	4,836	967	6,771	1,935
Little Falls-Morrison County Airport	LXL	9,995	-	366	-	-	45	-	1,892	8,514	4,331	4,052	2,022
Luverne Municipal Airport - Quentin Aanenson Field	LYV	11,112	-	-	-	-	-	414	4,610	6,916	3,458	3,458	4,610
Maple Lake Municipal Airport	MGG	10,367	-	989	-	-	-	-	10,560	795	2,271	2,839	6,245
Jackson Municipal Airport	MJQ	6,491	-	-	-	-	9	229	2,019	4,710	6,729	-	-
Mankato Regional Airport - Sohler Field	MKT	78,666	8,451	11,947	10,724	4,122	446	4,884	81,084	38,157	23,848	35,773	59,621
Southwest Minnesota Regional-Marshall/Ryan Field	MML	10,982	5,589	1,778	7,092	-	89	388	9,848	16,069	19,438	3,888	2,592
Morris Municipal Airport - Charlie Schmidt Field	MOX	3,252	-	1,212	1,451	418	5	198	5,230	1,307	5,557	654	327
Montevideo-Chippewa County Airport	MVE	11,606	-	541	-	-	18	708	6,436	6,436	11,585	1,030	257
Windom Municipal Airport	MWM	8,646	-	591	-	-	-	-	4,619	4,619	4,619	3,695	924
Moose Lake-Carlton County Airport	MZH	4,550	-	-	-	-	-	915	2,459	3,006	2,186	1,640	1,640

2020 GA and Military Operations Forecast													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Winona Municipal Airport - Max Conrad Field	ONA	7,966	963	1,276	611	352	22	334	9,219	2,305	6,914	2,305	2,305
Orr Regional Airport	ORB	2,569	-	-	-	-	-	-	1,027	1,541	771	1,798	-
Worthington Municipal Airport	OTG	9,409	-	1,378	-	-	454	-	4,496	6,744	5,620	5,620	-
Olivia Regional Airport	OVL	2,681	-	-	-	-	-	1,124	2,245	1,560	1,584	1,482	739
Owatonna Degner Regional Airport	OWA	31,431	-	1,343	-	-	223	878	16,310	17,565	14,100	13,192	6,583
Paynesville Municipal Airport	PEX	5,348	-	249	-	-	-	163	3,859	1,901	576	4,608	576
Park Rapids Municipal Airport - Konshok Field	PKD	15,507	-	1,834	-	-	22	-	8,682	8,682	7,227	6,762	3,374
Princeton Municipal Airport	PNM	13,372	-	623	-	430	268	-	7,346	7,346	2,204	11,019	1,469
Pipestone Municipal Airport	PQN	8,222	-	496	-	-	27	-	4,372	4,372	8,744	-	-
Pine River Regional Airport	PWC	11,366	578	613	734	-	-	401	8,216	5,477	1,369	10,270	2,054
Red Wing Regional Airport	RGK	11,737	2,063	656	524	-	624	-	4,681	10,923	11,703	3,121	780
Rush City Regional Airport	ROS	24,874	-	455	-	628	9	298	13,132	13,132	2,626	10,506	13,132
Roseau Municipal Airport - Rudy Billberg Field	ROX	8,762	-	-	-	-	-	734	950	8,547	8,547	950	-
Warroad International Memorial Airport	RRT	5,549	671	356	2,553	-	-	233	6,552	2,808	7,488	1,404	468
Rochester International Airport	RST	32,821	3,340	1,771	-	815	208	386	22,818	16,523	31,472	5,901	1,967
Redwood Falls Municipal Airport	RWF	9,709	-	2,714	-	1,249	268	1,776	10,686	5,029	4,714	10,686	314
Staples Municipal Airport	SAZ	9,419	-	568	-	-	-	743	5,365	5,365	2,146	7,511	1,073
Blue Earth Municipal Airport	SBU	11,465	-	-	2,164	624	-	-	10,690	3,563	6,414	6,414	1,425
South St. Paul Municipal Airport - Fleming Field	SGS	60,814	-	2,873	8,252	1,190	-	1,128	48,266	25,990	28,217	40,841	5,198
St. Cloud Regional Airport	STC	33,688	6,356	2,106	-	-	2,565	-	33,536	11,179	13,414	8,943	22,357
Tracy Municipal Airport	TKC	3,248	-	-	-	-	-	-	1,949	1,299	1,299	1,624	325
Dodge Center Municipal Airport	TOB	9,558	-	-	-	347	-	657	2,640	7,921	3,168	3,168	4,225
Thief River Falls Regional Airport	TVF	22,704	6,272	1,108	2,653	-	89	725	11,407	22,144	10,065	6,710	16,776
Two Harbors Municipal - Richard B. Helgeson Field	TWM	8,266	-	235	-	325	-	924	5,850	3,900	975	6,825	1,950
New Ulm Municipal Airport	ULM	8,016	-	1,643	983	-	9	-	7,989	2,663	7,456	2,130	1,065
Ortonville Municipal Airport - Martinson Field	VVV	5,352	-	-	-	-	-	-	1,605	3,746	2,676	2,141	535
Waskish Municipal Airport	VWU	234	-	-	-	-	-	-	152	82	35	199	-
Longville Municipal Airport	XVG	7,860	-	537	-	-	-	-	2,939	5,458	420	7,977	-
Walker Municipal Airport	Y49	9,091	-	810	-	2,237	-	-	8,497	3,641	2,428	9,710	-
Sleepy Eye Municipal Airport	Y58	1,295	-	-	530	305	-	434	1,513	1,051	1,067	998	498
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	4,357	-	-	-	-	-	172	1,510	3,019	1,885	1,764	880

Source: HNTB Analysis

Table C-28: 2030 GA Operations Forecast

2030 GA and Military Operations Forecast													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Crystal Airport	MIC	46,879	8,158	5,237	1,144	54	-	2,602	34,298	29,777	26,670	24,953	12,451
Airlake Airport	LVN	40,815	3,130	2,115	1,642	116	-	188	9,601	38,405	19,982	18,696	9,329
Lake Elmo Airport	21D	41,264	161	1,810	358	560	-	548	17,411	27,290	18,606	17,408	8,686
St. Paul Downtown Airport - Holman Field	STP	32,115	38,865	14,388	5,730	117	-	24,483	75,444	40,255	48,158	45,058	22,483
Anoka County/Blaine Airport - Janes Field	ANE	53,312	21,923	9,447	2,675	876	-	4,368	50,993	41,608	38,544	36,063	17,995
Flying Cloud Airport	FCM	69,433	27,807	7,194	4,569	381	-	7,306	68,255	48,435	48,571	45,444	22,676
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	-	30,011	-	-	-	2,145	-	32,156	-	31,834	322	-
Hawley Municipal Airport	04Y	9,832	-	360	-	1,065	-	457	6,325	5,388	4,876	4,562	2,276
Henning Municipal Airport	05Y	4,413	-	-	-	-	-	476	2,885	2,004	978	3,422	489
Herman Municipal Airport	06Y	3,007	-	-	-	-	-	-	1,804	1,203	1,203	1,503	301
Hill City-Quadna Mountain Airport	07Y	2,003	-	-	-	-	-	-	1,182	821	834	780	389
Winsted Municipal Airport	10D	13,495	-	371	-	-	-	2,823	12,183	4,506	1,669	11,682	3,338
Tower Municipal Airport	12D	7,658	326	594	-	293	-	377	7,399	1,850	462	8,601	185
Le Sueur Municipal Airport	12Y	8,515	-	367	-	1,085	48	11,165	8,472	12,708	4,236	12,708	4,236
Littlefork Municipal Airport - Hanover Airport	13Y	2,187	-	-	-	1,576	-	-	1,881	1,881	-	3,574	188
Long Prairie Municipal Airport - Todd Field	14Y	7,992	-	515	-	762	8	-	2,465	6,811	1,855	6,494	928
Perham Municipal Airport	16D	7,055	983	-	1,244	-	-	378	6,762	2,898	966	7,728	966
Milaca Municipal Airport	18Y	15,879	-	-	-	-	-	-	9,370	6,509	6,609	6,184	3,086
Hector Municipal Airport	1D6	8,354	-	-	-	347	-	596	1,328	7,969	3,870	3,621	1,807
Karlstad Municipal Airport	23D	1,000	-	-	-	-	-	-	-	1,000	-	1,000	-
Murdock Municipal Airport	23Y	1,000	-	-	-	-	-	-	-	1,000	800	100	100
Forest Lake Airport	25D	13,240	-	372	-	550	-	236	8,638	5,759	2,879	8,638	2,879
Grygla Municipal Airport - Mel Wilkens Field	3G2	1,775	-	-	-	-	-	-	1,047	728	739	691	345
Mahnomen County Airport	3N8	6,614	-	-	-	-	-	-	6,283	331	5,622	926	66
Northome Municipal Airport	43Y	1,749	-	-	-	-	-	-	175	1,574	175	1,399	175
Pelican Rapids Municipal Airport - Lyon's Field	47Y	3,766	-	-	-	-	-	-	1,883	1,883	-	3,766	-
Piney-Pinecreek Border Airport	48Y	1,800	-	-	-	-	-	-	1,062	738	612	1,188	-
Remer Municipal Airport	52Y	2,544	-	-	-	-	-	457	3,001	-	-	2,701	300
Rushford Municipal Airport	55Y	2,179	-	-	-	775	-	-	1,772	1,182	295	886	1,772
Tyler Municipal Airport	63Y	2,015	-	-	-	-	-	-	1,813	201	1,007	1,007	-
Wells Municipal Airport	68Y	6,096	-	-	-	-	-	-	4,877	1,219	4,877	914	305
Brooten Municipal Airport	6D1	7,258	-	-	-	-	-	1,659	7,133	1,783	4,458	3,567	892
Backus Municipal Airport	7Y3	3,822	-	465	-	-	-	-	4,244	43	43	429	3,815

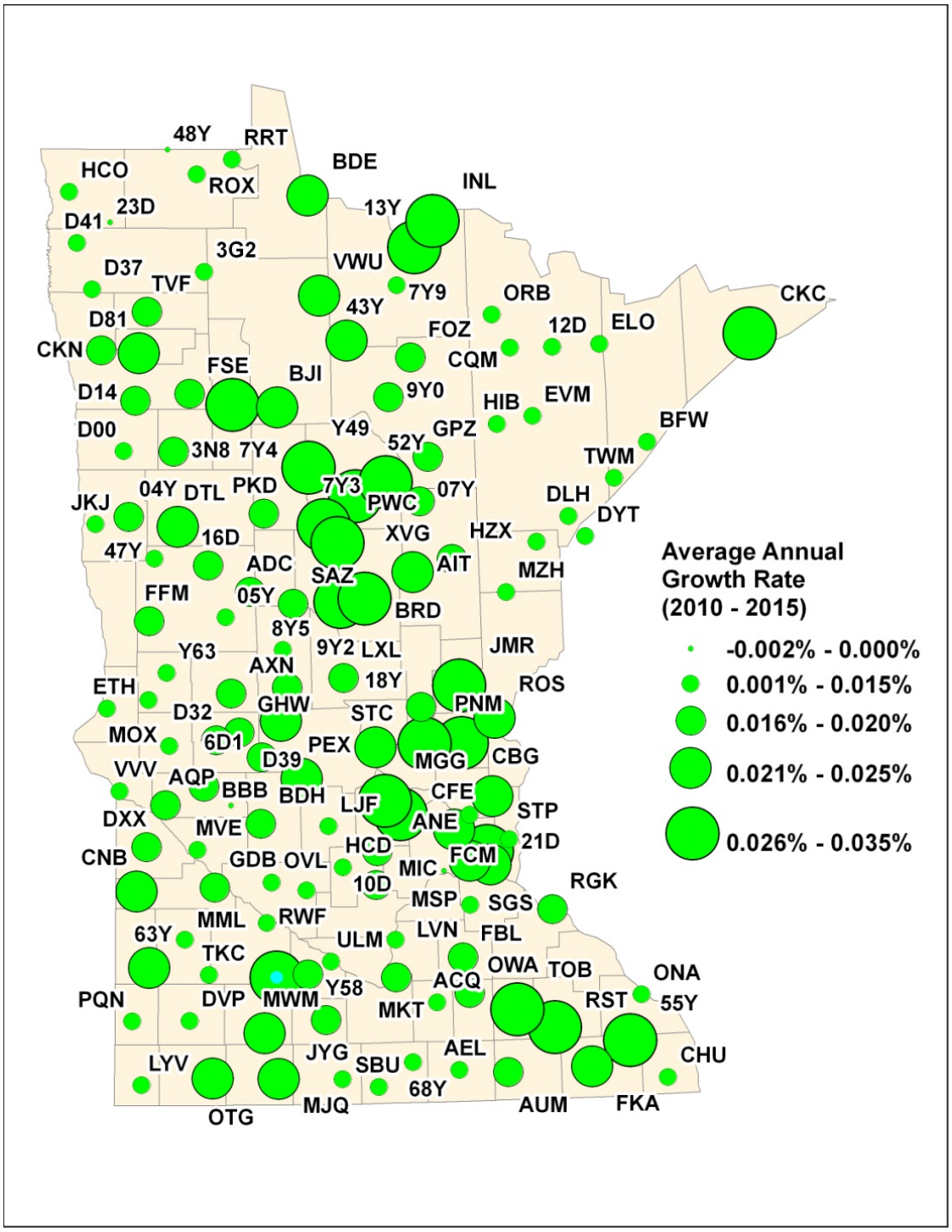
2030 GA and Military Operations Forecast													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Bagley Municipal Airport	7Y4	2,888	-	-	-	-	-	-	2,888	-	1,202	1,125	561
Big Falls Municipal Airport	7Y9	1,556	-	-	-	-	-	481	1,528	509	509	1,018	509
Clarissa Municipal Airport	8Y5	1,541	-	-	-	-	-	-	832	709	642	600	300
Bowstring Airport	9Y0	2,637	-	-	-	-	-	-	1,318	1,318	527	1,846	264
East Gull Lake Airport	9Y2	2,371	-	-	-	-	-	-	1,399	972	-	2,371	-
Waseca Municipal Airport	ACQ	7,938	-	-	-	-	-	-	6,351	1,588	794	6,748	397
Wadena Municipal Airport	ADC	7,298	-	-	-	-	5	-	1,897	5,405	3,040	2,844	1,419
Albert Lea Municipal Airport	AEL	24,223	2,358	2,146	-	-	240	3,629	26,402	6,193	13,567	12,694	6,334
Aitkin Municipal Airport - Steve Kurtz Field	AIT	24,764	-	1,264	2,639	935	-	-	21,610	7,993	1,480	26,642	1,480
Appleton Municipal Airport	AQP	1,036	-	-	1,374	-	-	-	2,411	-	2,145	241	24
Austin Municipal Airport	AUM	27,975	3,441	1,044	2,179	-	96	-	29,525	5,210	13,894	3,474	17,368
Alexandria Municipal Airport - Chandler Field	AXN	32,957	-	1,216	2,539	-	240	-	23,296	13,656	15,381	14,391	7,181
Benson Municipal Airport - Veterans Field	BBB	3,907	-	1,140	1,190	-	-	181	5,776	642	6,097	321	-
Baudette International Airport	BDE	12,791	-	948	-	1,402	60	-	1,520	13,681	3,800	9,881	1,520
Willmar Municipal Airport - John L. Rice Field	BDH	22,993	861	1,567	-	-	40	-	7,489	17,973	10,598	9,916	4,948
Silver Bay Municipal Airport - Wayne Johnson	BFW	3,602	-	-	-	-	-	1,045	2,324	2,324	232	3,950	465
Bemidji Regional Airport	BJI	3,390	-	3,482	3,792	-	400	96	3,348	7,812	8,928	1,674	558
Brainerd Lakes Regional Airport	BRD	45,827	979	3,562	2,479	2,635	320	3,012	17,506	41,309	24,481	22,905	11,429
Cambridge Municipal Airport	CBG	24,660	-	541	-	3,202	80	686	13,931	15,239	12,142	11,360	5,668
Buffalo Municipal Airport	CFE	34,764	-	971	-	1,436	176	-	26,143	11,204	3,735	29,878	3,735
Houston County Airport	CHU	4,171	-	311	-	-	-	-	4,034	448	3,137	1,345	-
Grand Marais-Cook County Airport	CKC	4,650	-	-	-	470	-	-	1,536	3,584	1,024	3,584	512
Crookston Municipal Airport - Kirkwood Field	CKN	32,171	-	-	4,121	-	40	-	18,166	18,166	7,266	3,633	25,432
Canby Municipal Airport - Myers Field	CNB	7,122	-	1,718	-	-	-	-	4,420	4,420	6,630	1,768	442
Cloquet-Carlton County Airport	COQ	12,036	-	-	583	413	80	-	11,800	1,311	3,933	3,933	5,244
Cook Municipal Airport	CQM	6,231	-	-	709	-	-	215	3,578	3,578	2,147	5,009	-
Norman County/Ada/Twin Valley Airport	D00	2,837	-	-	-	-	-	-	2,554	284	284	2,270	284
Fertile Municipal Airport	D14	12,454	-	-	-	-	-	-	12,454	-	-	12,454	-
Starbuck Municipal Airport	D32	2,222	-	-	-	-	-	-	1,311	911	925	865	432
Warren Municipal Airport	D37	1,611	-	-	1,129	-	-	-	1,617	1,123	1,141	1,067	533
Sauk Centre Municipal Airport	D39	7,499	-	560	-	-	24	710	6,594	2,198	6,594	2,198	-
Stephen Municipal Airport	D41	4,362	-	-	1,325	-	-	402	6,089	-	6,089	-	-
Springfield Municipal Airport	D42	2,480	-	-	-	1,185	-	-	733	2,932	2,199	1,466	-
Red Lake Falls Municipal Airport	D81	3,935	-	-	-	-	-	-	2,361	1,574	1,574	1,574	787
Duluth International Airport	DLH	32,132	2,040	6,809	-	916	6,393	393	13,145	35,539	41,381	2,434	4,868

2030 GA and Military Operations Forecast													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Detroit Lakes Municipal Airport - Wething Field	DTL	15,401	1,908	-	4,832	-	80	734	7,652	15,303	9,555	8,940	4,461
Slayton Municipal Airport	DVP	2,617	-	-	-	-	-	412	1,787	1,242	1,261	1,180	589
Lac Qui Parle County Airport - Bud Frye Field	DXX	2,179	-	-	-	-	-	389	1,797	770	1,027	1,284	257
Duluth Sky Harbor Airport	DYT	15,587	-	1,562	-	-	-	-	13,547	3,601	514	16,291	343
Ely Municipal Airport	ELO	8,830	-	862	-	637	-	-	4,132	6,197	8,780	1,033	516
Wheaton Municipal Airport	ETH	2,192	-	-	-	-	-	-	2,192	-	2,192	-	-
Eveleth-Virginia Municipal Airport	EVM	8,586	-	234	489	347	-	149	9,314	490	8,824	784	196
Faribault Municipal Airport	FBL	21,245	-	1,867	-	460	80	1,776	17,801	7,629	1,271	17,801	6,357
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	11,455	-	234	489	693	80	-	4,405	8,546	5,391	5,044	2,517
Preston - Fillmore County Airport	FKA	8,043	-	-	-	514	-	441	6,299	2,699	3,149	3,599	2,250
Bigfork Municipal Airport	FOZ	3,326	-	-	-	-	-	-	665	2,660	1,330	1,995	-
Fairmont Municipal Airport	FRM	7,236	842	511	-	-	80	-	4,335	4,335	6,502	2,167	-
Fosston Municipal Airport	FSE	10,329	-	1,104	-	-	-	700	7,401	4,732	1,213	10,555	364
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	5,173	1,263	767	-	-	-	-	3,241	3,962	4,322	2,161	720
Glenwood Municipal Airport	GHW	6,776	-	-	-	-	-	-	2,372	4,404	1,355	4,066	1,355
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	25,075	516	939	-	926	48	-	13,752	13,752	16,502	5,501	5,501
Glencoe Municipal Airport - Vernon Perschau Field	GYL	13,558	-	424	-	-	-	1,345	6,131	9,196	2,299	11,495	1,533
Hutchinson Municipal Airport - Butler Field	HCD	13,415	-	985	685	971	36	416	9,080	7,429	6,872	6,429	3,208
Hallock Municipal Airport	HCO	3,615	-	-	1,448	-	-	-	3,291	1,772	5,012	51	-
Range Regional Airport	HIB	29,172	-	1,293	-	956	80	2,459	10,188	23,773	23,773	6,792	3,396
McGregor - Isedor Iverson Airport	HZX	5,439	-	-	-	-	-	245	3,354	2,330	2,366	2,213	1,104
Falls International Airport	INL	16,626	-	-	-	6,452	80	-	6,947	16,210	3,937	18,526	695
Moorhead Municipal Airport	JKJ	10,234	-	1,426	-	-	-	-	7,812	3,848	4,853	4,541	2,266
Mora Municipal Airport	JMR	12,827	-	-	-	2,045	-	292	3,969	11,195	6,312	5,906	2,947
St. James Municipal Airport	JYG	5,648	-	-	-	745	-	-	5,114	1,278	1,278	5,114	-
Litchfield Municipal Airport	LJF	11,281	-	384	-	-	-	487	6,076	6,076	1,215	8,506	2,430
Little Falls-Morrison County Airport	LXL	12,416	-	416	-	-	40	-	2,340	10,532	5,358	5,013	2,501
Luverne Municipal Airport - Quentin Aanenson Field	LYV	13,288	-	-	-	-	-	456	5,498	8,247	4,123	4,123	5,498
Maple Lake Municipal Airport	MGG	14,303	-	1,124	-	-	-	-	14,347	1,080	3,085	3,857	8,485
Jackson Municipal Airport	MJQ	8,051	-	-	-	-	8	253	2,494	5,818	8,312	-	-
Mankato Regional Airport - Sohler Field	MKT	100,330	8,398	13,588	10,636	5,025	400	5,385	97,759	46,004	28,753	43,129	71,882
Southwest Minnesota Regional-Marshall/Ryan Field	MML	13,708	5,553	2,022	7,034	-	80	427	10,953	17,871	21,618	4,324	2,882
Morris Municipal Airport - Charlie Schmidt Field	MOX	4,025	-	1,379	1,439	510	5	219	6,061	1,515	6,440	758	379
Montevideo-Chippewa County Airport	MVE	14,108	-	615	-	-	16	780	7,760	7,760	13,968	1,242	310

2030 GA and Military Operations Forecast													
Airport Name	ID	Aircraft Type							Operation Type		Operation Purpose		
		SEP	JET	MEP	TP	LSA	MIL	OTH	Local	Itinerant	Business	Leisure	Training
Windom Municipal Airport	MWM	10,639	-	672	-	-	-	-	5,655	5,655	5,655	4,524	1,131
Moose Lake-Carlton County Airport	MZH	5,649	-	-	-	-	-	1,009	2,996	3,662	2,663	1,997	1,997
Winona Municipal Airport - Max Conrad Field	ONA	9,677	957	1,451	606	429	20	368	10,806	2,702	8,105	2,702	2,702
Orr Regional Airport	ORB	3,056	-	-	-	-	-	-	1,222	1,834	917	2,139	-
Worthington Municipal Airport	OTG	11,902	-	1,567	-	-	408	-	5,551	8,326	6,939	6,939	-
Olivia Regional Airport	OVL	3,162	-	-	-	-	-	1,239	2,597	1,804	1,832	1,714	855
Owatonna Degner Regional Airport	OWA	40,623	-	1,527	-	-	200	968	20,857	22,461	18,031	16,870	8,418
Paynesville Municipal Airport	PEX	6,945	-	283	-	-	-	180	4,963	2,445	741	5,926	741
Park Rapids Municipal Airport - Konshok Field	PKD	19,385	-	2,086	-	-	20	-	10,746	10,746	8,946	8,370	4,176
Princeton Municipal Airport	PNM	18,013	-	709	-	524	240	-	9,743	9,743	2,923	14,615	1,949
Pipestone Municipal Airport	PQN	9,868	-	564	-	-	24	-	5,228	5,228	10,456	-	-
Pine River Regional Airport	PWC	15,754	575	698	728	-	-	442	10,918	7,279	1,820	13,647	2,729
Red Wing Regional Airport	RGK	14,550	2,050	746	519	-	561	-	5,528	12,899	13,820	3,685	921
Rush City Regional Airport	ROS	33,176	-	518	-	766	8	328	17,398	17,398	3,480	13,919	17,398
Roseau Municipal Airport - Rudy Billberg Field	ROX	10,855	-	-	-	-	-	810	1,166	10,498	10,498	1,166	-
Warroad International Memorial Airport	RRT	6,864	666	404	2,532	-	-	256	7,506	3,217	8,579	1,608	536
Rochester International Airport	RST	44,209	3,319	2,014	-	993	187	426	29,666	21,482	40,918	7,672	2,557
Redwood Falls Municipal Airport	RWF	11,440	-	3,087	-	1,522	240	1,958	12,408	5,839	5,474	12,408	365
Staples Municipal Airport	SAZ	11,790	-	646	-	-	-	819	6,628	6,628	2,651	9,279	1,326
Blue Earth Municipal Airport	SBU	12,896	-	-	2,146	761	-	-	11,852	3,951	7,111	7,111	1,580
South St. Paul Municipal Airport - Fleming Field	SGS	83,660	-	3,268	8,185	1,450	-	1,243	63,573	34,232	37,166	53,793	6,846
St. Cloud Regional Airport	STC	44,626	6,315	2,395	-	-	2,303	-	41,730	13,910	16,692	11,128	27,820
Tracy Municipal Airport	TKC	3,951	-	-	-	-	-	-	2,370	1,580	1,580	1,975	395
Dodge Center Municipal Airport	TOB	12,517	-	-	-	423	-	725	3,416	10,248	4,099	4,099	5,466
Thief River Falls Regional Airport	TVF	27,472	6,232	1,261	2,631	-	80	799	13,082	25,394	11,543	7,695	19,238
Two Harbors Municipal - Richard B. Helgeson Field	TWM	10,310	-	268	-	396	-	1,019	7,195	4,797	1,199	8,394	2,398
New Ulm Municipal Airport	ULM	9,756	-	1,869	975	-	8	-	9,457	3,152	8,826	2,522	1,261
Ortonville Municipal Airport - Martinson Field	VVV	6,497	-	-	-	-	-	-	1,949	4,548	3,249	2,599	650
Waskish Municipal Airport	VWU	306	-	-	-	-	-	-	199	107	46	260	-
Longville Municipal Airport	XVG	10,881	-	611	-	-	-	-	4,022	7,470	575	10,917	-
Walker Municipal Airport	Y49	12,146	-	922	-	2,727	-	-	11,056	4,738	3,159	12,636	-
Sleepy Eye Municipal Airport	Y58	1,574	-	-	525	372	-	479	1,741	1,209	1,228	1,149	573
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	5,351	-	-	-	-	-	190	1,847	3,694	2,306	2,158	1,077

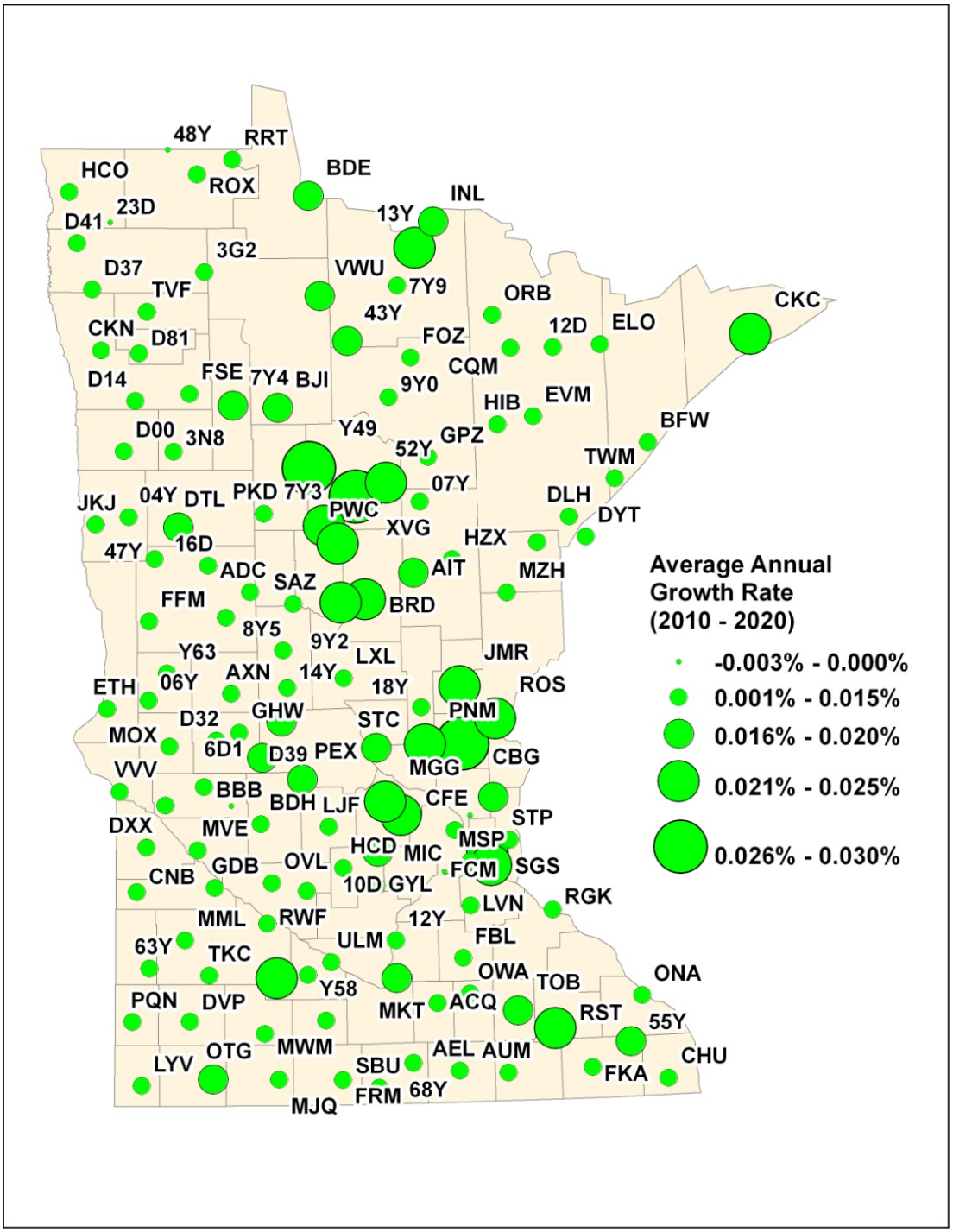
Source: HNTB Analysis

Figure C-30: (2010 – 2015) Average Annual Growth Rate of Based Aircraft



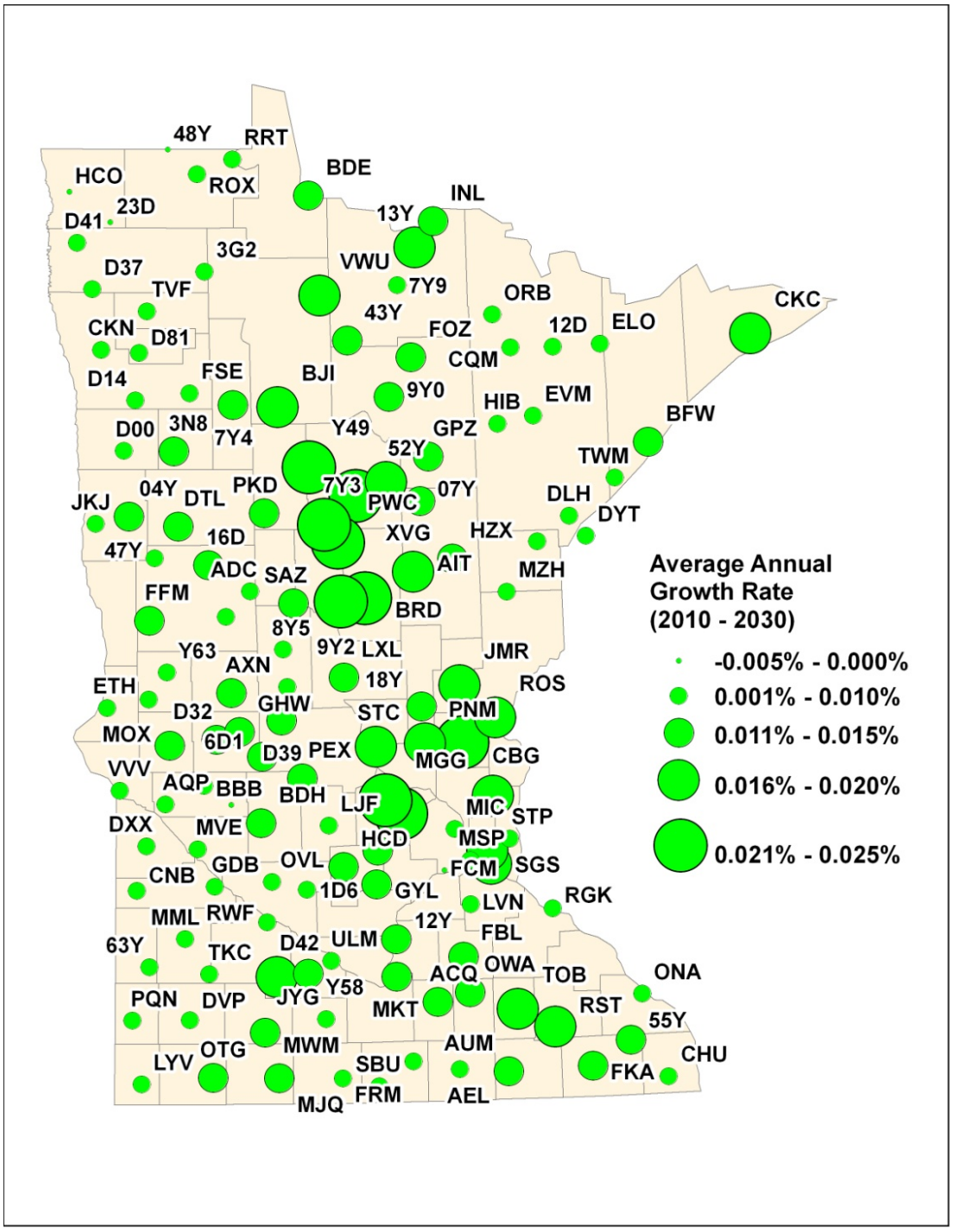
Source: HNTB Analysis

Figure C-31: (2010 – 2020) Average Annual Growth Rate of Based Aircraft



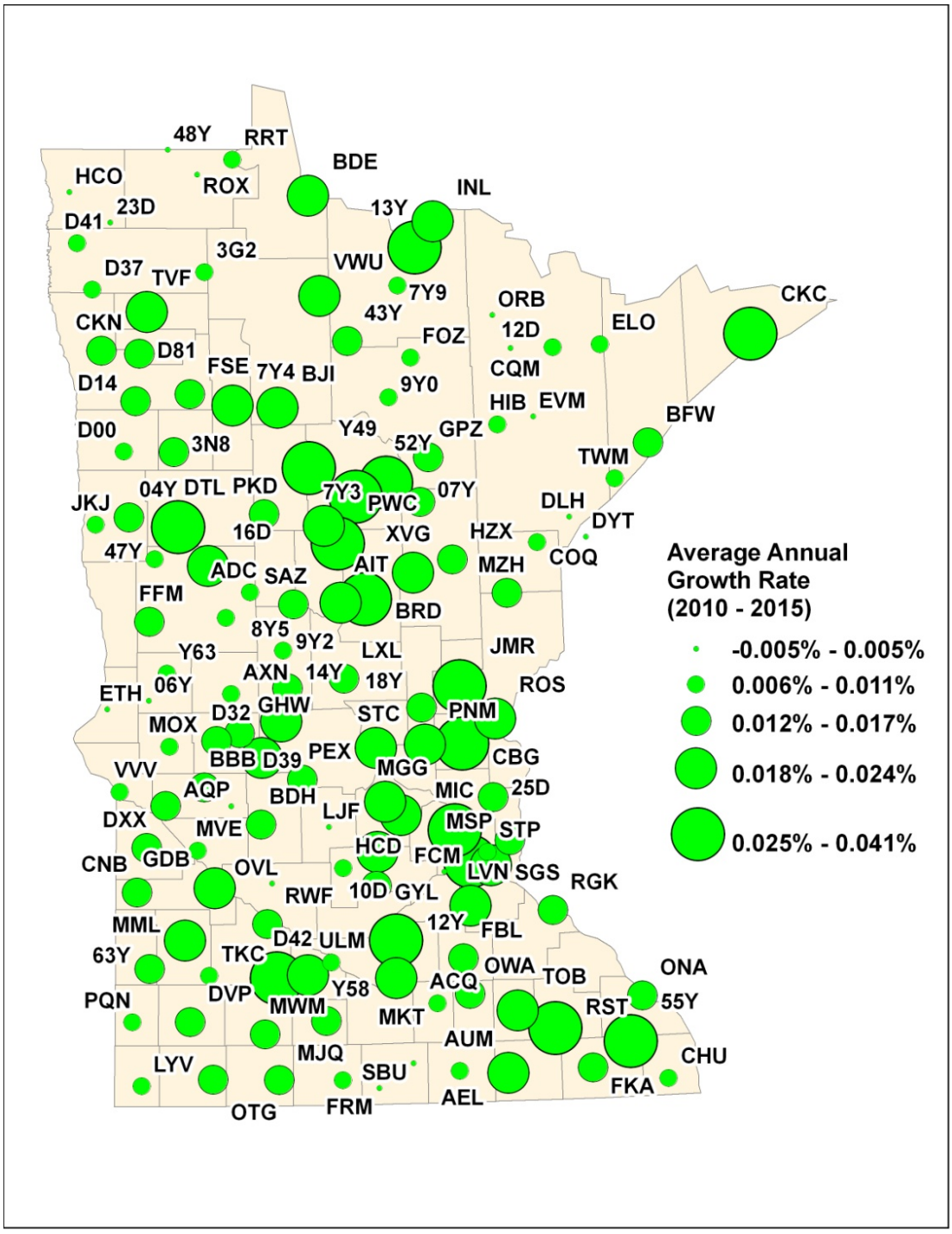
Source: HNTB Analysis

Figure C-32: (2010 – 2030) Average Annual Growth Rate of Based Aircraft



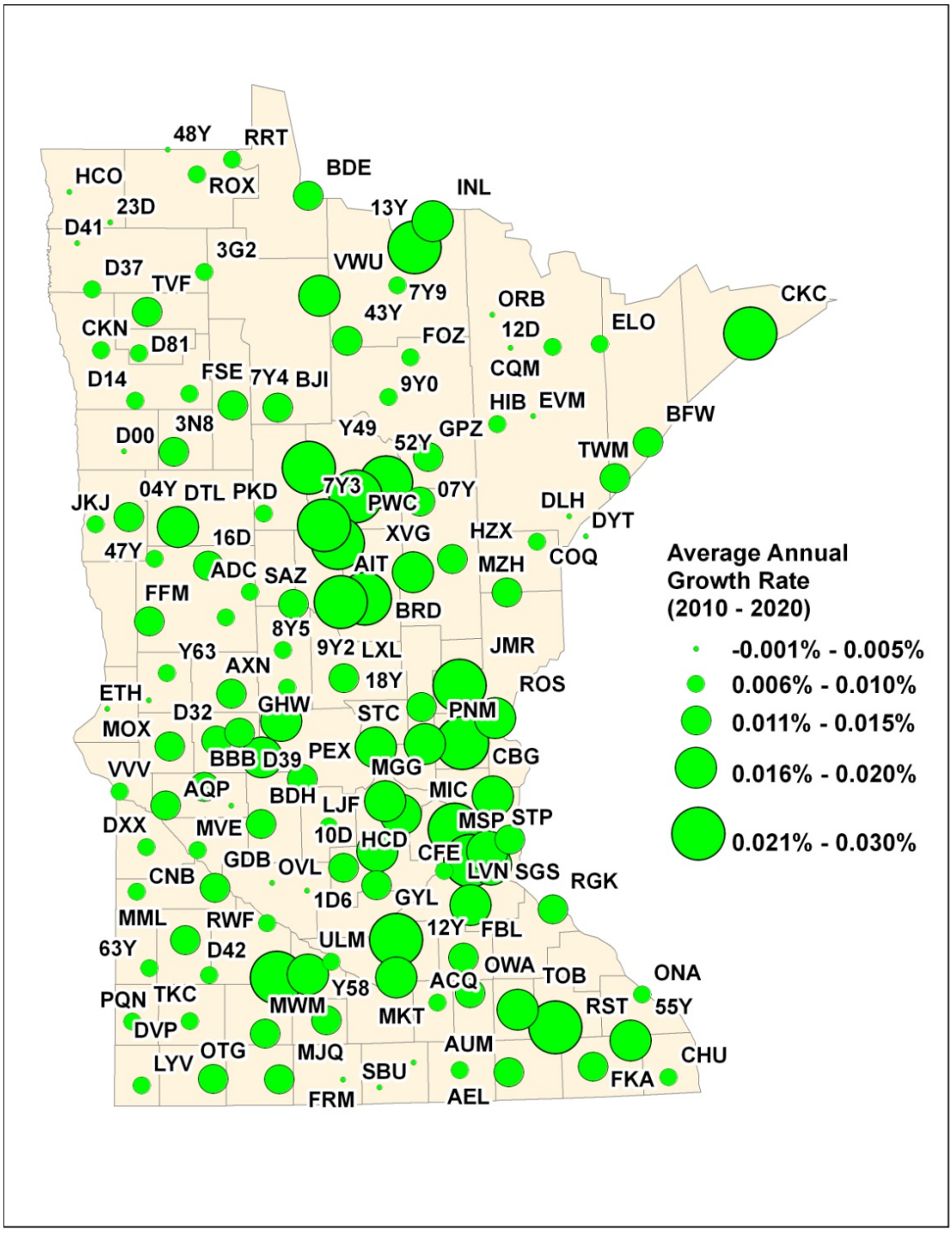
Source: HNTB Analysis

Figure C-33: (2010 – 2015) Average Annual Growth Rate of GA and Military Operations



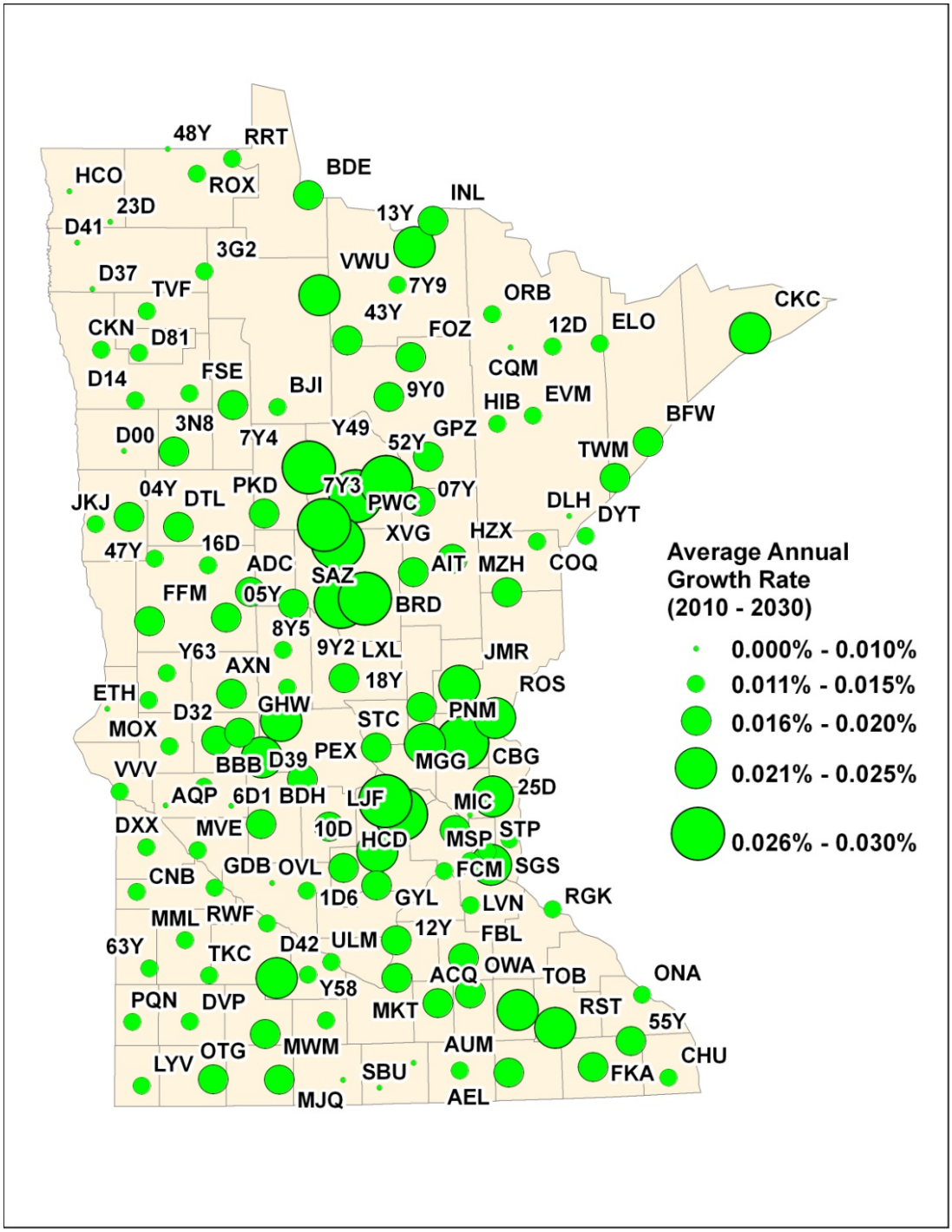
Source: HNTB Analysis

Figure C-34: (2010 – 2020) Average Annual Growth Rate of GA and Military Operations



Source: HNTB Analysis

Figure C-35: (2010 – 2030) Average Annual Growth Rate of GA and Military Operations



Source: HNTB Analysis

Table C-29: General Aviation Peak Hour Activity Level Forecast

GA Peak Hour Operations					
Airport Name	ID	2010	2015	2020	2030
Crystal Airport	MIC	27	31	34	39
Airlake Airport	LVN	23	26	27	31
Lake Elmo Airport	21D	18	19	20	23
St. Paul Downtown Airport - Holman Field	STP	42	44	49	55
Anoka County/Blaine Airport - Janes Field	ANE	31	32	33	36
Flying Cloud Airport	FCM	42	41	44	52
Minneapolis-St.Paul Int'l-Wold Chamberlain	MSP	6	8	8	8
Hawley Municipal Airport	04Y	5	6	6	7
Henning Municipal Airport	05Y	2	2	2	3
Herman Municipal Airport	06Y	2	2	2	2
Hill City-Quadna Mountain Airport	07Y	1	1	1	1
Winsted Municipal Airport	10D	7	8	8	10
Tower Municipal Airport	12D	5	5	5	6
Le Sueur Municipal Airport	12Y	9	10	11	13
Littlefork Municipal Airport - Hanover Airport	13Y	2	2	2	2
Long Prairie Municipal Airport - Todd Field	14Y	4	5	5	6
Perham Municipal Airport	16D	5	5	5	6
Milaca Municipal Airport	18Y	7	7	8	10
Hector Municipal Airport	1D6	5	5	5	6
Karlstad Municipal Airport	23D	1	1	1	1
Murdock Municipal Airport	23Y	1	1	1	1
Forest Lake Airport	25D	6	6	7	9
Grygla Municipal Airport - Mel Wilkens Field	3G2	1	1	1	1
Mahnomen County Airport	3N8	3	3	3	4
Northome Municipal Airport	43Y	1	1	1	1
Pelican Rapids Municipal Airport - Lyon's Field	47Y	2	2	2	2
Piney-Pinecreek Border Airport	48Y	1	1	1	1
Remer Municipal Airport	52Y	1	1	1	2
Rushford Municipal Airport	55Y	1	1	2	2
Tyler Municipal Airport	63Y	1	1	1	1
Wells Municipal Airport	68Y	3	3	3	4
Brooten Municipal Airport	6D1	4	4	4	6
Backus Municipal Airport	7Y3	2	2	2	3

GA Peak Hour Operations					
Airport Name	ID	2010	2015	2020	2030
Bagley Municipal Airport	7Y4	1	1	1	2
Big Falls Municipal Airport	7Y9	1	1	1	1
Clarissa Municipal Airport	8Y5	1	1	1	1
Bowstring Airport	9Y0	1	1	1	2
East Gull Lake Airport	9Y2	1	1	1	1
Waseca Municipal Airport	ACQ	4	4	4	5
Wadena Municipal Airport	ADC	3	4	4	5
Albert Lea Municipal Airport	AEL	16	17	18	20
Aitkin Municipal Airport - Steve Kurtz Field	AIT	13	14	15	19
Appleton Municipal Airport	AQP	1	1	1	2
Austin Municipal Airport	AUM	16	18	18	22
Alexandria Municipal Airport - Chandler Field	AXN	16	17	18	23
Benson Municipal Airport - Veterans Field	BBB	3	3	3	4
Baudette International Airport	BDE	7	8	8	10
Willmar Municipal Airport - John L. Rice Field	BDH	11	12	13	16
Silver Bay Municipal Airport - Wayne Johnson	BFW	2	2	2	3
Bemidji Regional Airport	BJI	5	6	6	7
Brainerd Lakes Regional Airport	BRD	22	25	28	37
Cambridge Municipal Airport	CBG	11	12	14	18
Buffalo Municipal Airport	CFE	14	16	17	23
Houston County Airport	CHU	2	2	2	3
Grand Marais-Cook County Airport	CKC	2	2	2	3
Crookston Municipal Airport - Kirkwood Field	CKN	18	19	19	23
Canby Municipal Airport - Myers Field	CNB	4	5	5	6
Cloquet-Carlton County Airport	COQ	6	7	7	8
Cook Municipal Airport	CQM	4	4	4	4
Norman County/Ada/Twin Valley Airport	D00	2	2	2	2
Fertile Municipal Airport	D14	6	6	6	8
Starbuck Municipal Airport	D32	1	1	1	1
Warren Municipal Airport	D37	2	2	2	2
Sauk Centre Municipal Airport	D39	4	4	4	5
Stephen Municipal Airport	D41	3	3	3	4
Springfield Municipal Airport	D42	2	2	2	2
Red Lake Falls Municipal Airport	D81	2	2	2	2
Duluth International Airport	DLH	25	25	25	28

GA Peak Hour Operations					
Airport Name	ID	2010	2015	2020	2030
Detroit Lakes Municipal Airport - Wething Field	DTL	10	11	12	14
Slayton Municipal Airport	DVP	2	2	2	2
Lac Qui Parle County Airport - Bud Frye Field	DXX	1	1	1	2
Duluth Sky Harbor Airport	DYT	9	9	9	11
Ely Municipal Airport	ELO	5	5	5	6
Wheaton Municipal Airport	ETH	1	1	1	1
Eveleth-Virginia Municipal Airport	EVM	5	5	5	6
Faribault Municipal Airport	FBL	12	12	13	16
Fergus Falls Municipal Airport-Einar Mickelson Fld	FFM	6	6	7	8
Preston - Fillmore County Airport	FKA	4	4	5	6
Bigfork Municipal Airport	FOZ	2	2	2	2
Fairmont Municipal Airport	FRM	5	5	5	5
Fosston Municipal Airport	FSE	6	6	6	8
Granite Falls Muni-Lenzen-Roe Memorial Fld	GDB	3	4	4	5
Glenwood Municipal Airport	GHW	3	3	3	4
Grand Rapids/Itasca Co-Gordon Newstrom Fld	GPZ	12	13	14	17
Glencoe Municipal Airport - Vernon Perschau Field	GYL	7	7	8	10
Hutchinson Municipal Airport - Butler Field	HCD	8	8	8	10
Hallock Municipal Airport	HCO	3	3	3	3
Range Regional Airport	HIB	17	17	18	21
McGregor - Isedor Iverson Airport	HZX	3	3	3	4
Falls International Airport	INL	10	11	12	14
Moorhead Municipal Airport	JKJ	6	6	6	7
Mora Municipal Airport	JMR	6	7	7	9
St. James Municipal Airport	JYG	3	3	3	4
Litchfield Municipal Airport	LJF	6	6	6	8
Little Falls-Morrison County Airport	LXL	6	6	7	8
Luverne Municipal Airport - Quentin Aanenson Field	LYV	7	7	7	9
Maple Lake Municipal Airport	MGG	6	6	7	10
Jackson Municipal Airport	MJQ	4	4	4	5
Mankato Regional Airport - Sohler Field	MKT	64	70	75	90
Southwest Minnesota Regional-Marshall/Ryan Field	MML	14	16	16	18
Morris Municipal Airport - Charlie Schmidt Field	MOX	4	4	4	5
Montevideo-Chippewa County Airport	MVE	8	8	8	10
Windom Municipal Airport	MWM	5	6	6	7

GA Peak Hour Operations					
Airport Name	ID	2010	2015	2020	2030
Moose Lake-Carlton County Airport	MZH	3	3	3	4
Winona Municipal Airport - Max Conrad Field	ONA	7	7	7	8
Orr Regional Airport	ORB	2	2	2	2
Worthington Municipal Airport	OTG	6	7	7	9
Olivia Regional Airport	OVL	2	2	2	3
Owatonna Degner Regional Airport	OWA	19	20	21	27
Paynesville Municipal Airport	PEX	3	3	4	5
Park Rapids Municipal Airport - Konshok Field	PKD	10	10	11	13
Princeton Municipal Airport	PNM	8	8	9	12
Pipestone Municipal Airport	PQN	5	5	5	7
Pine River Regional Airport	PWC	7	8	9	11
Red Wing Regional Airport	RGK	9	9	10	12
Rush City Regional Airport	ROS	14	15	16	22
Roseau Municipal Airport - Rudy Billberg Field	ROX	6	6	6	7
Warroad International Memorial Airport	RRT	5	6	6	7
Rochester International Airport	RST	16	18	19	25
Redwood Falls Municipal Airport	RWF	9	10	10	11
Staples Municipal Airport	SAZ	6	6	7	8
Blue Earth Municipal Airport	SBU	9	9	9	10
South St. Paul Municipal Airport - Fleming Field	SGS	39	42	46	61
St. Cloud Regional Airport	STC	49	55	58	72
Tracy Municipal Airport	TKC	2	2	2	2
Dodge Center Municipal Airport	TOB	6	6	7	9
Thief River Falls Regional Airport	TVF	19	21	21	24
Two Harbors Municipal - Richard B. Helgeson Field	TWM	6	6	6	7
New Ulm Municipal Airport	ULM	6	6	7	8
Ortonville Municipal Airport - Martinson Field	VVV	3	3	3	4
Waskish Municipal Airport	VWU	0	0	0	0
Longville Municipal Airport	XVG	4	5	5	7
Walker Municipal Airport	Y49	6	7	8	10
Sleepy Eye Municipal Airport	Y58	1	2	2	2
Elbow Lake Municipal Airport-Pride of the Prairie	Y63	3	3	3	3

Source: HNTB Analysis

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Appendix D

COMMERCIAL AIR SERVICE TECHNICAL REPORT

INTRODUCTION D-2
FACTOR AFFECTING AVIATION DEMAND AT OUTSTATE AIRPORTS D-4
ASSESSMENT OF AIR SERVICES: CURRENT CONDITIONS D-6
AIRPORT PROFILES: SMALL OUTSTATE AIRPORTS D-10
OVERALL AIR SERVICE MAINTENANCE RECOMMENDATIONS D-16
ASSESSMENT OF AIR SERVICES: CURRENT CONDITIONS D-17
RECOMMENDED STRATEGIES: LARGE OUTSTATE AIRPORTS D-19
RECOMMENDED STRATEGIES FOR COMMUNITY RELATIONS D-20
RISK ANALYSIS D-22

Appendix D

COMMERCIAL AIR SERVICE TECHNICAL REPORT

INTRODUCTION

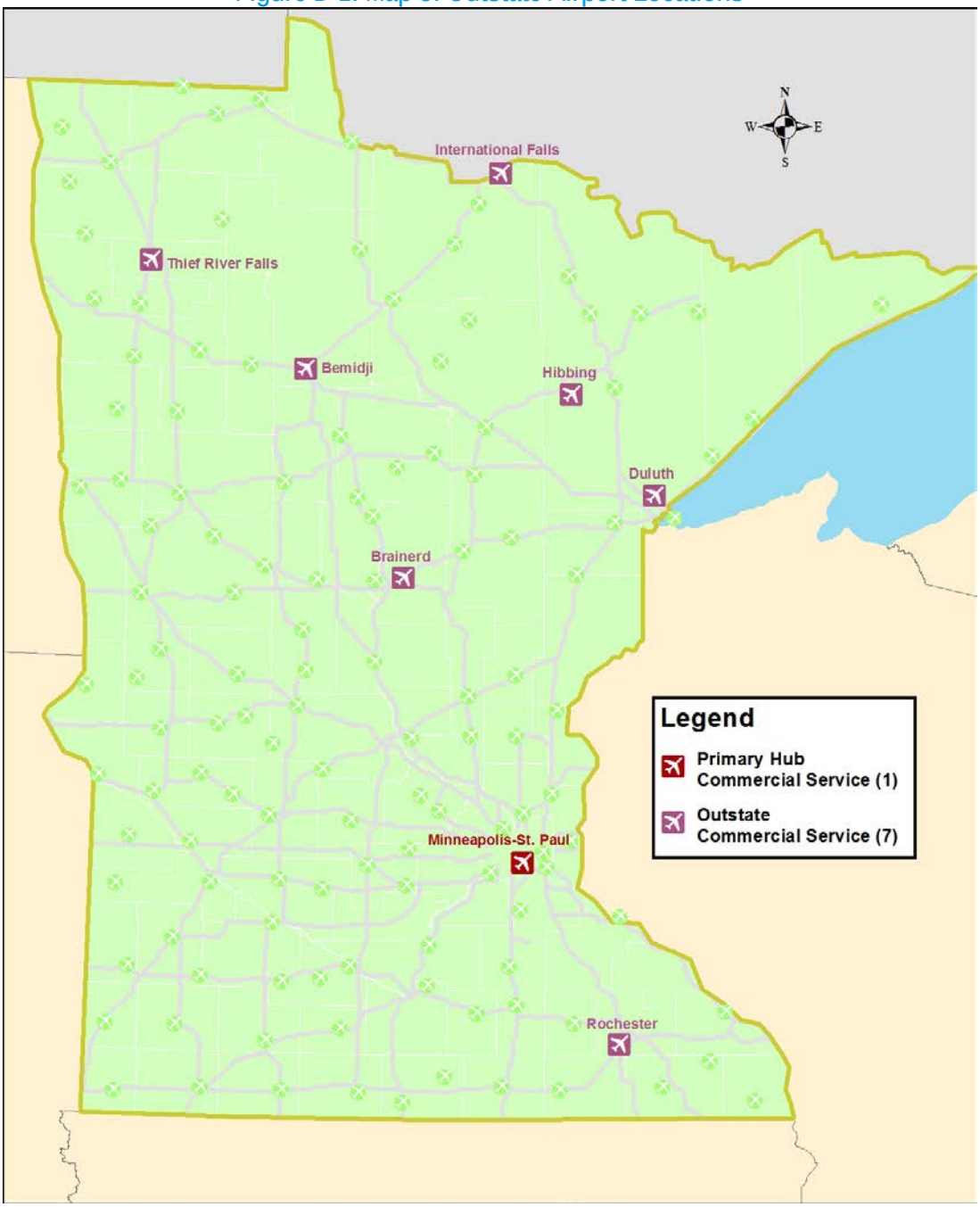
The purpose of the Assessment of Commercial Air Service (the "Plan") in Minnesota (the "State") is to provide an overview of the current air service conditions in the State and recommend overall strategies for their enhancement. The Plan includes an overview of airline trends, risk factors associated with the changing airline business and operating models and potential future elimination of the Essential Air Service program, airport profiles, and general strategies for retention of air service including community involvement. Concurrent studies are underway by others that are also looking at commercial air service in MN. The primary purpose of this study is to identify from a system perspective any major changes that are likely to occur in commercial service in MN that could require a change in focus for the goals and funding priorities for the state aviation system plan.

Air service characteristics in Minnesota can be divided into two broad categories of the Minneapolis-St. Paul or Twin Cities metropolitan area ("The Cities"), and Greater Minnesota ("Outstate"). In turn, Outstate airports can be further divided into two major categories. The first centers on commercial airports with less than 100,000 enplanements per year and scheduled commercial air service by one or no air carriers. These will be referred to as small Outstate airports. The second points to airports enplaning more than 100,000 annual passengers and served by multiple air carriers flying to at least two major domestic hubs. These will be referred to as large Outstate airports. Pease refer to Table D-1 for the list of Outstate airports included in this study. Please refer to Figure D-1 for a map of the Outstate airport locations.

Table D-1: List of Outstate Airports[i, ii]

Airport	City/County	IATA[1] Code	2010 Enplaned Passengers[2]
Airports with less than 100,000 Enplaned Passengers			
Bemidji Regional Airport	Bemidji/Beltrami	BJI	21,498
Brainerd Lakes Regional Airport	Brainerd/Crow Wing	BRD	16,404
Falls International Airport	International Falls/Koochiching	INL	14,051
Range Regional Airport	Chisholm/St. Louis	HIB	11,227
St. Cloud Regional Airport	St. Cloud/Stearns	STC	0
Thief River Falls Regional Airport	Thief River Falls/Pennington	TVF	2,482
Airports with more than 100,000 Enplaned Passengers			
Duluth International Airport	Duluth/St. Louis	DLH	150,556
Minneapolis-St. Paul International Airport	Minneapolis and St. Paul/Hennepin	MSP	15,512,487
Rochester International Airport	Rochester/Olmsted	RST	120,063

Figure D-1: Map of Outstate Airport Locations



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB analysis

Appendix D

COMMERCIAL AIR SERVICE TECHNICAL REPORT

FACTOR AFFECTING AVIATION DEMAND AT OUTSTATE AIRPORTS

The Economics of Air Service

The airline industry is a major economic force, both in terms of its own operations and its impacts on related industries such as aircraft manufacturing and tourism. The US airline industry has approximately 100 certificated passenger airlines operating over 11 million flight departures per year and carrying over one-third of the world's total air traffic. The economic impacts of the airline industry range from its direct effects on airline employment, the aircraft manufacturing industry, airports, support functions such as maintenance, catering, FBO's etc. and tourism. It is also impacts every other industry relying on commercial air transportation on a daily basis. Commercial aviation contributes approximately 8.0 percent of the U.S. Gross Domestic Product (U.S. GDP).

In the U.S., the airline industry has been in a financial crisis for over a decade. The industry crisis escalated in the aftermath of the events of 9/11, which resulted in layoffs and spending cutbacks. The airlines, however, were in serious trouble before that point as the start of an economic downturn already had negatively affected the volume of business travel and average fares. At the same time, airline labor costs and fuel prices were increasing yearly with aging fuel inefficient fleet. To make matters worse, airlines were faced with deteriorating labor/management relations, aviation infrastructure constraints that led to increasing congestion, flight delays and dissatisfied customers due to perceptions of poor service in general.
The growth of low-fare air travel options combined with a reduced willingness by business travelers to pay higher air fares charged by the network carriers played a major role in contributing to the poor financial performance of traditional network airlines. To address these financial pressures airlines have adjusted their business models and operating approaches. Ancillary fees such as baggage check-in fees and reservation change fees have provided some relief but the volatility of jet fuel prices in the past few years continue to place pressures on airline profitability. In response to these financial pressures, US airlines have made substantial reductions and shifts in the level of seating capacity that carriers are flying into various airports.

In the State, the evidence of the airline industry's financial crisis is evident. On an aggregate basis, total passengers at Outstate airports have been declining at an average annual rate of -2.5 percent per year. Despite a decline in seat capacity across the national air transportation system, load factors at some Outstate airport are critically low. Most airports are served commercially via flights paid through federal grants subsidizing the cost of their operations and rely on one carrier and their business decisions to carry their passengers. However, with a significant threat that the Essential Air Service program will be eliminated or greatly reduced in the long-term, air service demand needs to increase at Outstate airports and reach a level where these facilities can be self-sustaining both financially and operationally.

Driving Distance to Minneapolis/St. Paul International Airport

Driving distances between Minneapolis/St. Paul International Airport (MSP) and most Outstate airports are long. Excluding traffic, the travel times can range from one and a half to six hours. However, with a lack of competition and exceedingly high fares at the Outstate airports, the population outside of the Twin Cities area is increasingly willing to drive long distances for lower fares and more convenient travel schedules. The leakage rate at some Outstate airports exceeds 80.0 percent. in part due, given the ease of access to the The Cities through an efficient system of Interstates and Highways. Table D-2 details the driving distance and travel time between Outstate airports and MSP. Additionally, the driving distance and travel time from Outstate airports to the closest airport with service by multiple

airlines (excluding MSP) is also included. In many instances, these airports may provide lower fares on certain markets and more convenient access.

Table D-2: Driving Distances from Small Outstate Airports to MSP and Alternative Airports

From:	To:	Preferred Route	Driving Distance (in miles)	Travel Time (in hours)
Bemidji Regional Airport	MSP	MN-64 S and US-10 E	233	4:00
Alternative	DLH	US-2 E	150	2:55
Brainerd Lakes Regional Airport	MSP	US-169S	143	3:00
Alternative	DLH	MN-210 E	117	2:20
Falls International Airport	MSP	US-53 S and I-35 S	296	5:00
Alternative	DLH	US-53 S	156	2:45
Range Regional Airport	MSP	I-35 S	205	4:00
Alternative	DLH	US-53 S	66	1:10
St. Cloud Regional Airport	MSP	I-94 E and I-494 S	77	1:30
Alternative	RST*	US-10 E and US-52 S	155	2:50
Thief River Falls Regional Airport	MSP	US-59 S and US-10 E	310	6:00
Alternative	DLH	US-2 E	238	4:30

** The driving distance between St. Cloud Regional Airport and Duluth International Airport (DLH) is closer in mileage (148 miles), however, Rochester International Airport (RST) offers a shorter drive time.*

Regional Jets: The 50-Seater

High jet-fuel prices and a depressed demand for air travelers are reversing the trend of scheduling 50-seat regional jets (RJs) to supplement services on mainline jets on trunk routes across the U.S. RJs were never huge profit makers in the best of times throughout the 1990s. They were promoted as economical substitutes for 110- to 140-seat jetliners on thin-demand routes because their ownership and operating costs were lower per mile flown. They were also marketed as more consumer-friendly than smaller, noisier, slower and less comfortable turboprop planes. Airlines invested heavily in them starting in the late 1990s, primarily to feed more travelers from small markets into their hubs and onto their more profitable mainline flights.

In 2009, one in four commercial takeoffs was made by a 50-seat or smaller RJ. But the number of small RJs in service has begun to drop given economic conditions. Since these aircraft are no longer manufactured, as the average age of this fleet advances, retirements and groundings are inevitable. Also, with the advent of more efficient and comfortable RJ's with 70-110 seating configurations, airlines are able to fly these jets more economically on a

per-seat-mile basis. Some of these jets are configured to allow passengers to store rolling hand luggage in upper head bins. Airlines are capitalizing on their increased range and fuel efficiency.

Delta Air Lines (Delta) halted the operations of 70 50-seat RJs from its Delta Connection fleet in 2011 and more reductions are likely. Outstate airports are currently served by 50-seat RJs in addition to 34-seat turboprops. The RJs are slowly being phased out and service on the 34-seat Saab 340B type has been retired.. As these aircraft form the backbone of Delta's fleet serving Outstate airports, it is important to understand the risks posed by Delta's fleet plans in the short-to-medium term.

ASSESSMENT OF AIR SERVICES: CURRENT CONDITIONS

Small Outstate Airports

Background

Minnesota's small Outstate airports are a lifeline connecting these small communities and their businesses to the Cities, the U.S. and the world. These airports include Bemidji Regional Airport (BJI), Brainerd Lakes Regional Airport (BRD), Falls International Airport in International Falls (INL), Range Regional Airport in Hibbing (HIB), St. Cloud Regional Airport (STC) and Thief River Falls Regional Airport (TVF). Combined, these airports offered 10,000 departures and served approximately 142,000 passengers in 2010. Also in common, they all have a single non-stop scheduled destination with MSP on one carrier, Delta operated by Delta Connection utilizing either Mesaba Airlines (Mesaba) or Pinnacle Airlines (Pinnacle) to provide services. Additionally, all of these markets are served by two fleet types: the Saab 340B with 34 seats and the Canadair CRJ-200 with 50-seats.

Grants from the federal Essential Air Service Program (EAS) help pay for flying to three of the six small Outstate airports: TVF, HIB and INL. Nationwide, currently 153 communities, many of them rural, are served via the EAS program which provides subsidies to airlines incentivizing them to fly to airports which would otherwise be bypassed under normal market conditions and help connect them to the national air transportation system. EAS was created after the airline industry was deregulated in 1978 and has a current annual budget of $188 million. Through the process of the debates leading up to the most recent FAA Reauthorization bill major changes were proposed to both the funding and overall size and scope of the EAS program. While many of the reductions were avoided for the FAA Reauthorization Act of 2012, industry experts anticipate major reductions or elimination of the EAS program in the continental US within the next 15 – 20 years.

Small Outstate airports, on an aggregate level, have been steadily losing capacity (measured in seats) as well as total passengers. Since 2005, both of these measures have been declining annually except for 2007 when there was a rise in total passenger levels of 4.1 percent. Thereafter, total passengers declined in the year-over-year periods ending in 2008, 2009 and 2010 by -9.0 percent, -16.9 percent and -10.2 percent, respectively. Recent years have been especially volatile due to a fall in demand in response to a recessionary economic period beginning in 2008 and the reduction in capacity in response to the rise in fuel prices. These percentages are weighted heavily with the loss of commercial air service at St. Cloud. For example, the decline in total passengers in the period ending in 2010 would have measured -3.9 percent if STC was excluded from the calculation.

The reduction in passengers and the loss in seating capacity becomes a downward spiral. Given the passenger numbers and overall market conditions at the small Outstate airports, Delta responded accordingly by scheduling

seat capacity at a decreased level. For the year-over-year periods ending in 2008, 2009 and 2010, Delta reduced seats at the small Outstate airports (excluding STC in 2010) by -5.8 percent, -12.2 percent and -2.6 percent respectively. In turn passengers will travel to larger airports in order to get the destinations, fares, and frequencies desired, thereby further reducing demand at the small Outstate airports.

Load Factors are a measure of the number of seats occupied by passengers on a percentage basis for a market or group of markets. For the small Outstate airports (excluding STC in 2010), load factors on an aggregate level have slightly declined over five years at 49.8 percent in 2005, 46.6 percent in 2006, 46.1 percent in 2007, 42.9 percent in 2008, 42.3 percent in 2009 and 46.4 percent in 2010. BJI recorded the highest load factor of the small Outstate airports in 2010 with 59.3 percent of its seats filled. Airlines look at load factors as an important measure of a market's success. An airline's ability to schedule flights to attract the most customers can have a deep effect on passenger volume and consequently on load factors.

Despite federal subsidies under the EAS grant, there is a minimum load factor threshold which airlines such as Delta deem the difference between breaking even and losing money on these markets. With high operating costs, low frequency, alternative airports for passengers at a driving distance and high fares, airlines have recently vocalized the possibility of dropping EAS services unless funding is increased to match market conditions. Delta has publicly stated that it will drop all the small Outstate airports it serves unless there are increases in federal subsidies under the EAS program.

Please see Table D-3 for detailed 2010 air service statistics for individual small Outstate airports. In addition, Sub-Appendix A and Sub-Appendix B show historical air service data for individual small Outstate airports as follows:

- 1997 – 2010 Total Departures
- 1997 – 2010 Total Seats
- 1997 – 2010 Total Passengers
- 1997 – 2010 Total Load Factors
- 1997 – 2010 Available Seat Miles (ASMs) (000)
- 1997 – 2010 Revenue Passenger Miles (RPMs) (000)
- 1990 -2010 Origin-Destination Passengers
- 1990 – 2010 Average Fares
- 1990 -2010 Yield

Table D-3: Small Outstate Airports 2010 Air Service Statistics

Metric	BJI	BRD	HIB	INL	STC	TVF
Departures	2,037	1,769	3,166	1,614	0	1,206
Seats	73,253	63,769	111,238	56,715	0	41,004
On-Board Passengers	42,754	33,791	32,856	27,902	0	5,004
Available Seat Miles (ASMs)(000s)	14,559	9,298	21,680	15,498	0	6,742
Revenue Passenger Miles (RPMs)(000s)	8,504	5,752	8,183	8,153	0	826
Load Factors	58%	62%	38%	53%	0%	12%
Average Fares	$242	$213	$212	$249	$0	$216
Yield (cents $)	0.21	0.19	0.17	0.22	0.00	0.19

Source: DOT T-100; DOT 10% Ticket Sample Survey

Delta Air Lines Announced Service Cuts in the State

Delta notified the U.S. Department of Transportation (DOT) on July 15, 2011, that it plans to adjust flying in 24 small markets in conjunction with the retirement of its Saab 340B fleet. According to the airline, this move would help them stop $14.0 million in annual losses achieved through services to these markets. Five of the markets on the list are airports in the State including TVF, HIB, INL, BRD and BJI.

According to Delta, flights in these markets on average depart with a 52.0 percent load factor with some locations as low as 12.0 percent. The carrier compared these to a U.S. domestic system load factor of 83.0 percent in 2010. The carrier went on to state that weak demand in some markets had led to flights occasionally operating with no passengers on board. Please see Table D-4 for detailed information regarding markets and load factors planned for adjustment.

Table D-4: Delta Air Lines Essential Air Service Market Change Summary (2010 Load Factors)

Thief River Falls, MN TVF	EAS subsidized	12.0% load factor
Greenville, MS GLH	EAS subsidized	27.6% load factor
Devils Lake, ND DVL	EAS subsidized	30.3% load factor
Watertown, SD ATY	EAS subsidized	35.0% load factor
Muscle Shoals, AL MSL	EAS subsidized	35.7% load factor
Fort Dodge, IA FOD	EAS subsidized	39.1% load factor
Hibbing, MN HIB	EAS subsidized	39.2% load factor
Alpena, MI APN	EAS subsidized	39.5% load factor
Tupelo, MS TUP	EAS subsidized	41.0% load factor
Jamestown, ND JMS	EAS subsidized	42.1% load factor
Mason City, IA MCW	EAS subsidized	45.9% load factor
Pierre, SD PIR	Not EAS subsidized	47.4% load factor
Iron Mountain, MI IMT	EAS Subsidized	48.7% load factor
Sioux City, IA SUX	Not EAS subsidized	51.4% load factor
International Falls, MN INL	EAS subsidized	52.5% load factor
Brainerd, MN BRD	Not EAS subsidized	52.6% load factor
Hattiesburg, MS PIB	EAS subsidized	53.7% load factor
Escanaba MI ESC	EAS subsidized	55.2% load factor
Aberdeen, SD ABR	Not EAS subsidized	55.6% load factor
Pellston MI PLN	Not EAS subsidized	58.5% load factor
Bemidji, MN BJI	Not EAS subsidized	59.3% load factor
Sault Ste Marie MI CIU	EAS subsidized	60.0% load factor
Waterloo, IA ALO	Not EAS subsidized	61.4% load factor
Butte, MT BTM	Not EAS subsidized	65.3% load factor

Source: Delta Air Lines

The carrier stated in their website that numerous measures have been implemented system-wide to reduce costs including their intention to decrease seat capacity by 4.0 percent and retire 140 airplanes from their mainline fleet and their recent reduction in properties costs at airport and cargo markets equaling $80 million.

Despite cost cutting announcements, on August 22, 2011, Delta announced the purchase 100 Boeing 737-900ER aircraft in a bid to replace its ageing 757-200/300 fleet, but the carrier has delayed a decision on 100 additional narrowbody aircraft. This selection will be pushed to 2012 or 2013 as the carrier opted to continue operating its fleet of Airbus A319s, A320s and Boeing 737-700/800s. Delta issued a request for proposal to airframers in January 2011 for up to 200 narrowbody aircraft to replace its older narrowbody fleet of 757-200s, A319/A320s and DC-9 types

starting in 2013. None of these aircraft will be utilized for regional services to Outstate airports and are unrelated to Delta's decision to retire their Saab 340B turboprop airplanes or decrease service from CR200's.

Impact of Delta Air Lines' Announcement to EAS Subsidized Communities

The notification provides the DOT the opportunity to select a new carrier to begin service in affected EAS communities within a 90-day period. Delta will continue to serve the affected communities through its Delta Connection partners until the DOT selects a replacement carrier and appropriate funding is available. According to Delta, in some cities, the carrier is coordinating with other carriers to bid on the routes. In addition, Delta will continue service in some subsidized and non-subsidized markets, but the subsidy rate must be higher in order for Delta to fly larger regional jets on the routes in question.

Given that Delta serves INL, HIB and TVF exclusively on Saab 340B aircraft operated by Delta Connection, these markets will lose Delta service as their EAS funding dates expire or when a new carrier is found as stated above. For BRD and BJI, Delta is expected to keep service on 50-seat Canadair CRJ-200 aircraft. These airports do, however, have a mixed schedule of CRJ-200s and Saab 340Bs depending on the season. Whether Delta backfills the Saab 340B services in these markets with additional CRJ-200s remains to be addressed by the carrier. If they do not, the risk is high as a limited schedule of flights will likely cause a reduction in demand sought by business traffic accustomed to frequency and may lead to a reduction in load factors. A market-by-market assessment of small Outstate airports follows this section and looks at markets individually.

AIRPORT PROFILES: SMALL OUTSTATE AIRPORTS

Bemidji Regional Airport

BJI is a public use airport located three miles northwest of the central business district of the City of Bemidji (Bemidji). The airport has a single terminal and two active asphalt runways, the longest measuring 7,002 feet. Amenities include free overnight parking, Wi-Fi access throughout the terminal facility, in-terminal rental car agencies, access to taxi cab services and access to county transit. BJI also houses a full-service Fixed Base Operator (FBO) called *Bemidji Aviation*. Services provided include fuel, maintenance, hanger rental, plane rental, flight training, car rental, pilot supplies and a pilot lounge.

In 2009, BJI transitioned from being jointly owned and operated by the city of Bemidji and Beltrami County to ownership and operation by an Airport Authority, with its own tax levy and funding responsibilities. This provides more transparency to the airport's financial structure and costs. BJI has undergone some major capital improvements in the past five years, including the complete reconstruction or rehabilitation of all runways and taxiways. Recently, the airport has completed a ramp rehabilitation project as a part of the Federal Recovery Act program; and the rehabilitation and modernization of the 20 year old terminal and aircraft rescue and firefighting facility (ARFF) are underway.

Bemidji is located close to the Mississippi River and offers access to the Minnesota north woods region. Bemidji is situated on the shores of Lake Bemidji and is the county seat of Beltrami County. According to the 2010 Census, Bemidji had a city population of 13,431; and Beltrami County had a population of 44,442. Four-lane U.S. Route 2, U.S. Route 71 and State Highway 197 are three of the main routes into the city. State Highways 89 and 371 are also in close proximity.

Bemidji is home to various private and public colleges and universities and has an active park and recreation community, given its proximity to 400 lakes (within 25 miles), 500 miles of snowmobile trails, and 100 miles of cross country ski trails. Some of the larger employment sectors in the region include state and local government, education and related services and retail.

BJI offers service to MSP three times daily, a portion of the year, and utilizes that hub as a connecting point to other U.S. and international destinations. U.S. DOT Origin-Destination (O-D) survey data from 2010 indicate the top five largest markets from BJI to be Chicago, Minneapolis/St. Paul, Denver, Phoenix and Orlando. From 1999 to 2010, BJI's total O-D passengers have ranged from approximately 40,000 to 55,000 (see Sub-Appendix A-5 for more details). BJI's commercial air service is provided by two carriers, Mesaba and Pinnacle (seasonally), both operating as Delta Connection. Equipment includes 34-seat Saab/Fairchild 340 aircraft and 50-seat Canadair CRJ-200 regional jets. See Table D-5 for detailed schedule information.

Table D-5: Daily Week Day Bemidji Regional Airport Schedule (effective July 1, 2011)

Flight No.	Origin	Dest	Dep/Arr	Frequency	Carrier	Operator	Eqpmnt	Seats
Departures								
2518	BJI	MSP	6:15	7 Days/Wk	DL	XJ	CRJ	50
2589	BJI	MSP	13:02	7 Days/Wk	DL	XJ	SF3	34
2504	BJI	MSP	17:08	7 Days/Wk	DL	XJ	CRJ	50
Arrivals								
2518	MSP	BJI	12:40	7 Days/Wk	DL	XJ	SF3	34
2589	MSP	BJI	14:40	7 Days/Wk	DL	XJ	CRJ	50
2504	MSP	BJI	23:27	7 Days/Wk	DL	XJ	CRJ	50

Source: Bemidji Regional Airport

Please refer to Sub-Appendix A (A-1 through A-7) and Sub-Appendix B (B-1) for BJI historical air service data and metrics.

Brainerd Lakes Regional Airport

BRD is a public airport located three miles northeast of the central business district of Brainerd. The airport covers 1,560 acres and has three runways and one helipad. Two of the airport's runways measure 6,500 feet. Airport amenities include free parking (located steps from the terminal door), a restaurant, free Wi-Fi, in-terminal rental car agencies, access to taxi cab services and access to county transit. General aviation (GA) plays a major role at the airport with seven 10-unit T-hangars and 11 private hangers. *Airmotive Enterprises* is the airport's FBO. BRD actively promotes availability of land within its premises for private hangar construction and aviation-related business development. Existing hangar space is also available for lease.

Brainerd is the county seat of Crow Wing County and had a population of 13,590 according to the 2010 census. Brainerd straddles the Mississippi River several miles upstream from the confluence with the Crow Wing River, founded as a site for a railroad crossing above the confluence. Brainerd is the principal city of the Brainerd Micropolitan Area that covers Cass and Crow Wing counties (combined population of 91,067) as per the 2010

census. The Brainerd area is a major tourist destination for nature enthusiasts, golfers, and other recreationalists and in close proximity, Baxter is a regional retail center.

Brainerd is the home to one of five *MedEvac* helicopter flight stations in Minnesota for "AirCare," operated by North Memorial Medical Center, a Level 1 trauma center. The city is also known for the Brainerd International Raceway, which hosts races frequently throughout the year and has an annual national drag racing meet. Some of the city's major employers include Essential Healthcare, the Cuyuna Regional Medical Center, Ascensus and the Grand View Lodge.

The majority of BRD's air service in the past 10 years has been to MSP, as a connecting hub to other U.S and international destinations. U.S. DOT O-D survey data from 2010 indicates the top five largest markets from BRD to be Phoenix, Denver, Chicago, Dallas and Atlanta. From 1999 until 2010, BRD total O-D passengers have ranged from approximately 36,000 to 40,000 (please refer to Sub-Appendix A-5 for detailed information). BRD currently offers three daily departures to MSP on Mesaba, operating for Delta Connection. Equipment includes 34-seat Saab 340B aircraft and 50-seat Canadair CRJ-200 regional jets, depending on season. Additionally, Sun Country flies Boeing 737-800 aircraft on a charter basis to leisure destinations throughout the year. See Table D-6 for detailed schedule information.

Table D-6: Daily Week Day Brainerd Lakes Regional Airport Schedule (effective July 1, 2011)

Flight No.	Origin	Dest	Dep/Arr	Frequency	Carrier	Operator	Eqpmnt	Seats
Departures								
4272	BRD	MSP	5:25	7 Days/Wk	DL	XJ	CRJ	50
4153	BRD	MSP	12:49	7 Days/Wk	DL	XJ	CRJ	50
2513	BRD	MSP	15:37	Sun-Fri	DL	XJ	SF3	34
Arrivals								
4153	MSP	BRD	12:19	7 Days/Wk	DL	XJ	CRJ	50
2513	MSP	BRD	15:16	Sun-Fri	DL	XJ	SF3	34
3997	MSP	BRD	23:17	7 Days/Wk	DL	XJ	CRJ	50

Source: Brainerd Lakes Regional Airport

Please refer to Sub-Appendix A (A-1 through A-7) and Sub-Appendix B (B-2) for BRD historical air service data and metrics.

Range Regional Airport

HIB, formerly known as Chisholm-Hibbing Municipal Airport, is a public facility located four miles southeast of the City of Hibbing (Hibbing) in St. Louis County. The airport has two active runways, the longest of which measures 6,760 feet. The airport offers free parking and recently opened a new aircraft maintenance facility. In addition to aeronautical activities, the airport actively markets a 150 acre parcel of land designated by Hibbing as the *Airport Industrial Park*. Various buildings are open for leasing to qualified businesses with incentives and grants available.

The population of Hibbing is 16,361 according to the 2010 census. The city was built on the iron ore mining business, and it is in close proximity to the Mesabi Iron Range. Employers in Hibbing are involved in taconite production and

related industries, regional health care services, electronics manufacturing and education. Access to Hibbing is provided by U.S. Highway 169, State Highway 37 and State Highway 73.

Most commercial air service from HIB have been within Minnesota, predominantly to MSP as a connecting hub to other U.S. and international destinations. U.S. DOT O-D survey data from 20010 indicated the top five largest markets from HIB to be Bullhead City[iii] (AZ), Phoenix, Denver, Minneapolis/St. Paul and Seattle. From 1999 until 2010, HIB total O-D passengers have ranged from approximately 14,000 to 29,000 (please refer to Sub-Appendix A-5 for detailed information). HIB currently offers three daily departures to MSP on Mesaba, operating for Delta Connection. Equipment includes a 34-seat Saab 340B. Sun Country flies Boeing 737-800 aircraft on a charter basis to leisure destinations throughout the year. See Table D-7 for detailed schedule information.

Please refer to Sub-Appendix A (A-1 through A-7) and Sub-Appendix B (B-3) for HIB historical air service data and metrics.

Table D-8: Daily Week Day Range Regional Airport Schedule (effective July 1, 2011)

Flight No.	Origin	Dest	Dep/Arr	Frequency	Carrier	Operator	Eqpmnt	Seats
Departures								
2583	HIB	MSP	7:11	7 Days/Wk	DL	XJ	SF3	34
2515	HIB	MSP	12:50	Mon-Fri	DL	XJ	SF3	34
2618	HIB	MSP	17:01	7 Days/Wk	DL	XJ	SF3	34
Arrivals								
2515	MSP	HIB	12:29	Mon-Fri	DL	XJ	SF3	34
2617	MSP	HIB	14:14	7 Days/Wk	DL	XJ	SF3	34
2461	MSP	HIB	23:09	7 Days/Wk	DL	XJ	SF3	34

Source: Range Regional Airport

Falls International Airport

INL is a public facility located just south of the City of International Falls (International Falls). The airport covers 681 acres and has two runways, the longest of which measures 7,400 feet. Amenities include free parking and Wi-Fi internet access for passengers. Since International Falls is a designated international Port of Entry to the U.S., U.S. Customs provides services at INL as well as other points of entry within the city.

International Falls is the county seat for Koochiching County with a city population of 6,424 as per the 2010 census. INL serves residents in northern Minnesota including those in the cities of Littlefork, Big Falls, Ranier, Ash River, Kabetogama, Baudette, Warroad, Rainy River, Emo, Kenora and Dryden. INL's catchment area in Koochiching County is approximately 13,000 as per the 2010 census. INL also draws passengers from locations in northwestern Ontario, Canada. Some of the larger employers in the region include state and local government, Boise Inc. and United Healthcare. International Falls also hosts US and international manufacturers who conduct cold-weather testing in automobile, industrial and recreational equipment. Koochiching County has a substantial wood products industry and the county's location along the US border offers Foreign Trade Zone benefits to companies.

The majority of INL's air service in the past 10 years has been to MSP as a connecting hub to other U.S. and international destinations. U.S. DOT O-D survey data from 2010 indicated the top five largest markets from INL to be Minneapolis/St. Paul, Chicago, Bullhead City [iv](AZ), Atlanta and Dallas. From 1999 until 2010, INL total O-D passengers have ranged from approximately 26,000 to 42,000 (please refer to Sub-Appendix A-5 for detailed information). INL currently offers three daily departures to MSP on Mesaba, operating for Delta Connection. Equipment includes 34-seat Saab 340B aircraft, and during high season, on 50-seat Canadair CRJ-200 regional jets. See Table D-8 for detailed schedule information.

Table D-8: Daily Week Day Falls International Airport Schedule (effective July 1, 2011)

Flight No.	Origin	Dest	Dep/Arr	Frequency	Carrier	Operator	Eqpmnt	Seats
Departures								
2558	INL	MSP	6:40	7 Days/Wk	DL	XJ	SF3	34
2587	INL	MSP	10:57	7 Days/Wk	DL	XJ	SF3	34
2597	INL	MSP	16:57	7 Days/Wk	DL	XJ	SF3	34
Arrivals								
2587	MSP	INL	10:35	7 Days/Wk	DL	XJ	SF3	34
2562	MSP	INL	16:32	7 Days/Wk	DL	XJ	SF3	34
2597	MSP	INL	21:00	7 Days/Wk	DL	XJ	SF3	34

Source: Falls International Airport

The Town of Fort Frances (Fort Frances), Ontario, Canada, is located opposite International Falls on the north end of the Rainy River. Fort Frances has an airport with commercial air service provided by Bearskin Airlines to and from Winnipeg, Manitoba and Thunder Bay, Ontario. For the purposes of this analysis, we are assuming these two airport facilities are independent, each meet distinct market demands.

Please refer to Sub-Appendix A (A-1 through A-7) and Sub-Appendix B (B-4) for STC historical air service data and metrics.

St. Cloud Regional Airport

STC is located four miles east of the central business district of the City of St. Cloud (St. Cloud) and 60 miles northwest of downtown Minneapolis. The airport is a public facility operated by St. Cloud and has two active runways, the longest measuring 7,000 feet. The airport has a single terminal building, covers over 1,400 acres of land and offers amenities which include free parking and Wi-Fi internet access for passengers.

St. Cloud is the county seat for Stearns County with a population of 65,842 as per the 2010 census. STC's catchment area, however, includes the population within St. Cloud's Metropolitan Statistical Area (MSA) comprising of Stearns and Benton counties with a combined population of 185,555 as per the 2010 census. Some of the larger employers in the region include state and local government, *CentraCare Health System, Electrolux*, *Gold'n Plump*, *Wolters Kluwer* and *ING Direct*.

Since the mid-1990s, commercial services at STC have been predominantly intrastate and primarily to MSP as a connecting hub to other U.S. and international destinations. U.S. DOT O-D survey data from 2009 indicated the top five largest markets from STC to be Bullhead City[v] (AZ), Chicago, Phoenix, Dallas, and Washington DC. From 1999 until 2009, STC total O-D passengers have ranged from approximately 27,000 to 49,000 (please refer to Sub-Appendix A-5 for detailed information). On December 31, 2009, STC lost all commercial air service when Mesaba, operating for Delta Connection, ended service to MSP. The airport, however, continues to be served by Sun Country Airlines on a charter basis, with services to leisure destinations for approximately 3,000 annual passengers.

Table D-9: Daily Week Day St. Cloud Regional Airport Schedule (effective July 1, 2011)

Flight No.	Origin	Dest	Dep/Arr	Frequency	Carrier	Operator	Eqpmnt	Seats
Departures								
	No Scheduled Service							
Arrivals								
	No SchedulesService							

Source: St. Cloud Regional Airport

In July 2010, STC launched a pledge drive to secure scheduled regional jet air service referred to as “Fly St. Cloud”. The mission of this pledge drive is to regain scheduled commercial air service and to foster economic growth in the region. STC identified Chicago O’Hare as the target destination and an analysis by an independent transportation firm estimated the cost of operating two daily round-trip flights at $4.4 million. STC’s goal is to secure pledges totaling $5.0 million in annual ticket purchases by companies and individuals in the region, effectively organizing a purchasing cooperative.

Please refer to Sub-Appendix A (A-1 through A-7) and Sub-Appendix B (B-5) for STC historical air service data and metrics.

Thief River Falls Regional Airport

TVF is a public airport located three miles south of the central business district of the City of Thief River Falls (Thief River Falls). The airport covers 916 acres and has two runways, the longest which measures 6,503 feet. The airport is housed in a single terminal unit and offers free short and long-term parking with car plug-in service available.

The airport currently has two major construction projects underway. The first is a 19,800 square foot multi-purpose hangar to provide a controlled environment for loading and housing freight. The second is a terminal remodeling project consisting of cosmetic improvements and a new HVAC system.

The airport also has additional amenities including an FBO called Thief River Aviation providing maintenance and fuel and a Hertz Rent-A-Car agency. Access to taxi and public transportation are also readily available.

Thief River Falls takes its name from a geographic feature, the falls of the Red Lake River at its confluence with the Thief River. The city is the county seat of Pennington County and had a population of 8,573 according to the 2010 U.S. Census. The town is the home of snowmobile manufacturer Arctic Cat and electronic parts distributor Digi-Key, one of the largest employers in the region. The total population for Pennington and adjacent counties (Marshall, Red Lake, Polk and Clearwater) was 67,753 according to the 2010 U.S. Census.

Commercial services at TVF are intra-state with two daily flights to MPS via HIB. The services are subsidized by an EAS grant and are flown by Delta Connection on 34-seat Saab 340Bs. U.S. DOT O-D survey data from 2010 indicated the top five largest markets from TVF to be Minneapolis/St. Paul, Chicago, Denver, Phoenix, and Fort Myers. From 1999 until 2009, TVF total O-D passengers have ranged from approximately 17,000 to 4,000 (please refer to Sub-Appendix A-5 for detailed information). See Table D-10 for detailed schedule information.

Please refer to Sub-Appendix A (A-1 through A-7) and Sub-Appendix B (B-6) for TVF historical air service data and metrics.

Table D-10: Daily Week Thief River Falls Regional Airport Schedule (effective July 1, 2011)

Flight No.	Origin	Dest	Dep/Arr	Frequency	Carrier	Operator	Eqpmnt	Seats
Departures								
2583	TVF	MSP-HIB	6:00	7 Days/Wk	DL	XJ	SF3	34
2618	TVF	MSP-HIB	15:51	7 Days/Wk	DL	XJ	SF3	34
Arrivals								
2461	MSP-HIB	TVF	12:17	7 Days/Wk	DL	XJ	SF3	34
2317	MSP-HIB	TVF	15:26	7 Days/Wk	DL	XJ	SF3	34

Source: Thief River Falls Regional Airport

OVERALL AIR SERVICE MAINTENANCE RECOMMENDATIONS

- *Essential Air Service* - Even with Delta's announcement of flight reductions in the State, the EAS program will continue for the foreseeable future with no impacts to the State's airports. Small Outstate airports should continue to pursue services through this program and call on their local and state legislators to lobby on their behalf for continued support in these efforts as a new and smaller type of regional carriers (in addition to Great Lakes and Cape Air) begin to emerge willing to create business plans that cater to small regional airports and their communities.

- *Multimodalism* – Multimodalism is the idea that transportation should be looked as one integrated system versus independent sectors. As gas prices rise, communities, counties and states should consider mitigating the impacts of oil prices and regaining control of their mobility. Creating a plan integrating different modes of transportation is key to the future movement of people and goods in a more effective and price-effective manner.

    - With multimodalism as a focal point, the State should consider a system or network of buses that serve small communities and link them with the large airports in the State with high frequency and reasonable pricing. State legislators should consider subsidizing such a system and integrate this network into the

national air transportations system through codeshare agreements with the major airlines and the ability of passengers to purchase tickets through their websites and other Global Distribution System (GDS) channels.

- *Local Airline Service Action Committee* - All small Outstate airports should continue supporting the Local Airline Service Action Committee (LASAC) to communicate, promote and negotiate on behalf of their constituents. Strategies include supporting cities efforts to attract airline service, investment in creating more secure and passenger friendly terminal buildings, the development of potential for Greater Minnesota airports and the continuation of the air service marketing program. Additionally, the organization should pursue joint marketing efforts, lobbying efforts to State law makers, joint efforts on multi-modal initiatives, joint meeting and procurement of air carriers and information sharing. If reaching out to carriers such as Great Lakes and Cape Air, a group of this size could have an increased amount of leverage when negotiating service, schedules and other services.

- *Outstate Airport Ground-Handling Coalition* – Ground handling a carrier can add high costs to operating routes, especially for regional and small airlines. Customer service staff, ramp personnel and space rentals for operations and baggage claim all add to an already highly elastic business model with thin margins and low volumes. Outstate airport should lobby as a single entity for state grants subsidizing ground handling services in their airports and removing this cost from the airlines, particularly small independent airlines free from union contracts which could determine the rates for third-party ground handling services for their regional affiliates.

- *Small Community Air Service Development Program Grants* – As legacy carriers continue facing challenging financial conditions and low cost carriers continue to attract passengers away from small community airports, the DOT responded by having Congress establish the Small Community Air Service Development Program in 2000. To help small communities improve air service, the DOT implemented the program to educate them on the goals and strategies used in the past and what results were obtained by the grants provided. The grants are awarded at the discretion of the Secretary of Transportation.

    - *Approach New Carriers* – Approaching new carriers for air service is an effective and accepted practice in the industry. Most carriers have an open door policy when communicating with airports and welcome presentations and the exchange of information to educate them on a market's growth.

ASSESSMENT OF AIR SERVICES: CURRENT CONDITIONS

Large Outstate Airport

Background

Minnesota's large Outstate airports offer scheduled flights with destinations which span from small Outstate Airports within the State to major hubs in the U.S., North America, Europe and Asia. These airports include MSP, DLH and Rochester International Airport (RST). Combined, these airports served approximately 15.8 million passengers in 2010, the majority enplaning and deplaning at MSP.

Minneapolis/St. Paul International Airport (MSP)

In terms of passengers, MSP is the 15th busiest airport in the U.S. (2010)[vi] and 33rd busiest airport in the world in 2010[vii]. A joint civil-military airport, MSP is also home to the MSP Joint Air Reserve Station, supporting both Air Force Reserve Command and Air National Guard flight operations. Airlines out of Minneapolis/St. Paul International airport serve 134 nonstop markets from MSP, including 120 domestic and 14 international markets.

MSP is the third largest hub for Delta and Delta Connection partners Compass, Mesaba and Pinnacle. It also serves as the home base for Sun Country. Delta accounts for more than 80% of the airport's passenger traffic. MSP is operated by the Metropolitan Airports Commission (MAC), which also handles operation of six smaller airports in the region.

Duluth International Airport (DLH)

DLH is a city-owned, public-use airport located five miles northwest of the central business district of Duluth, located in St. Louis County. It serves the Duluth-Superior area in the State's northeastern region including Superior, Wisconsin. The airport is served by Allegiant, Delta Connection (operated by Mesaba, Pinnacle and SkyWest) and United Express. Destinations from DLH include Las Vegas, Orlando (Sanford), Phoenix (Mesa), Detroit, MSP and Chicago (O'Hare). Services are provided primarily by regional jets including the 50-seat Canadair CRJ-200 and Embraer 145 aircraft. Allegiant serves DLH with 150-seat Douglas MD-83s. Additionally, the airport has cargo services operated by *FedEx* Feeder and Bemidji Airlines. The Minnesota Air National Guard's 148th Fighter Wing, equipped with F-16 aircraft is based at the Duluth Air National Guard Base.

DLH covers an area of 3,020 acres and has 2 runways, the longest which measures 10,162 feet. A new terminal is under construction to replace the old terminal. The new terminal will be able to handle more passengers.

Rochester International Airport (RST)

RST is a non-hub primary airport located seven miles southwest of the central business district of Rochester, located in Olmsted County. RST is the second busiest commercial airport in the State. The airport covers 2,400 acres and has two runways, the longest which measures 9,033.

Commercial air service is provided by American and Delta. American's regional affiliates, AmericanConnection and American Eagle, both serve Chicago O'Hare and are operated by Chautauqua. Delta Connection serves Detroit and MSP operated by Pinnacle and Mesaba. Sun Country operated services to Bullhead City, AZ, on a seasonal basis. Services are provided primarily by regional jets including the 50-seat Canadair CRJ-200 and Embraer 145. Sun Country serves RST with 162-seat Boeing 737-800s. The airport also has a large *FedEx* terminal, a small ABX Air station as well as a GA terminal.

Mn/DOT and RST are currently planning a new runway and terminal. The new runway, would be located parallel to the primary runway and a new midfield terminal will be built between the two runways.

Socio-Economic Background on Duluth and Rochester

Duluth

Duluth is a port city in the U.S. state of Minnesota and is the county seat of Saint Louis County. The fourth largest city in Minnesota, Duluth had a total population of 86,265 in the 2010 census. Duluth is also the second largest city located on Lake Superior after Thunder Bay, Ontario, and has the largest metropolitan area on Lake Superior. The Duluth MSA had a population of 279,771 in 2010. Situated at the westernmost point of the Great Lakes on the north shore of Lake Superior, Duluth is deep-water accessible to the Atlantic Ocean 2,300 miles away via the Great Lakes and Erie Canal/New York State Barge Canal or Saint Lawrence Seaway passages.

Duluth is the regional hub not only of its own immediate area but also of a larger area encompassing northeastern Minnesota, northwestern Wisconsin and the western Upper Peninsula of Michigan. It is a major transportation center for the transshipment of coal, taconite, agricultural products, steel, limestone, and cement and in recent years it has seen strong growth in the transshipment of wind turbine components from manufacturers in Europe. Duluth is also a center for aquatic biology and aquatic science. The city is home to the EPA's Mid-Continent Ecology Division Laboratory and the University of Minnesota-Duluth. Businesses that support Duluth's economy include ERA laboratories, LimnoLogic, the ASci Corporation, Environmental Consulting and Testing and Ecolab.

The city is also a popular center for tourism and a convenient base for trips to the North Shore via Highway 61 and to fishing and wilderness destinations in Minnesota's far north, including the Superior National Forest and the Boundary Waters Canoe Area.

Rochester

Rochester is a city in the U.S. state of Minnesota and is the county seat of Olmsted County. Located on both banks of the Zumbro River, Rochester is home to the Mayo Clinic, a prestigious hospital and medical research facility. The city had a population of 106,769 according to the 2010 U.S. Census making it Minnesota's third-largest city.

The Mayo Clinic forms the core of Rochester's economy, employing about 30,000 people and drawing over 2 million visitors to the city each year. The clinic's many facilities, along with hotels, restaurants and retail stores comprise of nearly all the city's downtown. Another healthcare provider, the Rochester Federal Medical Center, is also a significant employer in the city.

IBM is also a major employer in Rochester and houses a large manufacturing center in charge of producing many of their major prototype computer components. The city is also home to Think Mutual Bank, a chain of banks operating in the State and founded by IBM employees.

RECOMMENDED STRATEGIES: LARGE OUTSTATE AIRPORTS

Design and implementation of incentive policies

Incentives are clearly a double-edged sword, and can present risk if not properly designed and executed. However, they are also an accepted (and often required) element of airline negotiations, particularly as the competition for new airline services has intensified over the past several years. Well-designed policies should reward high-priority targets, avoid any appearance of discrimination and should offer both up-front support for a new service and continuing assistance.

Airline Partnerships I: Incentive Policies – Develop a package of support for operational expenditures incurred during an initial promotional period consistent with Federal rules which includes:

- Waive air carrier fees for a period between 12 and 24 months including rent payment for all landing fees, holdroom and loading bridge fees, bag make-up fees and aircraft parking fees for each eligible market.
- Require a 2-year contract commitment.
- Offer of an initial marketing campaign with a set amount of funds per eligible market in advertising dollars (funded by city or local municipality) for pre-service launch ads.
- Offer an additional set amount of funds (funded by city or local municipality) for a follow up ad campaign targeting business and leisure travelers post-service launch.
- Provide promotional sales and support after the service launches included but not limited to local media coverage, in-airport advertising, airport web-site space, travel agent seminars and other initiatives.

Airport Partnerships II: the Tag Team" Approach - Just as DLH and RST are well-informed about the local market, so are the airports on the other side of the proposed route. Tag Team is a strategy in which State airports engage "other" airports in the route proposal to jointly participate in a presentation to a targeted carrier. This is a leveraging technique where by both airports present all incentives, support and market data thereby building airline confidence in the proposed route which results in risk mitigation. For DLH and RST, these Tag Team targets would not include major hubs, instead they would encompass leisure destinations such as Phoenix (Mesa), Palms Springs and Orlando (Sanford).

Leakage Analysis – A comprehensive leakage analysis can calculate how many passengers living in the catchment area of an airport are driving to another nearby airport for their travel needs. Through the use of Marketing Information Data Tapes (MIDT), International Air Transport Association (IATA) PAXis data and other accurate sources of data pinpointing travelers at the zip code level, a leakage analysis can provide a detailed map showing areas in a region where passengers are clearly showing a preference to an alternate airport. In the case of both DLH and RST (particularly RST), good access and competitive fares drive passengers to MSP daily given the regions proclivity to large corporations and their employees with high travel propensities. A leakage analysis can identify those passengers and provide a target for direct marketing campaigns.

Sustainability of Existing Service - It is paramount to demonstrate existing carrier performance to potential new entrants. Therefore, supporting incumbent airlines with co-operative marketing, sales leads, market data and other means is critical to sustainability.

RECOMMENDED STRATEGIES FOR COMMUNITY RELATIONS

Proactive use of conference opportunities

It is important to maintain a market presence at key airline-airport events. These meetings enhance the effectiveness of on-site presentations, and maintain dialog and top-of-mind awareness among airline executives. Several events are staggered throughout the calendar year:

a) Network Airline Conference – March of each year
b) ACI Marketing and Jump Start – June of each year
c) ROUTES Conference – September of each year
d) Others – many other worthwhile events are held throughout the year, including the National Air Service Conference, FAA Forecasting Conference, AAAE Annual, and ACI Annual events.

Executive-level involvement and proactive support

Outstate airports and the presiding members of their staff should continue the existing practice of meeting regularly with their airline(s). These meetings are very important, and the principal of "every airline, every year" is indicative of the priority they should obtain. Participation of the highest levels is tangible proof of their commitment. Other staff such as public affairs and air service specialists should handle most ongoing activities.

Board, community, and business leadership participation and support

Support of community and business leaders can be a crucial success factor in any meetings with airlines, especially for discussing new service. Community support is vital for new or expanded service, and airlines can benefit from any and all tangible evidence.

Locally hosted networking and appreciation events

Picnics, golf outings or other airline appreciation events can be a testament to the benefits of working directly with local airline staff. Such events should become an integral element of the overall strategic development process. The events should recognize local airline personnel and encourage attendance by headquarter executives.

Proactive partnerships for cooperative marketing and advertising

As airline marketing resources dwindle under cost pressures, airports and communities must assume a growing responsibility. In-kind or cooperative marketing/advertising with local media outlets can range from general advertising to specially targeted ads for the launch of new service or other events. Partnerships could provide, for example, fare comparisons between those at Oustate airports and other regional hubs at a driving distance to foster ongoing awareness.

(Potential) proactive engagement of local press, including editorial boards

Regular interviews or "Industry Updates" can build strong partnerships with media representatives, and foster mutual communication and awareness. Some media outlets discourage this type of activity as a threat to their independence, but efforts are often worthwhile. Data, and its interpretation, can be attractive to news reporters.

Survey/monitoring of customer satisfaction and competitive results

Regular surveys of consumers can provide competitive feedback as well as input on many customer satisfaction issues. Survey results can be included in airline meetings, and could be useful in rate and fee negotiations for Outstate airports.

Greater Involvement of other Airport Entities

Many businesses at Outstate airports have a low visibility but play a vital role in their operations. They have a large vested interest in its growth. Such entities include freight forwarders, customs brokers, FBOs, automobile rentals and the FAA. All contribute to making Outstate airports a good environment for passengers, shippers and airlines and any, if functioning poorly, could detract from it. Events such as "Appreciation Days", articles on airport websites, brochures or other events could encourage input from these organizations and help them understand how they contribute to the Airport's perceived level of service.

Ongoing web site updates and enhancements

Web sites provide excellent opportunities to give and collect information and feedback from the user community. Outstate airports should share website design and content tips and survey other noteworthy sites for ideas and opportunities for enhancement.

RISK ANALYSIS

The FAA Reauthorization bill, when passed after the new January 31, 2012 deadline, could have significant changes in the AIP and airport funding sources with the length of reauthorization and the level of authorization yet to be determined. As previously mentioned, questions regarding the long-term future of the EAS program continue and it is important to note that the outcome of how air services will be shaped in the State for the medium-to-long term are dependent on the outcome of a final Reauthorization Bill. Regular updates to this plan and other commercial air service assessments whether at the State or local levels are recommended to identify and address the needs of airports as new laws and regulations continue changing and taking effect.

Appendix D

COMMERCIAL AIR SERVICE TECHNICAL REPORT

HNTB

SUB-APPENDIX A

Appendix A-1
Total Departures (Historical) 1997 - 2010

Calendar Year	BJI	BRD	DLH	HIB	INL	RST	STC	TVF
1997	2,195	2,345	4,626	1,624	1,323	8,083	3,186	1,040
1998	4,426	4,392	7,420	4,352	2,992	8,986	5,996	1,914
1999	5,278	4,491	10,570	4,778	3,332	9,101	6,915	2,017
2000	5,591	5,599	9,282	3,412	3,487	8,646	4,999	1,577
2001	5,010	4,798	7,474	2,063	3,079	7,999	4,815	1,402
2002	4,592	3,933	8,190	1,824	2,596	8,361	4,680	1,443
2003	3,914	3,029	5,761	2,434	2,703	8,128	5,294	1,377
2004	4,463	3,054	7,917	2,249	3,091	9,470	3,700	1,418
2005	4,534	3,532	6,096	2,166	2,725	10,146	3,886	1,380
2006	3,207	3,565	5,714	2,769	2,127	9,424	3,340	1,232
2007	2,842	3,467	7,107	2,707	2,079	9,734	3,211	1,202
2008	2,629	2,984	5,573	2,661	2,009	10,141	2,785	1,225
2009	1,998	2,450	5,315	2,632	1,805	8,979	2,457	1,204
2010	2,037	1,769	7,720	3,166	1,614	8,315	37	1,206
	Average Annual Compound Growth Rate (AACGR %)							
1997 - 2010	-0.6%	-2.1%	4.0%	5.3%	1.5%	0.2%	-29.0%	1.1%

Source: DOT T-100

Appendix A-2
Total Seats (Historical) 1997 - 2010

Calendar Year	BJI	BRD	DLH	HIB	INL	RST	STC	TVF
1997	75,464	80,466	403,064	50,650	38,808	689,430	97,639	37,160
1998	154,084	152,988	485,288	150,317	102,244	658,942	204,020	67,026
1999	179,452	152,694	675,905	162,452	113,288	667,523	235,110	68,578
2000	190,094	190,366	600,764	116,008	118,558	635,820	169,966	53,618
2001	170,340	163,132	506,779	70,278	104,702	590,690	163,710	47,668
2002	156,128	134,266	570,727	62,016	88,264	613,672	159,120	49,062
2003	133,076	103,248	455,693	82,756	91,902	526,692	180,258	46,818
2004	151,806	104,092	520,247	76,722	105,094	521,932	126,100	48,212
2005	154,220	120,228	453,627	73,644	94,512	508,868	132,124	46,920
2006	112,478	121,210	448,243	94,146	77,216	506,755	114,072	41,888
2007	100,308	118,050	528,445	92,038	78,556	548,255	112,974	40,868
2008	94,162	101,644	464,435	90,474	76,786	548,380	102,818	41,650
2009	73,008	83,384	387,634	89,488	68,458	481,267	89,718	40,936
2010	73,253	63,769	440,209	111,238	56,715	411,570	5,974	41,004
	Average Annual Compound Growth Rate (AACGR %)							
1997 - 2010	-0.2%	-1.8%	0.7%	6.2%	3.0%	-3.9%	-19.3%	0.8%

Source: DOT T-100

Appendix A-3
Total Onboard Passengers (Historical) 1997 - 2010

Calendar Year	BJI	BRD	DLH	HIB	INL	RST	STC	TVF
1997	38,967	43,876	200,910	23,980	14,538	307,683	40,922	4,772
1998	76,818	68,758	237,572	61,537	35,392	336,434	79,801	13,326
1999	92,779	59,148	292,982	68,087	48,976	323,339	100,612	26,250
2000	95,583	79,448	283,133	42,888	50,501	302,324	70,450	15,295
2001	87,487	71,703	273,783	22,643	42,746	273,516	69,264	10,524
2002	78,485	62,488	298,113	18,125	37,689	289,651	73,180	8,847
2003	66,453	42,357	238,084	38,842	38,606	276,033	83,074	8,164
2004	72,490	45,552	301,472	35,926	42,210	276,397	49,007	9,064
2005	75,847	54,237	295,701	37,898	42,951	285,429	48,251	9,341
2006	59,587	50,305	284,983	42,322	36,183	300,978	48,591	6,657
2007	52,127	49,462	345,137	40,146	35,253	330,192	50,537	6,795
2008	49,192	39,312	294,504	35,308	32,925	310,550	41,177	6,248
2009	43,121	33,340	252,206	28,114	32,768	261,023	29,468	5,436
2010	42,754	33,791	302,189	32,856	27,902	242,033	3,377	5,004
	Average Annual Compound Growth Rate (AACGR %)							
1997 - 2010	0.7%	-2.0%	3.2%	2.5%	5.1%	-1.8%	-17.5%	0.4%

Source: DOT T-100

Appendix A-4
Average Load Factors (%) (Historical) 1997 - 2010

Calendar Year	BJI	BRD	DLH	HIB	INL	RST	STC	TVF
1997	58%	57%	52%	54%	44%	47%	39%	14%
1998	57%	48%	49%	48%	39%	54%	36%	26%
1999	58%	43%	44%	48%	48%	49%	37%	45%
2000	56%	44%	47%	41%	49%	48%	39%	31%
2001	58%	44%	56%	35%	48%	47%	39%	23%
2002	56%	47%	56%	34%	49%	50%	42%	19%
2003	54%	43%	54%	52%	48%	54%	44%	18%
2004	54%	44%	60%	52%	44%	57%	40%	19%
2005	56%	43%	67%	55%	50%	60%	36%	21%
2006	60%	35%	70%	48%	52%	64%	46%	16%
2007	59%	35%	73%	46%	53%	66%	58%	18%
2008	57%	33%	74%	40%	48%	70%	67%	14%
2009	59%	36%	76%	32%	52%	68%	58%	13%
2010	58%	62%	76%	38%	53%	62%	90%	12%

Source: DOT T-100

Appendix A-5
Origin-Destination Passengers (Historical) 1990 - 2010

Calendar Year	BJI	BRD	DLH	HIB	INL	RST	STC	TVF
1990	48,770	30,950	236,910	31,670	51,400	287,940	0	12,950
1991	56,790	27,210	215,890	27,310	43,030	249,390	0	13,640
1992	43,840	34,930	257,130	32,280	46,380	275,530	0	11,190
1993	42,110	30,980	243,160	30,350	39,170	273,480	8,840	8,410
1994	37,340	28,590	227,190	28,810	34,750	267,940	19,670	5,780
1995	33,840	23,930	230,240	26,130	38,200	271,710	18,870	7,420
1996	34,140	25,000	223,740	23,410	34,130	259,490	18,250	7,850
1997	49,530	32,050	219,820	30,290	35,580	284,610	30,630	8,390
1998	50,370	32,820	212,220	28,180	33,120	286,660	41,080	10,980
1999	53,950	36,030	254,610	28,870	40,550	274,980	49,210	16,720
2000	53,550	38,140	255,070	23,900	42,170	262,840	43,580	13,470
2001	51,140	37,140	245,660	18,000	39,380	260,660	41,180	10,230
2002	50,640	35,800	261,400	13,930	36,270	256,950	40,660	8,630
2003	52,370	33,600	220,950	17,260	36,820	245,770	37,700	8,310
2004	54,130	35,340	279,710	18,390	39,620	242,660	39,700	8,840
2005	55,430	40,420	265,820	20,850	40,850	248,150	46,620	8,710
2006	49,690	34,990	262,870	17,180	34,440	260,700	47,120	6,120
2007	41,880	34,960	318,740	16,010	33,810	285,220	48,710	6,120
2008	40,680	31,490	267,220	15,820	29,840	270,030	37,250	6,240
2009	40,140	28,700	230,910	17,160	28,750	228,000	26,770	5,600
2010	39,760	30,650	275,080	20,310	25,810	203,780	2,300	4,350
	Average Annual Compound Growth Rate (AACGR %)							
1990 - 2010	-1.0%	0.0%	0.7%	-2.2%	-3.4%	-1.7%	n/a	-5.3%

Source: DOT 10% Ticket Sample Survey

Appendix A-6
Nominal Average Fares ($) (Historical) 1990 - 2010

Calendar Year	BJI	BRD	DLH	HIB	INL	RST	STC	TVF
1990	$143	$170	$170	$178	$196	$181		$151
1991	$138	$173	$178	$178	$182	$191		$140
1992	$146	$158	$153	$154	$168	$172		$160
1993	$166	$196	$170	$175	$193	$193	$46	$201
1994	$190	$214	$185	$179	$204	$199	$192	$236
1995	$197	$210	$186	$186	$203	$201	$189	$225
1996	$210	$227	$209	$214	$233	$226	$218	$233
1997	$169	$201	$208	$194	$211	$221	$197	$229
1998	$169	$193	$200	$185	$200	$211	$189	$180
1999	$163	$196	$197	$169	$174	$215	$192	$159
2000	$176	$195	$200	$174	$182	$213	$207	$176
2001	$184	$190	$189	$171	$185	$197	$197	$178
2002	$182	$188	$184	$166	$190	$179	$187	$183
2003	$181	$192	$204	$175	$193	$183	$191	$178
2004	$191	$194	$182	$182	$200	$197	$196	$189
2005	$198	$194	$181	$181	$191	$181	$186	$176
2006	$218	$213	$201	$222	$244	$182	$201	$216
2007	$236	$215	$184	$215	$247	$174	$197	$220
2008	$265	$242	$228	$268	$266	$200	$214	$265
2009	$227	$199	$192	$200	$219	$166	$188	$212
2010	$242	$213	$191	$212	$249	$184	$130	$216
	Average Annual Compound Growth Rate (AACGR %)							
1990 - 2010	2.7%	1.1%	0.6%	0.9%	1.2%	0.1%	n/a	1.8%

Source: DOT 10% Ticket Sample Survey

Appendix A-7
Nominal Yield ($) (Historical) 1990 - 2010

Calendar Year	BJI	BRD	DLH	HIB	INL	RST	STC	TVF
1990	$0.16	$0.16	$0.16	$0.18	$0.22	$0.19		$0.17
1991	$0.20	$0.17	$0.17	$0.18	$0.21	$0.19		$0.18
1992	$0.15	$0.16	$0.14	$0.16	$0.17	$0.17		$0.16
1993	$0.16	$0.19	$0.16	$0.16	$0.19	$0.19	$0.75	$0.20
1994	$0.17	$0.20	$0.17	$0.16	$0.19	$0.19	$0.18	$0.22
1995	$0.19	$0.20	$0.17	$0.17	$0.20	$0.19	$0.19	$0.22
1996	$0.19	$0.22	$0.19	$0.20	$0.23	$0.22	$0.23	$0.24
1997	$0.16	$0.20	$0.18	$0.18	$0.21	$0.21	$0.21	$0.21
1998	$0.16	$0.18	$0.18	$0.17	$0.19	$0.20	$0.19	$0.17
1999	$0.15	$0.19	$0.18	$0.15	$0.17	$0.21	$0.19	$0.16
2000	$0.16	$0.18	$0.17	$0.15	$0.18	$0.20	$0.20	$0.16
2001	$0.16	$0.17	$0.16	$0.15	$0.18	$0.19	$0.19	$0.15
2002	$0.15	$0.17	$0.16	$0.14	$0.17	$0.17	$0.18	$0.16
2003	$0.16	$0.17	$0.17	$0.15	$0.17	$0.17	$0.19	$0.15
2004	$0.16	$0.18	$0.16	$0.15	$0.18	$0.19	$0.19	$0.16
2005	$0.17	$0.18	$0.16	$0.15	$0.18	$0.17	$0.18	$0.15
2006	$0.19	$0.19	$0.17	$0.19	$0.21	$0.18	$0.19	$0.18
2007	$0.20	$0.19	$0.16	$0.18	$0.22	$0.17	$0.19	$0.19
2008	$0.22	$0.21	$0.19	$0.23	$0.22	$0.19	$0.20	$0.22
2009	$0.19	$0.18	$0.16	$0.16	$0.19	$0.16	$0.18	$0.19
2010	$0.21	$0.19	$0.16	$0.17	$0.22	$0.19	$0.10	$0.19
	Average Annual Compound Growth Rate (AACGR %)							
1990 - 2010	1.2%	0.7%	-0.1%	-0.3%	0.0%	0.0%	n/a	0.5%

Source: DOT 10% Ticket Sample Survey

SUB-APPENDIX B

Appendix B-2
2010 BRD Top 20 Origin-Destination Passengers & Average Fares

Rank	Destination	Code	Passengers	Average Fare ($)	Passengers Per Day Each Way
1	Phoenix International Airport	PHX	1,640	$185.46	2.2
2	Denver International Airport	DEN	1,380	$143.25	1.9
3	Chicago O'Hare International Airport	ORD	1,230	$146.65	1.7
4	Dallas/Ft. Worth International Airport	DFW	1,110	$226.38	1.5
5	Atlanta Hartsfield-Jackson International Airport	ATL	1,060	$213.60	1.5
6	Orlando International Airport	MCO	960	$193.24	1.3
7	Minneapolis/St. Paul International Airport	MSP	930	$100.38	1.3
8	Laughlin Bullhead International Airport	IFP	900	$149.23	1.2
9	Los Angeles International Airport	LAX	900	$237.71	1.2
10	Las Vegas McCarran International Airport	LAS	820	$223.98	1.1
11	Ft. Myers/Southwest Florida International	RSW	740	$172.12	1.0
12	Washington National Airport	DCA	720	$216.97	1.0
13	Seattle/Tacoma International Airport	SEA	700	$295.30	1.0
14	Tampa International Airport	TPA	670	$171.07	0.9
15	Kansas City International Airport	MCI	510	$221.71	0.7
16	San Francisco International Airport	SFO	470	$187.72	0.6
17	Chicago Midway Airport	MDW	450	$151.67	0.6
18	San Diego International Airport	SAN	450	$230.04	0.6
19	Boston Logan International Airport	BOS	430	$228.00	0.6
20	Detroit Metro Wayne County Airport	DTW	420	$215.07	0.6
	Other Markets		*14,160*		*19.4*
	Total		**30,650**	**$213.23**	**42.0**

Source: DOT 10% Ticket Sample Survey

Appendix B-3
2010 HIB Top 20 Origin-Destination Passengers & Average Fares

Rank	Destination	Code	Passengers	Average Fare ($)	Passengers Per Day Each Way
1	Laughlin Bullhead International Airport	IFP	1,560	$164.72	2.1
2	Phoenix International Airport	PHX	1,260	$182.88	1.7
3	Denver International Airport	DEN	1,010	$173.58	1.4
4	Minneapolis/St. Paul International Airport	MSP	820	$110.76	1.1
5	Seattle/Tacoma International Airport	SEA	720	$250.82	1.0
6	Orlando International Airport	MCO	630	$174.51	0.9
7	Ft. Myers/Southwest Florida International	RSW	610	$167.89	0.8
8	Los Angeles International Airport	LAX	510	$217.04	0.7
9	Atlanta Hartsfield-Jackson International Airport	ATL	470	$238.28	0.6
10	Milwaukee Mitchell International Airport	MKE	460	$148.37	0.6
11	Las Vegas McCarran International Airport	LAS	450	$177.09	0.6
12	Dallas/Ft Worth International Airport	DFW	420	$222.55	0.6
13	Washington National Airport	DCA	410	$258.78	0.6
14	Portland International Airport	PDX	390	$273.26	0.5
15	Chicago O'Hare International Airport	ORD	370	$184.00	0.5
16	Tampa International Airport	TPA	330	$241.91	0.5
17	Houston Intercontinental Airport	IAH	320	$166.41	0.4
18	San Francisco International Airport	SFO	290	$221.62	0.4
19	Chicago Midway Airport	MDW	280	$143.89	0.4
20	Boston Logan International Airport	BOS	270	$209.93	0.4
	Other Markets		*8,730*		*12.0*
	Total		**20,310**	**$211.85**	**27.8**

Source: DOT 10% Ticket Sample Survey

Appendix B-4
2010 INL Top 20 Origin-Destination Passengers & Average Fares

Rank	Destination	Code	Passengers	Average Fare ($)	Passengers Per Day Each Way
1	Minneapolis/St. Paul International Airport	MSP	1,740	$179.67	2.4
2	Laughlin Bullhead International Airport	IFP	1,320	$157.61	1.8
3	Chicago O'Hare International Airport	ORD	1,180	$210.14	1.6
4	Atlanta Hartsfield-Jackson International Airport	ATL	990	$246.19	1.4
5	Dallas/Ft. Worth International Airport	DFW	920	$247.67	1.3
6	Phoenix International Airport	PHX	920	$212.17	1.3
7	Denver International Airport	DEN	750	$174.75	1.0
8	St. Louis Lambert International Airport	STL	660	$206.06	0.9
9	Chicago Midway Airport	MDW	550	$186.47	0.8
10	Las Vegas McCarran International Airport	LAS	530	$250.25	0.7
11	Orlando International Airport	MCO	510	$237.88	0.7
12	Boise International Airport	BOI	480	$363.88	0.7
13	Port Columbus International Airport	CMH	460	$293.07	0.6
14	Detroit Metro Wayne County Airport	DTW	450	$258.71	0.6
15	Los Angeles International Airport	LAX	450	$275.78	0.6
16	Nashville International Airport	BNA	420	$248.98	0.6
17	Tampa International Airport	TPA	400	$208.85	0.5
18	Houston Intercontinental Airport	IAH	390	$351.15	0.5
19	Indianapolis International Airport	IND	390	$236.00	0.5
20	Washington National Airport	DCA	370	$241.05	0.5
	Other Markets		*11,930*		*16.3*
	Total		**25,810**	**$248.98**	**35.4**

Source: DOT 10% Ticket Sample Survey

Appendix B-5
2009 STC Top 20 Origin-Destination Passengers & Average Fares

Rank	Destination	Code	Passengers	Average Fare ($)	Passengers Per Day Each Way
1	Laughlin Bullhead International Airport	IFP	2,600	$119.73	3.6
2	Phoenix Sky Harbor International Airport	PHX	1,190	$153.39	1.6
3	Dallas/Ft Worth International Airport	DFW	850	$180.89	1.2
4	Washington National Airport	DCA	810	$234.26	1.1
5	Chicago O'Hare International Airport	ORD	810	$149.74	1.1
6	Chicago Midway Airport	MDW	760	$113.37	1.0
7	Las Vegas McCarran International Airport	LAS	740	$166.78	1.0
8	Atlanta Hartsfield-Jackson International Airport	ATL	730	$247.40	1.0
9	Orlando International Airport	MCO	710	$138.70	1.0
10	Detroit Metro Wayne County Airport	DTW	700	$194.20	1.0
11	Denver International Airport	DEN	690	$122.58	0.9
12	Seattle/Tacoma International Airport	SEA	630	$170.06	0.9
13	St. Louis Lambert International Airport	STL	570	$185.95	0.8
14	New York LaGuardia Airport	LGA	530	$170.36	0.7
15	Philadelphia International Airport	PHL	530	$180.40	0.7
16	Los Angeles International Airport	LAX	480	$224.46	0.7
17	Tampa International Airport	TPA	470	$124.32	0.6
18	Kansas City International Airport	MCI	410	$274.98	0.6
19	Madison Dane County Regional Airport	MSN	410	$225.88	0.6
20	Boston Logan International Airport	BOS	370	$193.62	0.5
	Other Markets		*11,780*		*16.1*
	Total		**26,770**	**$187.55**	**36.7**

Source: DOT 10% Ticket Sample Survey

Appendix B-6
2010 TVF Top 20 Origin-Destination Passengers & Average Fares

Rank	Destination	Code	Passengers	Average Fare ($)	Passengers Per Day Each Way
1	Minneapolis/St. Paul International Airport	MSP	770	$208.92	1.1
2	Chicago O'Hare International Airport	ORD	280	$208.64	0.4
3	Denver International Airport	DEN	150	$191.27	0.2
4	Phoenix International Airport	PHX	140	$208.86	0.2
5	Ft. Myers/Southwest Florida International	RSW	140	$105.43	0.2
6	Atlanta Hartsfield-Jackson International Airport	ATL	120	$266.58	0.2
7	Los Angeles International Airport	LAX	120	$171.25	0.2
8	Baltimore/Washington International Airport	BWI	100	$270.90	0.1
9	Orlando International Airport	MCO	100	$202.00	0.1
10	Chicago Midway Airport	MDW	90	$186.22	0.1
11	St. Louis Lambert International Airport	STL	90	$181.67	0.1
12	Washington National Airport	DCA	80	$191.63	0.1
13	Las Vegas McCarran International Airport	LAS	80	$107.13	0.1
14	Savannah International Airport	SAV	80	$341.13	0.1
15	Tampa International Airport	TPA	70	$247.57	0.1
16	Boise International Airport	BOI	60	$180.67	0.1
17	Boston Logan International Airport	BOS	60	$305.17	0.1
18	Dallas/Ft. Worth International Airport	DFW	60	$368.17	0.1
19	Fort Lauderdale International Airport	FLL	60	$299.17	0.1
20	Manchester International Airport	MHT	60	$312.00	0.1
	Other Markets		*1,640*		*2.2*
	Total		**4,350**	**$218.95**	**6.0**

Source: DOT 10% Ticket Sample Survey

SUB-APPENDIX C

Appendix C-1
2010 DLH Top 20 Origin-Destination Passengers & Average Fares

Rank	Destination	Code	Passengers	Average Fare ($)	Passengers Per Day Each Way
1	Las Vegas McCarran International Airport	LAS	34,790	$130.56	47.7
2	Orlando Sanford International Airport	SFB	22,460	$86.65	30.8
3	Chicago O'Hare International Airport	ORD	10,080	$106.66	13.8
4	Phoenix International Airport	PHX	8,490	$185.89	11.6
5	Denver International Airport	DEN	7,200	$160.17	9.9
6	Orlando International Airport	MCO	6,450	$166.14	8.8
7	Detroit Metro Wayne County Airport	DTW	5,990	$271.47	8.2
8	Seattle/Tacoma International Airport	SEA	5,760	$204.44	7.9
9	Atlanta Hartsfield-Jackson International Airport	ATL	5,740	$228.06	7.9
10	Washington National Airport	DCA	5,690	$221.86	7.8
11	Los Angeles International Airport	LAX	5,620	$209.76	7.7
12	New York LaGuardia Airport	LGA	4,880	$204.33	6.7
13	Boston Logan International Airport	BOS	4,830	$195.73	6.6
14	Dallas/Ft. Worth International Airport	DFW	4,820	$196.17	6.6
15	San Francisco International Airport	SFO	4,780	$212.36	6.5
16	Ft. Myers/Southwest Florida International	RSW	3,880	$160.97	5.3
17	Houston Intercontinental Airport	IAH	3,820	$260.67	5.2
18	Portland International Airport	PDX	3,510	$220.99	4.8
19	San Diego International Airport	SAN	3,240	$216.96	4.4
20	Baltimore/Washington International Airport	BWI	3,220	$210.77	4.4
	Other Markets		*119,830*		*164.2*
	Total		**275,080**	**$190.51**	**376.8**

Appendix C-2
2010 RST Top 20 Origin-Destination Passengers & Average Fares

Rank	Destination	Code	Passengers	Average Fare ($)	Passengers Per Day Each Way
1	Chicago O'Hare International Airport	ORD	27,250	$127.29	37.3
2	Washington National Airport	DCA	7,940	$170.46	10.9
3	Dallas/Ft. Worth International Airport	DFW	6,410	$160.06	8.8
4	New York LaGuardia Airport	LGA	6,010	$187.96	8.2
5	Phoenix International Airport	PHX	5,840	$177.53	8.0
6	Las Vegas McCarran International Airport	LAS	5,790	$133.54	7.9
7	Detroit Metro Wayne County Airport	DTW	5,490	$188.60	7.5
8	Boston Logan International Airport	BOS	5,480	$178.87	7.5
9	Atlanta Hartsfield-Jackson International Airport	ATL	5,220	$171.67	7.2
10	Orlando International Airport	MCO	5,100	$151.87	7.0
11	Denver International Airport	DEN	4,430	$139.08	6.1
12	Los Angeles International Airport	LAX	3,250	$210.35	4.5
13	San Francisco International Airport	SFO	3,140	$230.34	4.3
14	Philadelphia International Airport	PHL	2,810	$201.18	3.8
15	Tampa International Airport	TPA	2,620	$165.39	3.6
16	Seattle/Tacoma International Airport	SEA	2,600	$222.92	3.6
17	Raleigh/Durham International Airport	RDU	2,480	$215.00	3.4
18	Houston Intercontinental Airport	IAH	2,410	$211.28	3.3
19	Austin International Airport	AUS	2,390	$215.06	3.3
20	Westchester County Airport	HPN	2,350	$146.37	3.2
	Other Markets		*94,770*		*129.8*
	Total		**203,780**	**$183.80**	**279.2**

Source: DOT 10% Ticket Sample Survey

SUB-APPENDIX D

Background on the Reauthorization Bill

- $188.0 million for the Essential Air Service (EAS) program through FY 2013. Under current law, $77 million is authorized to be appropriated for the EAS program each year. The new proposal phases the program by providing an authorization of $98 million for the program in FY 2011, $60 million in 2012, and $30 million in 2013. No appropriations would be authorized after 2013. The bill would save $302 million over the 2011-2016 period. Alaska and Hawaii would be exempt.

- Eliminating $188.0 million in annual EAS program funding.

- House bill's repeal of the National Mediation Board's decision last year to change air and rail labor group voting rules to lower the threshold for unionization.

In terms of EAS, the FAA funding breakdown was attributed to a House Republican attempt to eliminate $16.5 million in EAS subsidies by requiring a 90-mile driving minimum to the nearest airport with commercial air service. The proposal cut 13 airports out of the program including Morgantown, WV, Athens, GA, Glendive, MT, Alamogordo, NM, Ely, NV, Jamestown, NY, Bradford, PA, Hagerstown, MD, Jonesboro, AR, Johnstown, PA, Franklin/Oil City, PA, Lancaster, PA, and Jackson, TN. House Republicans also wanted to eliminate any airport that was receiving subsidies of more than $1,000 per passenger.

Republicans achieved the subsidy cuts in the final law, but with a major caveat: Transportation Secretary Ray LaHood has the authority to continue subsidized service to the 13 communities in question if he decides it is necessary.

As expected, the Transportation Secretary waived the cuts subsidizing the 13 aforementioned airports in exchange for the Senate passing the House version of the funding bill that included them. The House Transportation and Infrastructure Committee Chairman John Mica and other Republican leaders, were of the opinion that the Transportation Secretary should only waive airports where "geographic characteristics" make it difficult to drive to another airport within 90 miles, as the law was written. They also called for complete transparency as waivers are requested with written justification. More debate on this subject is expected in the fall when multi-year reauthorization bill is debated.

[i] An IATA airport code, also known an IATA location identifier, is a three-letter code designating many airports around the world, defined by the International Air Transport Association ("IATA").
[ii] Passenger boarding (enplanement) data for U.S. Airports is extracted from the Air Carrier Activity Information System ("ACAIS"), a database that contains revenue passenger boarding and all-cargo data from the Federal Aviation Administration (the "FAA")
[iii] Bullhead City, AZ, is a market served seasonally from INL by Sun Country Airlines on a charter basis.
[iv] Bullhead City, AZ, is a market served seasonally from INL by Sun Country Airlines on a charter basis.
[v] Bullhead City, AZ, is a market served seasonally from INL by Sun Country Airlines on a charter basis.
[vi] Airports Council International-North America (ACI-NA)
[vii] Airports Council International (ACI)

Appendix E

AIRPORT FACILITY NEEDS SHEETS AND REPORT CARDS

Appendix E can be found in Book 2 of the SASP or online via the SASP Planning Toolbox.

Appendix E

AIRPORT FACILITY NEEDS SHEETS AND REPORT CARDS



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Appendix F

UNIT COST ASSUMPTIONS

Overview

The assumptions that were used to determine quantities and the resulting unit prices for categories listed in the Project Needs Summary Estimated Costs for each airport are described below. The categories are from the Minnesota Airport Project Priority Equation with the two letter codes representing the "Type Points (T)" from the equation. Unit prices for construction related items include average soft costs such as preliminary studies, environmental reviews, design, and construction administration.

CO – Construction

- Apron (For Based Aircraft Per Square Yard)

  The following criteria were used to estimate the unit price for a concrete apron to serve large aircraft.
  - No Removals
  - Excavation Depth – 20" under the apron
  - Typical Concrete Apron section:
    - 12" Granular Borrow
    - 8" P-209 Aggregate Base
    - 8" P-501 doweled Concrete
  - Joint sealant
  - Tie-downs

  The resulting estimated unit price for a concrete apron for based aircraft is $165 per square yard.
- Transient Apron (Per Square Yard)

  The following criteria were used to estimate the unit price for a bituminous apron to serve transient small aircraft.
  - No Removals
  - Excavation Depth – 20" under the apron
  - Typical Bituminous apron section:
    - 12" Granular Borrow
    - 8" P-209 Aggregate Base
    - 4" P-401 Bituminous

  The resulting estimated unit price for a bituminous apron for transient aircraft is $32 per square yard.

DV (Development Land)

This item is for land acquisition with costs obtained from CIPs.

Appendix F

UNIT COST ASSUMPTIONS

EX (Extension/Expansion)

For purposes of the SASP and in accordance with MnDOT's classification system, only the extension/expansion of taxiways are listed under the EX code.

- Taxiway (Lengthening Per Square Yard)
  The width of existing taxiways will vary at different airports. Therefore, the unit price for taxiway lengthening was developed on a square yard basis, which allows the taxiway width to be taken into account when an estimated cost for lengthening of a taxiway is determined. The following criteria were used to determine the unit price per square yard.
  - Saw cut existing end of bituminous taxiway
  - Excavation Depth – 20" under the taxiway
  - Typical section:
    - 12" Granular Borrow
    - 8" P-209 Aggregate Base
    - 4" P-401 Bituminous
  - Seal joint between old and new bituminous

  The resulting estimated unit price per square yard for lengthening a taxiway is $32.

FF (Fuel Farm Development - Per Gallon)

Previous costs for fueling systems were used to develop an average estimated cost for new above ground fueling systems. The estimated unit cost includes the following criteria.

- Above ground tank
- Concrete containment below the tank
- Self-service pumping facility

The resulting estimated unit price for a new fueling facility was determined to be $25/gallon.

IM (Improvements)

- Runway, Taxiway, and Apron Maintenance
  The estimated costs for these were obtained from MnDOT for each airport.
- Runway Extension/Expansion
  Lengthening and/or widening of a runway are two extension/expansion options for which estimated unit prices were determined.

- Runway Lengthening (Per Square Yard)
  The width of existing runways will vary at different airports. Therefore, the unit price for runway lengthening was developed on a square yard basis, which allows the runway width to be taken into account when an estimated cost for lengthening of a runway is determined. The following criteria were used to determine the unit price per square yard.
    - Saw cut existing end of bituminous runway
    - Excavation Depth – 20" under the runway
    - Typical section:
        - 12" Granular Borrow
        - 8" P-209 Aggregate Base
        - 4" P-401 Bituminous
    - Seal joint between old and new bituminous

  The resulting estimated unit price per square yard for lengthening a runway is $32.
- Runway Widening (Per Square Yard)
  The length of existing runways varies. Therefore, the unit price for runway widening was developed on a square yard basis, which allows the runway length to be taken into account when an estimated cost for widening of a runway is determined. The following criteria were used to determine the unit price per square yard.
    - Saw cut existing edge of bituminous runway
    - Excavation Depth – 20" under the runway
    - Typical section:
        - 12" Granular Borrow
        - 8" P-209 Aggregate Base
        - 4" P-401 Bituminous
    - Seal joint between old and new bituminous

  The resulting estimated unit price for widening of a runway is $33 per square yard.

IN (Instrument Approach)

- ILS (Instrument Landing System – Per Each)
  Costs for this item were obtained from CIPs and/or MnDOT.
- FAA ILS Monitoring (Per Each)
  The following criteria were used for determining an estimated cost for an airport's ILS to be certified by the FAA as an alternate airport.
    - Telephone hardline – 2,000 feet
    - Cost per foot for telephone line - $3

  The resulting estimated unit price for each monitoring system is $6,000.

Appendix F

UNIT COST ASSUMPTIONS

LI (Lighting)

- Runway

  For the SASP, only runway lighting was identified as a need. The type of runway lighting will depend upon the type of runway. Following are estimated costs for the three types of runway lighting. In addition, it was assumed that all runway lights would be replaced for any runway being widened.

  - HIRLS (Per Light, Per 200 Feet)

    The following criteria were used in determining an estimated unit cost for HIRLS every 200' along the edge of a runway.

    - One light every 200 feet on each side of the runway.
    - Estimated cost for one light is $1,350
    - Estimated cost for wiring for one light is $450

    The resulting estimated unit price for HIRLS on both sides of a runway every 200 feet is $3,600
  - MIRLS (Per Light, Per 200 Feet)

    The following criteria were used in determining an estimated unit cost for MIRLS every 200' along the edge of a runway.

    - One light every 200 feet on each side of the runway.
    - Estimated cost for one light is $650
    - Estimated cost for wiring for one light is $450

    The resulting estimated unit price for MIRLS on both sides of a runway every 200 feet is $2,200
  - LIRLS (Per Light, Per 200 Feet)

    The following criteria were used in determining an estimated unit cost for LIRLS every 200' along the edge of a runway.

    - One light every 200 feet on each side of the runway.
    - Estimated cost for one light is $550
    - Estimated cost for wiring for one light is $450

    The resulting estimated unit price for LIRLS on both sides of a runway every 200 feet is $2,000
- Taxiway

  For the SASP, taxiway lighting was only identified as a need where a taxiway extension to an existing lighted taxiway was identified. For a taxiway extension, an estimated cost of $4,000 per 1,000 feet of extension was used.

MA (Master Plan)

All planning related to airports has been included under this category with estimated costs identified below.

- ALP (Airport Layout Plan)

  The estimated cost for preparing an ALP varies by the type of airport and is:

  - Landing Strip - $60,000
  - Intermediate - $190,000
  - Key - $320,000

- Master Plan
  The estimated cost for preparing a Master Plan varies by the type of airport and is:
  - Landing Strip - $45,000
  - Intermediate - $100,000
  - Key - $150,000
- Other
  Estimated costs for the following additional planning related studies have been included under "Other" within the project needs cost summary.

MS (Miscellaneous)

- Buildings
  Estimated costs were developed for the following two types of buildings based on the need of an airport.
- Administration Building (Per Each)
  The following criteria were used to determine an estimated total cost for an administration building.
  - Building - 30 foot x 40 foot including electrical, HVAC, parking, and utilities
  - Total unit price including parking and utilities - $130 per square foot

  The resulting estimated total unit cost for an administration building is $156,000.
- Restrooms (Per Facility)
  The total estimated cost to provide a single room restroom facility is $15,000.
- Hangars
  A unit price was estimated for T-Hangars, Conventional Hangars, and Site Preparation. Additional considerations in developing SASP costs for hangars included the following assumptions:
  - T-Hangars – The smallest T-Hangar that would be constructed would provide space for four single engine aircraft.
  - If less than 4 aircraft require hangar space, a conventional hangar is assumed for each aircraft.
  - It was recognized that aircraft vary in size and space needs within a hangar. For this reason, the average space for a single aircraft within a conventional hangar was assumed to be 1,000 SF.
  - The term "Unit" is used in the hangar cost estimates to reflect the storage area of a single aircraft.

Appendix F

UNIT COST ASSUMPTIONS

- *T-Hangars (Per Unit)*

  It was assumed that the smallest 4 unit T-Hangar would be a nested T-Hangar with an average dimension of 51' wide x 105' long (5,355 square feet). The unit price for an average four unit T-Hangar was developed based on the following assumptions.
  - Electrical – Minimal overhead lighting and outlets throughout the building
  - No heating or plumbing
  - Building – Steel roof, steel siding, and wood framed with no windows
  - Doors – Each unit within the T-Hangar has a single man door and an accordion type hangar door
  - Site preparation including hangar floor and apron are not included in the unit price

  The resulting estimated total cost for a four unit T-Hangar is $182,000, which results in an estimated price of $45,500 per unit (aircraft).
- *T-Hangar Site Preparation (Per Unit)*

  Site preparation for a four unit T-Hangar was assumed to include the following items:
  - Excavation depth – 18" over the entire footprint of the building and apron
  - Typical section under building and exterior aprons:
    - 12" Granular Borrow
    - 8" Aggregate Base
    - 6" Concrete
  - Apron – Four 20' wide aprons extending out a distance of 20 feet.

  The resulting estimated total cost for site preparation for a four unit T-Hangar is $90,000, which results in an estimated price of $22,500 per unit (aircraft).
- *Conventional Hangars (Per Unit)*

  The average dimension for a Conventional Hangar was assumed to be 100' wide x 100' long (10,000 square feet). The unit price for an average Convention Hangar was developed based on the following assumptions.
  - Electrical – Full building service and wiring throughout the building
  - Heating, plumbing, and AC included
  - Water and sanitary services included
  - Interior office room
  - Building – Steel roof, steel siding, large span structural steel framing, and insulated with four windows.
  - Doors –Two man doors and accordion type hangar door
  - Site preparation including hangar floor and apron are not included in the unit price

  The resulting estimated total cost for a Conventional Hangar is $950,000, which results in an estimated price of $95,000 per 1,000 SF of space for one unit (aircraft).

- *Conventional Hangar Site Preparation (Per EA Unit and/or SF)*
  Site preparation for a four unit T-Hangar was assumed to include the following items:
  - Excavation depth – 18" over the entire footprint of the building and apron
  - Typical section under building and exterior aprons:
    - 12" Granular Borrow
    - 8" Aggregate Base
    - 6" Concrete
  - Apron – Extends out 35 feet from the front, along 80% of the front side of the hangar.

  The resulting estimated total cost for site preparation for a 10,000 SF Conventional Hangar is $120,000, which results in an estimated price of $12,000 per 1,000 SF of space for one unit (aircraft).

OB (Obstruction Removal)

It was assumed existing approaches that do not meet the SASP recommendations are restricted from being enhanced by obstructions. Based on this assumption, the following average estimated costs for removal of obstructions such as trees, buildings, and roads were used where an enhanced approach is recommended.

- Landing Strip and Intermediate Airports = $100,000
- Key Airports = $600,000.

If an airport had identified obstruction removal costs in their CIP, the CIP costs were used.

PA (Parking – Per Automobile)

Two separate unit prices were developed for this category. The first unit price is for the construction of a major parking lot, having curb and gutter and a full storm sewer system. The second is for the construction of a minor parking lot, having no curb and gutter and a minor storm sewer system. The following criteria were used to determine the unit prices for the two types of parking lots.

- Average space required for a car and associated drive lane is 300 square feet
- Removal of existing infrastructure on major lot and no removals on minor lot
- Excavation Depth – 18" under the parking lot
- Typical section:
  - 12" Granular Borrow
  - 8" P-209 Aggregate Base
  - 4" P-401 Bituminous
- Full storm sewer system for major lot and minimal storm sewer for minor lot
- Pavement striping
- Curb and gutter on major lot and none on minor lot
- Electrical and landscaping on major lot and none on minor lot

The resulting estimated unit price for a major automobile parking lot is $3,450 per automobile and $1,850 per automobile for a minor parking lot.

SE (Security Improvements)

Only fencing of an airport has been included as a requirement and resulted in an estimated cost within the SASP.

- Fencing (Per Each)
  The following criteria were used to determine an estimated cost for providing either a partial or total fence around an airport.
  - Partial fence length - 2 miles
  - Total fence length – 5 miles
  - Fence height – 10 feet
  - Pedestrian gates – 4 for partial fence and 8 for full fence
  - Double swing gates – 4 for partial and 8 for full fence

  The resulting estimated total cost for a partial fence is $166,400 and $412,000 for a full fence.

SZ (Safety Zone (RPZ))

Zoning is the only item identified within this category within the project priority equation.

- Zoning Ordinance (Per Each)
  The estimated cost for developing a zoning ordinance varies by the type of airport and is:
  - Landing Strip - $3,000
  - Intermediate and Key - $15,000

VI (Visual Approach Aids)

Estimated costs were developed for the following visual approach NAVAIDS.

- MALSR (Per Each)
  The total estimated unit price for a MALSR with a building on one end of a runway is $550,000
- PAPI (Per Each)
  The following criteria were used in estimating the cost of a 4 box PAPI for each runway end.
  - 4 box PAPI
  - 3,000 feet of wiring

  The resulting estimated unit price for each runway end is $43,500. This results in a total unit price of $87,000 per each runway where a PAPI would be installed on each runway end.
- REILS (Per Each)
  The total estimated unit price for a REIL on the end of a runway is $12,000. This results in a total unit price of $24,000 per runway where a REIL would be installed on each runway end.

- Rotating Beacon (Per Each)
  The following criteria were used in estimating the cost of a rotating beacon.
  - Cost for beacon on tip down pole and installation with a 15' deep by 36" diameter concrete base - $30,000
  - Estimated cost for electrical conduit and wire to site - $2,000

  The resulting estimated total unit price is $32,000 per each.

WX (Weather Reporting Equipment)

The following two items were identified for inclusion within the SASP under this category.

- Automated Weather Observation Station (AWOS - Per Each)
  The total estimated total cost for installation of an AWOS is $150,000.
- Windsock (Per Each)
  The following criteria were used in estimating the cost of a lighted windsock.
  - Windsock – FAA L-807, LED, internally illuminated, size 2, style 1
  - Estimated cost for installed Windsock - $7,000 for the unit and concrete base
  - Estimated cost for electrical conduit and wire to site - 1,000 lf at $4.50 per foot ($4,500)

  The resulting estimated total unit price for a Windsock is $11,500 per each.

NW (New Key Airport)

Four airports were identified for total runway and taxiway construction/extensions that would result in a change to their designation from Intermediate to Key Airport. The following items were included under this estimated cost:

- ALP and Master Plan
- Parallel Taxiway
- Perimeter Road and Fence
- 10,000 Gallon Jet-A-Fuel Tank
- FBO Hangar
- Additional Hangar space for 10 aircraft
- Terminal Building

The above items resulted in a total estimated cost of $6,210,000. Other costs associated with changing an airport's designation are included under Runway Extension/Expansion either in the airport's CIP or in the SASP mid-term costs.

Appendix F

UNIT COST ASSUMPTIONS

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Appendix G

GOALS MATRIX

SASP Goal	Statement	Strategies	Measures & Indicators	Minnesota GO	Statewide Multimodal Transportation Plan
Safety	Enable development of Minnesota's aviation system to not only enhance the overall safety of airport operations but also minimize and/or reduce aviation fatalities and injuries.	* Provide technical assistance to airport sponsors so that their airport zoning ordinances are acceptable under Minnesota's standards. All airports in the state should be zoned to protect their existing, future, and ultimate infrastructure configurations.	**Percent of Airports with adequate Safety Zoning Ordinance**	Integrate Safety Build to… Respect Physical & Social Context	*Traveler Safety Strategy:* Ensure that transportation facilities are planned… and maintained with consideration for the safety of all users
		* Evaluate the State's zoning standards, and consider revisions to appropriately balance public safety and provide airport compatible development opportunities near and around airports.		Build to… Support Quality of Life & Prosperity	*Transportation in Context Strategy:* Support land use plans… that minimize costs by taking advantage of existing infrastructure investments
		* Approach airspace should continue to be kept clear of obstructions. Obstructions identified during airport safety inspections should be removed as soon as possible.	**Percent of Airports with No Obstructions to protected airspace**	Integrate Safety	*Asset Management:* Strategically manage airspace
		* Airport sponsors should continue to acquire land to control and maintain the State Clear Zones (an area similar to the FAA Runway Protection Zone or RPZ) and achieve compliance with MnDOT Office of Aeronautics' Clear Zone Policy.		Integrate Safety	
		* Assist and collaborate with the entities and agencies that utilize the aviation system to protect and enhance local, regional and state safety including but not limited to firefighting, search and rescue, border protection, homeland security and air medical transport.	**Percent of Airports with AdequateProximity to Weather Reporting**	Use Partnerships	
		* Enhance delivery of medical resources to the critical trauma centers, and life-saving facilities throughout the state that play a critical role in preventing death following traumatic injury.	EMS Response Time Coordination (under development)	Integrate Safety Ensure Accessibility	*Traveler Safety Strategy:* Work with emergency medical and trauma services to reduce response time and increase survivability
		* Support air medical providers' ability to save lives and increase chances of survival in the minutes and hours following traumatic injury – a period commonly referred to as the "Golden Hour".			
		* Support MnDOT's continued efforts in the Toward Zero Deaths (TZD) initiative and work collaboratively with proponents to incorporate all modes, including aviation, into the initiative.	Number of Aviation Accidents and Fatalities in Minnesota	Use Partnerships Integrate Safety	*Traveler Safety Strategy:* Increase participation... in TZD and work together to improve safety for all modes
Mobility and Access	Ensure the people and businesses of Minnesota have convenient access to the air transportation network.	* Maintain and enhance the critical air connections for the people, products, and businesses of Minnesota to markets and resources outside the state and country.	**Airports with Adequate Approaches for Classification** --- **Proximity to Alternate**	Emphasize Reliable Predictable Options	*Critical Connections Strategy:* Work together to ensure the people and businesses of Minnesota have convenient access to the air transportation network
		* Develop a comprehensive strategy to identify and address Americans with Disabilities Act (ADA) concerns within the system.		Ensure Accessibility	
		* Provide viable connections to outstate by maintaining or improving airline services in Greater Minnesota, where appropriate. In doing so, collaborate with and support efforts of the Local Air Service Action Committee (LASAC).	Percent of Population near Airline Service Airport (60 Minutes Travel Time) --- Non-Stop Destinations --- Originating Passengers	Ensure Connections Use Partnerships	*Critical Connections Strategy:* Work together to defne priority networks based on connectivity and accessibility
		* Consider feasibility of increasing airline connections for Greater Minnesota airports with surface transportation options.		Emphasize Reliable Predictable Options	
		* MnDOT Aeronautics will host periodic Air Service Summits to bring together aviation stakeholders in an effort to share critical air service information and develop specific strategies concerning air service in the state.		Use Partnerships Leverage Investments	*Critical Connections Strategy:* Work together to improve freight operations and connections for better access to the transportation system
		* Monitor changes to the federal Essential Air Service (EAS) program (subsidies for commercial airline service to Minnesota airports) and work with stakeholders to develop recommendations for an EAS program that is both effective and can withstand scrutiny.		Strategically Fix the System Ensure Connections	

Appendix G
GOALS MATRIX

SASP Goal	Statement	Strategies	Measures & Indicators	Minnesota GO	Statewide Multimodal Transportation Plan
Financial Opportunity and Responsibility	Improve system airports' ability to become more financially sustainable, attract appropriately planned economic development opportunities, and fit into the context of the community from which it receives support.	* Develop, in cooperation with system airports, new and innovative ways to generate revenues that ultimately bring them closer to self-sufficiency.		Leverage Investments	*Asset Management:* Keep Minnesota's transportation system on a sustainable track for the future
		* Collaborate with the state's aviation stakeholders to continue to provide predictable funding for the State Airports Fund.		Use Partnerships	
		* Consider support of modified construction standards to reduce project cost (e.g., warm mix paving applications).		Leverage... for Economic Competitiveness	*Critical Connections Strategy:* Apply lower cost, high beneft investments… to maintain the system
		* Inventory comprehensive plans of communities surrounding airports to advise on airport compatible development. A community and its airport should have compatible plans so that they foster growth for each other.	**Percent of Airports with Up-to-Date Planning Documents**	Build to… Respect Physical & Social Context	
		* Consider the role of airports in supporting and furthering Context Sensitive Solutions for sponsor communities.		Build to… Respect Physical & Social Context	*T in C:* Plan, design, develop, and maintain projects in a way that is consistent with the principles of CSS
		* Support local and community efforts to create jobs with a particular focus on enhancing the state's aviation sector.	Percent of Airports within 50 nm of Aircraft Repair and Maintenance Facilities --- Percent of Population near Cargo Service Airport (60 Minutes Travel Time)	Build to… Support Quality of Life & Prosperity	*Transportation in Context Strategy:* Support statewide economic vitality and create and maintain jobs through transportation infrastructure investments
		* Support and promote system airport's efforts to pursue special or unique funding opportunities such as the joint MnDOT and Department of Employment and Economic Development (DEED) Transportation Economic Development (TED) program designed to address both the state's transportation system needs and economic development objectives.		Leverage Public Investment for Multiple Purposes	
Operations	Ensure the system is operated in a manner that users can rely upon.	* Identify the areas of the State suitable, from an aeronautical perspective, for tall structure siting and consider similar analysis for other potential airport incompatible land uses.		Leverage... to Support Energy Independence	
		* Upgrade the state's critical navigation facilities while allowing for reduction and/or phase out of unused or outdated components.	**Percent of Airports with Up-to-Date Navigation Systems**	Strategically Fix the System	*Critical Connections Strategy:* Apply lower cost, high beneft investment strategies… to maintain and improve the multimodal transportation system
		* Develop a method for more precise life-cycle tracking of the navigation system.			
		* Work with MnDOT's Office of Transportation and Data Analysis to research available technologies to more precisely analyze activity at airports. These technologies may be auditory or visual, able to recognize differing aircraft types, and should be tested on a limited scale to help determine accuracy.	**Percent of Airports with Adequate Proximity to Alternate Airport**	Build to Maintainable Scale	*System Security Strategy:* Collaborate with emergency planning efforts to ensure effcient and coordinated response… (Additionally many airports are developing Emergency Response Plans)
		* Work to ensure FAA efforts to incorporate Unmanned Aircraft Systems (Unmanned Aerial Vehicles) into the Minnesota's airspace are pursued in a safe and transparent manner.		Ensure Accessibility	*Accountability, Transparency, and Communication Strategy:* Work with system users to understand todays needs and what will matter tomorrow
Preservation	Ensure the structural integrity of existing airport infrastructure to meet current needs of the system and not compromise what is needed in the future.	* Work collaboratively with airport sponsors to align maintenance and preservation needs with the state's funding priorities.	**Percent of Airports with Good Pavement Condition**	Build to Maintainable Scale	
		* Periodically review the State's project prioritization formula and consider recommendations for adjustments that are developed in a collaborative manner.		Build to… Affordably Contribute	*Asset Management:* Prioritize maintaining and operating assets on identified priority networks
		* Explore a risk based approach to making future investment decisions.		Strategically Fix the System	
		* Ensure that construction projects are justified and appropriately sized.	**Percent of Airports with Up-to-Date Planning Documents**	Ensure Connections	*Asset Management:* Keep Minnesota's transportation system on a sustainable track for the future

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MinnesotaGO

A Collaborative Vision for Transportation

State Aviation System Plan











MINNESOTA DEPARTMENT OF TRANSPORTATION

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Document prepared by MnDOT Office of Aeronautics and HNTB Corporation.



MinnesotaGO
A Collaborative Vision for Transportation

State Aviation System Plan

Appendices

APPENDIX E: AIRPORT FACILITY NEEDS SHEETS AND REPORT CARDS

Appendix E

AIRPORT FACILITY NEEDS SHEETS AND REPORT CARDS

The following documents are available for each airport, alphabetically by airport city name:

- Airport Data Sheet
- Forecast Summary
- Facility Recommendations
- Facility Needs
- Costs
- Report Card

Twin Valley - D00

Norman County Ada/Twin Valley Airport

Associated City: Ada, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	3,103
Width (Feet)	60
Average *PCI Value	76
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Twin Valley - D00

Norman County Ada/Twin Valley Airport

Associated City: Ada, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***7***	***7***	***7***	***7***
Single Engine Piston	7	7	7	7
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0
***Aircraft Operations:**				
Total:	***2,400***	***2,498***	***2,481***	***2,837***
	2,400	2,498	2,481	2,837
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0
***Aircraft Operation Type:**				
Local:	2,160	2,248	2,233	2,554
Itinerant:	240	250	248	283
***Aircraft Operation Purpose:**				
Business:	240	250	248	284
Training:	1,920	1,998	1,985	2,270
Leisure:	240	250	248	283

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Twin Valley - D00

Norman County Ada/Twin Valley Airport

Associated City: Ada, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,103	2,400 Feet	No Change
Runway Width (Feet)	60	75 Feet	Widen
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	3,100	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	NP		
Based Tie Downs (Each)	NP		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	8	100% of Jets & Turbos	No Change
Conventional Hangar (Units)	0	95% of Single & Multi	No Change
Landside Facilities:			
Automobile Parking (Spaces)	NP	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Twin Valley - D00

Norman County Ada/Twin Valley Airport

Associated City: Ada, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,103	-	-	-
Runway Widening (Feet)	60	15	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	3,100	-	-	-
Based Aircraft Apron (SY)	NP	-	-	-
Tie Downs (Each)	NP	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPI	-	-
REILs	No	REIL	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	8	0	0	0
Conventional Hangar (Units)	0	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	NP	10	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Twin Valley - D00

Norman County Ada/Twin Valley Airport

Associated City: Ada, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		50,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	143,441	22,698	95,487
	Runway Maintenance	✓	✓	38,998	64,969	187,501
	Taxiway Maintenance	✓	✓	1,966	4,074	13,629
	Runway Extension/Expansion		✓	-	300,300	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓	✓	100,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	30,000	-	190,000
	Master Plan	✓	✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		350,000	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,000	-
PA	Parking		✓	-	44,850	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI	✓	✓	50,000	-	-
	REILS		✓	-	31,200	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 864,404**	**$ 598,091**	**$ 586,617**

20 Year Total Estimated Cost: $ 2,049,112

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Twin Valley - D00

Norman County Ada/Twin Valley Airport

Associated City: Ada, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Aitkin - AIT

Aitkin Municipal Airport - Steve Kurtz Field

Associated City: Aitkin, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	4,018
Width (Feet)	75
Average *PCI Value	71
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	8-26
Length (Feet)	3,335
Width (Feet)	150
Average *PCI Value	No PCI Exists
Runway Lighting	None
Taxiway Type:	Partial
Average *PCI Value:	No PCI Exists

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Aitkin - AIT

Aitkin Municipal Airport - Steve Kurtz Field

Associated City: Aitkin, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***40***	***44***	***48***	***55***
Single Engine Piston	35	39	42	47
Multi-Engine Piston	2	2	2	3
Turboprop	2	2	2	3
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operations:**

Total:	***19,999***	***21,983***	***23,515***	***29,602***
	16,439	17,852	18,975	24,764
Multi-Engine Piston	988	1,048	1,112	1,264
Turboprop	2,220	2,503	2,661	2,639
Jet	0	0	0	0
Light Sport	352	580	767	935
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operation Type:**

Local:	14,600	16,047	17,165	21,610
Itinerant:	5,399	5,936	6,350	7,992

***Aircraft Operation Purpose:**

Business:	1,000	1,100	1,176	1,480
Training:	18,000	19,784	21,163	26,642
Leisure:	999	1,099	1,176	1,480

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Aitkin - AIT

Aitkin Municipal Airport - Steve Kurtz Field

Associated City: Aitkin, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,018	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnarounds	Full	Construct
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	25,200	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	NP		
Based Tie Downs (Each)	NP		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	12	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	31		Construct
Landside Facilities:			
Automobile Parking (Spaces)	24	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Full	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Aitkin - AIT

Aitkin Municipal Airport - Steve Kurtz Field

Associated City: Aitkin, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,018	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	None	Full	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	4,000	-	-	-
Transient Apron (S.Y.)	25,200	-	-	-
Based Apron (S.Y.)	NP	-	-	-
Tie Downs (Each)	NP	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	12	0	0	7
Conventional Hangar (Units)	31	0	3	0
Landside Facilities:				
Automobile Parking (Spaces)	24	40	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Aitkin - AIT

Aitkin Municipal Airport - Steve Kurtz Field

Associated City: Aitkin, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway		✓	-	940,160	-
FF	Fuel Farm Development	✓		250,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	110,922	308,378	502,765
	Runway Maintenance	✓	✓	86,952	132,867	368,309
	Taxiway Maintenance	✓	✓	149,338	26,310	160,033
	Runway Extension/Expansion	✓		155,300	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		244,000	-	-
	Taxiway			-	208,000	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other	✓		35,000	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars		✓	-	196,332	-
	T-Hangars		✓	-	-	321,067
	Hangar Site Preparation	✓	✓	338,000	33,317	90,432
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓	✓	188,000	-	-
PA	Parking		✓	-	182,450	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		455,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	115,023	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,302,513**	**$ 2,142,837**	**$ 1,732,605**

20 Year Total Estimated Cost: $ 6,177,955

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Aitkin - AIT

Aitkin Municipal Airport - Steve Kurtz Field

Associated City: Aitkin, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Albert Lea - AEL

Albert Lea Municipal Airport

Associated City: Albert Lea, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	17-35
Length (Feet)	5,000
Width (Feet)	100
Average *PCI Value	98
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	Not Provided

Crosswind Runway:

Designation	5-23
Length (Feet)	2,898
Width (Feet)	75
Average *PCI Value	98
Runway Lighting	None
Taxiway Type:	Partial
Average *PCI Value:	No PCI Exists

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Albert Lea - AEL

Albert Lea Municipal Airport

Associated City: Albert Lea, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***46***	***48***	***48***	***50***
Single Engine Piston	33	35	35	37
Multi-Engine Piston	3	3	3	3
Turboprop	0	0	0	0
Jet	2	2	2	2
Light Sport	0	0	0	0
Military	0	0	0	0
Other	8	8	8	8

*Aircraft Operations:				
Total:	***26,174***	***27,500***	***28,063***	***32,596***
	19,452	19,914	20,244	24,223
Multi-Engine Piston	1,860	1,860	1,887	2,146
Turboprop	0	0	0	0
Jet	1,844	2,365	2,373	2,358
Light Sport	0	0	0	0
Military	300	285	268	240
Other	2,718	3,076	3,291	3,629

*Aircraft Operation Type:				
Local:	21,202	22,274	22,730	26,402
Itinerant:	4,972	5,226	5,333	6,194

*Aircraft Operation Purpose:				
Business:	10,895	11,446	11,681	13,567
Training:	10,194	10,709	10,928	12,694
Leisure:	5,085	5,345	5,454	6,335

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Albert Lea - AEL

Albert Lea Municipal Airport

Associated City: Albert Lea, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,000	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Apron (S.Y.)	19,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	3,120		
Based Tie Downs (Each)	8		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	23	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	31		No Change
Landside Facilities:			
Automobile Parking (Spaces)	25	1 Stall per B.A. Plus 50%	Construct
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Albert Lea - AEL

Albert Lea Municipal Airport

Associated City: Albert Lea, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,000	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Apron (S.Y.)	19,000	-	-	-
Based Apron (S.Y.)	3,120	-	-	-
Tie Downs (Each)	8	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	23	0	0	0
Conventional Hangar (Units)	31	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	25	50	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Albert Lea - AEL

Albert Lea Municipal Airport

Associated City: Albert Lea, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land	✓		70,035	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	2,150,000	979,196	340,395
	Runway Maintenance	✓	✓	21,720	151,855	678,339
	Taxiway Maintenance	✓	✓	2,374,320	16,694	207,468
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS	✓		735,000	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	45,000	320,000	320,000
	Master Plan	✓	✓	150,000	150,000	150,000
	Other		✓	14,625	-	-
MS	Miscellaneous					
	Buildings	✓		1,485,000	-	-
	Conventional Hangars	✓		1,350,000	-	-
	T-Hangars	✓		840,000	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		20,000	-	-
	Snow Removal Equipment	✓		150,000	-	-
OB	Obstruction Removal	✓		31,500	-	-
PA	Parking	✓	✓	100,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		295,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 9,847,200**	**$ 1,617,745**	**$ 1,696,201**

20 Year Total Estimated Cost: *$ 13,161,147*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Albert Lea - AEL

Albert Lea Municipal Airport

Associated City: Albert Lea, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	YES	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Alexandria - AXN

Alexandria Municipal Airport

Associated City: Alexandria, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	13-31
Length (Feet)	5,100
Width (Feet)	100
Average *PCI Value	61
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	64

Crosswind Runway:

Designation	4-22
Length (Feet)	4,099
Width (Feet)	75
Average *PCI Value	64
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	64

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Alexandria - AXN

Alexandria Municipal Airport

Associated City: Alexandria, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***52***	***56***	***59***	***70***
Single Engine Piston	48	52	55	64
Multi-Engine Piston	2	2	2	3
Turboprop	2	2	2	3
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***25,735***	***27,105***	***28,931***	***36,952***
	22,266	23,422	25,034	32,957
Multi-Engine Piston	976	1,003	1,069	1,216
Turboprop	2,193	2,395	2,560	2,539
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	300	285	268	240
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	16,225	17,087	18,240	23,296
Itinerant:	9,510	10,018	10,691	13,656

*Aircraft Operation Purpose:				
Business:	10,712	11,282	12,042	15,382
Training:	10,022	10,555	11,267	14,391
Leisure:	5,001	5,268	5,622	7,181

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Alexandria - AXN

Alexandria Municipal Airport

Associated City: Alexandria, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,100	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	MIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Apron (S.Y.)	5,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	24	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	32		Construct
Landside Facilities:			
Automobile Parking (Spaces)	35	1 Stall per B.A. Plus 50%	Construct
Perimeter Fencing	Partial	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Alexandria - AXN

Alexandria Municipal Airport

Associated City: Alexandria, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,100	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	5,000	21,000	2,000	7,000
Based Apron (S.Y.)	NP	1,500	-	-
Tie Downs (Each)	NP	5	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	Enhanced NPI w/Vertical*	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	24	0	0	10
Conventional Hangar (Units)	32	0	1	0
Landside Facilities:				
Automobile Parking (Spaces)	35	55	-	15
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided. *End opposite PI.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Alexandria - AXN

Alexandria Municipal Airport

Associated City: Alexandria, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	324,002	-
	Transient Aircraft Apron		✓	-	963,498	293,238
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	317,790	270,325	1,281,925
	Runway Maintenance	✓	✓	1,746,920	948,744	540,360
	Taxiway Maintenance	✓	✓	734,341	1,001,542	664,305
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		200,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars		✓	-	64,801	-
	T-Hangars	✓	✓	150,000	-	454,157
	Hangar Site Preparation		✓	-	10,997	149,237
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		45,000	-	-
OB	Obstruction Removal		✓	-	130,000	-
PA	Parking		✓	-	248,401	67,746
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	539,349	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,664,051**	**$ 4,971,659**	**$ 3,920,969**

20 Year Total Estimated Cost: *$ 12,556,679*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Alexandria - AXN

Alexandria Municipal Airport

Associated City: Alexandria, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Appleton - AQP

Appleton Municipal Airport

Associated City: Appleton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	3,500
Width (Feet)	75
Average *PCI Value	20
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	No PCI Exists

Crosswind Runway:

Designation	4-22
Length (Feet)	2,725
Width (Feet)	157
Average *PCI Value	No PCI Exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Appleton - AQP

Appleton Municipal Airport

Associated City: Appleton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***10***	***11***	***12***	***12***
Single Engine Piston	6	7	7	7
Multi-Engine Piston	0	0	0	0
Turboprop	4	4	5	5
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***2,000***	***2,172***	***2,233***	***2,410***
	777	824	847	1,036
Multi-Engine Piston	0	0	0	0
Turboprop	1,223	1,348	1,386	1,374
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	2,000	2,173	2,233	2,411
Itinerant:	0	-1	0	-1

*Aircraft Operation Purpose:				
Business:	1,780	1,934	1,987	2,146
Training:	200	217	223	241
Leisure:	20	21	23	23

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Appleton - AQP

Appleton Municipal Airport

Associated City: Appleton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,500	2,400 Feet	Extend
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	None	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	2,600	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	NP		
Based Tie Downs (Each)	NP		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	Yes		Install
REILs	No		Install
Approach Lighting	None		Install

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	9		Construct

Landside Facilities:			
Automobile Parking (Spaces)	15	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Appleton - AQP

Appleton Municipal Airport

Associated City: Appleton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,500	700	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	2,600	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	Yes	-	-	-
REILs	No	PAPIs	-	-
Approach Lighting	None	REILs	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	9	2	1	0
Landside Facilities:				
Automobile Parking (Spaces)	15	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Appleton - AQP

Appleton Municipal Airport

Associated City: Appleton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	-	570,386	53,047
	Runway Maintenance	✓	✓	1,698,502	17,253	196,839
	Taxiway Maintenance	✓	✓	149,510	225	15,618
	Runway Extension/Expansion		✓	-	244,365	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway		✓	-	11,520	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	-	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars		✓	-	194,402	-
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	32,989	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,000	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	113,892	-
	REILS		✓	-	31,418	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,848,012**	**$ 1,346,451**	**$ 555,504**

20 Year Total Estimated Cost: $ 3,749,967

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Appleton - AQP

Appleton Municipal Airport

Associated City: Appleton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	NO	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Austin - AUM

Austin Municipal Airport

Associated City: Austin, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	17-35
Length (Feet)	5,800
Width (Feet)	100
Average *PCI Value	93
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	82

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Austin - AUM

Austin Municipal Airport

Associated City: Austin, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***29***	***32***	***33***	***35***
Single Engine Piston	25	28	29	31
Multi-Engine Piston	1	1	1	1
Turboprop	1	1	1	1
Jet	2	2	2	2
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***25,419***	***28,032***	***29,068***	***34,735***
	20,051	21,542	22,383	27,975
Multi-Engine Piston	844	885	918	1,044
Turboprop	1,895	2,114	2,197	2,179
Jet	2,509	3,377	3,463	3,441
Light Sport	0	0	0	0
Military	120	114	107	96
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	21,607	23,828	24,707	29,525
Itinerant:	3,812	4,204	4,361	5,210

*Aircraft Operation Purpose:				
Business:	10,168	11,213	11,627	13,894
Training:	2,542	2,803	2,907	3,474
Leisure:	12,709	14,016	14,534	17,367

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Austin - AUM

Austin Municipal Airport

Associated City: Austin, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,800	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Apron (S.Y.)	25,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	NP		
Based Tie Downs (Each)	NP		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	16	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	20		No Change
Landside Facilities:			
Automobile Parking (Spaces)	12	1 Stall per B.A. Plus 50%	Construct
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Austin - AUM

Austin Municipal Airport

Associated City: Austin, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,800	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	24,000	-	-	-
Transient Apron (S.Y.)	25,000	-	-	-
Based Apron (S.Y.)	NP	-	-	-
Tie Downs (Each)	NP	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	16	0	0	0
Conventional Hangar (Units)	20	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	12	40	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided. *End opposite PI.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Austin - AUM

Austin Municipal Airport

Associated City: Austin, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓		30,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	71,760	34,343	173,955
	Runway Maintenance	✓	✓	100,000	828	359,796
	Taxiway Maintenance	✓	✓	168,240	36,523	275,810
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓		200,000	-	-
	Miscellaneous Equipment	✓		20,000	-	-
	Snow Removal Equipment	✓		100,000	-	-
OB	Obstruction Removal	✓		20,000	-	-
PA	Parking		✓	-	187,473	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs	✓		13,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,208,000**	**$ 729,168**	**$ 1,279,561**

20 Year Total Estimated Cost: *$ 3,216,728*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Austin - AUM

Austin Municipal Airport

Associated City: Austin, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Backus - 7Y3

Backus Municipal Airport

Associated City: Backus, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	3,588
Width (Feet)	145
Average *PCI Value	No PCI exists
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Backus - 7Y3

Backus Municipal Airport

Associated City: Backus, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***8***	***9***	***10***	***13***
Single Engine Piston	7	8	9	11
Multi-Engine Piston	1	1	1	2
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***2,600***	***2,928***	***3,197***	***4,287***
	2,260	2,553	2,789	3,822
Multi-Engine Piston	340	375	408	465
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	2,574	2,898	3,165	4,244
Itinerant:	26	30	32	43

*Aircraft Operation Purpose:				
Business:	26	29	32	43
Training:	260	293	320	429
Leisure:	2,314	2,606	2,845	3,815

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Backus - 7Y3

Backus Municipal Airport

Associated City: Backus, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,588	2,000 Feet	No Change
Runway Width (Feet)	145	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	Non Std	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	100LL	No Requirement	No Change
Transient Apron (S.Y.)	3,100	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	2,730		
Based Tie Downs (Each)	7		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	95% of Single & Multi	No Change
Conventional Hangar (Units)	8		Construct
Landside Facilities:			
Automobile Parking (Spaces)	10	1 Stall per B.A.	No Change
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Backus - 7Y3

Backus Municipal Airport

Associated City: Backus, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,588	-	-	-
Runway Widening (Feet)	145	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	Non Std	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	3,100	-	-	-
Based Apron (S.Y.)	2,730	-	-	-
Tie Downs (Each)	7	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	8	1	1	3
Landside Facilities:				
Automobile Parking (Spaces)	10	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Backus - 7Y3

Backus Municipal Airport

Associated City: Backus, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion	✓		20,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		15,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		20,000	-	-
	Conventional Hangars		✓	-	130,888	196,332
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	22,212	33,316
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	219,997	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone	✓		3,000	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 118,000**	**$ 373,097**	**$ 229,649**

20 Year Total Estimated Cost: $ 720,746

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Backus - 7Y3

Backus Municipal Airport

Associated City: Backus, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bagley - 7Y4

Bagley Municipal Airport

Associated City: Bagley, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	3,800
Width (Feet)	75
Average *PCI Value	76
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bagley - 7Y4

Bagley Municipal Airport

Associated City: Bagley, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***5***	***6***	***6***	***6***
Single Engine Piston	5	6	6	6
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0
Total:	***2,100***	***2,327***	***2,383***	***2,888***
	2,100	2,327	2,383	2,888
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0
Local:	2,100	2,327	2,383	2,888
Itinerant:	0	0	0	0
Business:	874	969	992	1,202
Training:	818	906	928	1,125
Leisure:	408	452	463	561

***Aircraft Operations:**

***Aircraft Operation Type:**

***Aircraft Operation Purpose:**

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bagley - 7Y4

Bagley Municipal Airport

Associated City: Bagley, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,800	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	None	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	2,790	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	No		Construct
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	3		Construct

Landside Facilities:			
Automobile Parking (Spaces)	12	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bagley - 7Y4

Bagley Municipal Airport

Associated City: Bagley, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,800	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	2,790	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	Yes	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	3	3	0	0
Landside Facilities:				
Automobile Parking (Spaces)	12	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bagley - 7Y4

Bagley Municipal Airport

Associated City: Bagley, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		150,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		250,000	-	-
FF	Fuel Farm Development	✓		50,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	15,275	28,062	84,572
	Runway Maintenance	✓	✓	62,811	102,650	294,607
	Taxiway Maintenance	✓	✓	1,499	3,003	9,918
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings		✓	-	171,600	-
	Conventional Hangars		✓	-	193,050	-
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	32,760	-
	Miscellaneous Equipment	✓		60,000	-	-
	Snow Removal Equipment	✓		100,000	-	-
OB	Obstruction Removal		✓	-	130,000	-
PA	Parking	✓		162,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs	✓		15,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS	✓		105,000	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,071,586**	**$ 851,124**	**$ 489,097**

20 Year Total Estimated Cost: $ 2,411,806

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bagley - 7Y4

Bagley Municipal Airport

Associated City: Bagley, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Baudette - BDE

Baudette International Airport & Seaplane Base

Associated City: Baudette, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	12-30
Length (Feet)	5,499
Width (Feet)	100
Average *PCI Value	57
Runway Lighting	HIRLs
Taxiway Type:	Partial
Average *PCI Value:	41

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Baudette - BDE

Baudette International Airport & Seaplane Base

Associated City: Baudette, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***15***	***16***	***18***	***19***
Single Engine Piston	13	14	15	16
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***11,000***	***12,127***	***12,619***	***15,201***
	9,595	10,336	10,569	12,791
Multi-Engine Piston	776	817	833	948
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	554	903	1,150	1,402
Military	75	71	67	60
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,100	1,213	1,262	1,520
Itinerant:	9,900	10,914	11,357	13,681

*Aircraft Operation Purpose:				
Business:	2,750	3,032	3,155	3,800
Training:	7,150	7,883	8,202	9,881
Leisure:	1,100	1,212	1,262	1,520

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Baudette - BDE

Baudette International Airport & Seaplane Base

Associated City: Baudette, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,499	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Apron (S.Y.)	7,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	NP		
Based Tie Downs (Each)	NP		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	13		Construct
Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 50%	Construct
Perimeter Fencing	Partial	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Baudette - BDE

Baudette International Airport & Seaplane Base

Associated City: Baudette, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,499	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	7,000	20,000	2,000	5,000
Based Apron (S.Y.)	NP	1,000	-	-
Tie Downs (Each)	NP	2	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	yes			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	8	0	0
Conventional Hangar (Units)	13	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	20	10	-	-
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided. *End opposite PI.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Baudette - BDE

Baudette International Airport & Seaplane Base

Associated City: Baudette, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	214,500	-
	Transient Aircraft Apron		✓	-	915,200	208,000
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	14,823	16,018	87,428
	Runway Maintenance		✓	162,095	245,497	679,737
	Taxiway Maintenance		✓	854,904	29,191	252,603
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	120,000	120,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		500,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓	✓	475,000	-	-
	Hangar Site Preparation	✓	✓	150,000	-	-
	Miscellaneous Equipment	✓		15,000	-	-
	Snow Removal Equipment	✓		160,000	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	44,850	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	535,600	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR		✓	-	715,000	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,801,822**	**$ 3,155,857**	**$ 1,667,767**

20 Year Total Estimated Cost: $ 7,625,446

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Baudette - BDE

Baudette International Airport & Seaplane Base

Associated City: Baudette, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bemidji - BJI

Bemidji Regional Airport

Associated City: Bemidji, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	Yes
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	13-31
Length (Feet)	7,002
Width (Feet)	150
Average *PCI Value	94
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	86

Crosswind Runway:

Designation	7-25
Length (Feet)	5,700
Width (Feet)	150
Average *PCI Value	83
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	79

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bemidji - BJI

Bemidji Regional Airport

Associated City: Bemidji, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***56***	***62***	***68***	***77***
Single Engine Piston	20	22	24	27
Multi-Engine Piston	23	26	28	32
Turboprop	12	13	15	17
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***8,669***	***9,466***	***10,014***	***11,160***
	2,234	2,440	2,597	3,390
Multi-Engine Piston	2,703	2,882	3,061	3,482
Turboprop	3,168	3,592	3,823	3,792
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	500	474	446	400
Other	64	78	87	96

*Aircraft Operation Type:				
Local:	2,601	2,840	3,004	3,348
Itinerant:	6,068	6,626	7,010	7,812

*Aircraft Operation Purpose:				
Business:	6,936	7,573	8,011	8,928
Training:	1,300	1,420	1,502	1,674
Leisure:	433	473	501	558

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bemidji - BJI

Bemidji Regional Airport

Associated City: Bemidji, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	7,002	5,000 Feet	No Change
Runway Width (Feet)	150	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	HIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Apron (S.Y.)	18,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	NP		
Based Tie Downs (Each)	NP		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	Yes	Commercial Terminal	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	12	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	18		No Change
Landside Facilities:			
Automobile Parking (Spaces)	300	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bemidji - BJI

Bemidji Regional Airport

Associated City: Bemidji, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	7,004	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	18,000	3,000	1,000	3,000
Based Apron (S.Y.)	NP	1,500	-	-
Tie Downs (Each)	NP	4	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	Enhanced NPI w/Vertical*	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	Yes	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	12	30	6	8
Conventional Hangar (Units)	18	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	300	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided. *End opposite PI.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bemidji - BJI

Bemidji Regional Airport

Associated City: Bemidji, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		250,000	-	-
	Based Aircraft Apron		✓	-	321,750	-
	Transient Aircraft Apron		✓	-	166,400	83,200
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		3,850,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	775,000	525,843	485,866
	Runway Maintenance	✓	✓	191,100	439,715	1,446,857
	Taxiway Maintenance	✓	✓	83,700	178,068	798,823
	Runway Extension/Expansion	✓		110,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring		✓	-	7,800	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	320,000	320,000
	Master Plan	✓	✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		4,574,300	-	-
	Conventional Hangars			-	-	-
	T-Hangars		✓	-	1,623,600	400,400
	Hangar Site Preparation		✓	-	533,520	118,560
	Miscellaneous Equipment	✓		125,000	-	-
	Snow Removal Equipment	✓		780,000	-	-
OB	Obstruction Removal		✓	-	780,000	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		675,000	-	-
SG	Signs	✓		120,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			$ 11,699,100	$ 5,046,696	$ 3,803,707

20 Year Total Estimated Cost: $ 20,549,502

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bemidji - BJI

Bemidji Regional Airport

Associated City: Bemidji, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Benson - BBB

Benson Municipal Airport

Associated City: Benson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	4,000
Width (Feet)	75
Average *PCI Value	76
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	72

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Benson - BBB

Benson Municipal Airport

Associated City: Benson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***20***	***21***	***23***	***24***
Single Engine Piston	13	14	15	16
Multi-Engine Piston	4	4	5	5
Turboprop	2	2	2	2
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***5,001***	***5,377***	***5,544***	***6,418***
	2,888	3,086	3,178	3,907
Multi-Engine Piston	935	975	1,002	1,140
Turboprop	1,050	1,165	1,200	1,190
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	128	151	164	181

*Aircraft Operation Type:				
Local:	4,500	4,839	4,990	5,776
Itinerant:	501	538	554	642

*Aircraft Operation Purpose:				
Business:	4,750	5,108	5,267	6,097
Training:	250	269	277	321
Leisure:	1	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Benson - BBB

Benson Municipal Airport

Associated City: Benson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,000	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	8,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	NP		
Based Tie Downs (Each)	NP		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	14		Construct
Landside Facilities:			
Automobile Parking (Spaces)	8	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Benson - BBB

Benson Municipal Airport

Associated City: Benson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,000	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	8,000	-	-	-
Based Apron (S.Y.)	NP	-	-	-
Tie Downs (Each)	NP	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	7	0	0
Conventional Hangar (Units)	14	0	1	1
Landside Facilities:				
Automobile Parking (Spaces)	8	24	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Benson - BBB

Benson Municipal Airport

Associated City: Benson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓		50,000	-	-
IM	Improvements					
	Apron Maintenance		✓	58,866	96,871	737,454
	Runway Maintenance		✓	65,326	106,168	304,244
	Taxiway Maintenance		✓	72,182	99,177	818,804
	Runway Extension/Expansion	✓		2,805,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		400,000	-	-
	Conventional Hangars		✓	-	-	64,800
	T-Hangars	✓	✓	300,000	181,663	-
	Hangar Site Preparation		✓	-	59,695	10,996
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		200,000	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	108,393	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		50,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other	✓		20,000	-	-
	TOTALS			**$ 4,311,373**	**$ 651,967**	**$ 2,226,299**

20 Year Total Estimated Cost: *$ 7,189,638*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Benson - BBB

Benson Municipal Airport

Associated City: Benson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Big Falls - 7Y9

Big Falls Municipal Airport

Associated City: Big Falls, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	11-29
Length (Feet)	2,602
Width (Feet)	200
Average *PCI Value	No PCI exists
Runway Lighting	Non Std
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	3-21
Length (Feet)	2,850
Width (Feet)	100
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Big Falls - 7Y9

Big Falls Municipal Airport

Associated City: Big Falls, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***3***	***3***	***3***	***3***
Single Engine Piston	2	2	2	2
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1
Total:	***1,600***	***1,688***	***1,736***	***2,037***
	1,242	1,280	1,300	1,556
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	358	408	436	481

***Aircraft Operations:**

***Aircraft Operation Type:**

Local:	1,200	1,266	1,302	1,528
Itinerant:	400	422	434	509

***Aircraft Operation Purpose:**

Business:	400	422	434	510
Training:	800	844	868	1,018
Leisure:	400	422	434	509

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Big Falls - 7Y9

Big Falls Municipal Airport

Associated City: Big Falls, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,602	2,000 Feet	No Change
Runway Width (Feet)	200	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	Non Std	LIRLs if Open 24/7	Install
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Apron (S.Y.)	1,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	95% of Single & Multi	No Change
Conventional Hangar (Units)	3		No Change
Landside Facilities:			
Automobile Parking (Spaces)	-	1 Stall per B.A.	Construct
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Big Falls - 7Y9

Big Falls Municipal Airport

Associated City: Big Falls, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,602	-	-	-
Runway Widening (Feet)	200	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	Non Std	LIRLs	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	1,500	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	3	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	-	4	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Big Falls - 7Y9

Big Falls Municipal Airport

Associated City: Big Falls, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway		✓	-	33,826	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		25,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	17,940	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	216,320	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon		✓	-	41,600	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 85,000**	**$ 309,686**	**$ -**

20 Year Total Estimated Cost: ***$ 394,686***

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Big Falls - 7Y9

Big Falls Municipal Airport

Associated City: Big Falls, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bigfork - FOZ

Bigfork Municipal Airport

Associated City: Bigfork, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	4,000
Width (Feet)	75
Average *PCI Value	96
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bigfork - FOZ

Bigfork Municipal Airport

Associated City: Bigfork, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***4***	***4***	***5***	***5***
Single Engine Piston	4	4	5	5
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operations:**

Total:	***2,400***	***2,528***	***2,635***	***3,326***
	2,400	2,528	2,635	3,326
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operation Type:**

Local:	480	506	527	665
Itinerant:	1,920	2,022	2,108	2,661

***Aircraft Operation Purpose:**

Business:	960	1,011	1,054	1,330
Training:	1,440	1,517	1,581	1,995
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bigfork - FOZ

Bigfork Municipal Airport

Associated City: Bigfork, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,000	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	None	Turnaround	Construct
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	None	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	4,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	390		
Based Tie Downs (Each)	1		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	No		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	3		Construct
Landside Facilities:			
Automobile Parking (Spaces)	30	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bigfork - FOZ

Bigfork Municipal Airport

Associated City: Bigfork, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,000	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	None	Turnaround	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Aircraft Apron (SY)	4,500	1,000	-	1,000
Based Aircraft Apron (SY)	390	-	-	-
Tie Downs (Each)	1	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	No	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	3	6	0	0
Landside Facilities:				
Automobile Parking (Spaces)	30	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bigfork - FOZ

Bigfork Municipal Airport

Associated City: Bigfork, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	41,600	41,600
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	2,496	-
FF	Fuel Farm Development	✓		80,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	200,000	12,430	86,583
	Runway Maintenance		✓	4,737	67,204	288,954
	Taxiway Maintenance	✓	✓	100,000	71	4,898
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		200,000	-	-
	Conventional Hangars	✓	✓	325,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓	✓	100,000	-	-
	Miscellaneous Equipment	✓		10,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓	✓	10,000	-	-
PA	Parking	✓		50,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI	✓	✓	87,000	-	-
	REILS		✓	-	31,200	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,456,737**	**$ 155,001**	**$ 712,036**

20 Year Total Estimated Cost: *$ 2,323,773*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bigfork - FOZ

Bigfork Municipal Airport

Associated City: Bigfork, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Blue Earth - SBU

Blue Earth Municipal Airport

Associated City: Blue Earth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	3,399
Width (Feet)	75
Average *PCI Value	53
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	3-21
Length (Feet)	2,280
Width (Feet)	200
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Blue Earth - SBU

Blue Earth Municipal Airport

Associated City: Blue Earth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***29***	***30***	***31***	***30***
Single Engine Piston	26	27	27	26
Multi-Engine Piston	0	0	0	0
Turboprop	2	2	2	2
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	0	0	0	0
Total:	***14,000***	***14,311***	***14,253***	***15,803***
	11,564	11,612	11,465	12,896
Multi-Engine Piston	0	0	0	0
Turboprop	2,102	2,192	2,164	2,146
Jet	0	0	0	0
Light Sport	334	507	624	761
Military	0	0	0	0
Other	0	0	0	0
Local:	10,500	10,733	10,690	11,852
Itinerant:	3,500	3,578	3,563	3,951
Business:	6,300	6,440	6,414	7,111
Training:	6,300	6,440	6,414	7,111
Leisure:	1,400	1,431	1,425	1,580

***Aircraft Operations:**

***Aircraft Operation Type:**

***Aircraft Operation Purpose:**

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Blue Earth - SBU

Blue Earth Municipal Airport

Associated City: Blue Earth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,399	4,200 Feet	Extend
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	17,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	3,120		
Tie Downs (Each)	8		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	26	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change
Landside Facilities:			
Automobile Parking (Spaces)	14	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Blue Earth - SBU

Blue Earth Municipal Airport

Associated City: Blue Earth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,399	801	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Aircraft Apron (SY)	17,000	-	-	-
Based Aircraft Apron (SY)	3,120	-	-	-
Tie Downs (Each)	8	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	26	0	0	0
Conventional Hangar (Units)	2	1	0	0
Landside Facilities:				
Automobile Parking (Spaces)	14	24	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Blue Earth - SBU

Blue Earth Municipal Airport

Associated City: Blue Earth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		524,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		600,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	368,906	244,209	318,180
	Runway Maintenance		✓	1,161,822	15,775	179,971
	Taxiway Maintenance	✓	✓	877,000	378	26,178
	Runway Extension/Expansion	✓	✓	2,031,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	-	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		265,000	-	-
	Conventional Hangars		✓	-	61,519	-
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	10,440	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	124,280	-
PA	Parking		✓	-	102,904	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	206,802	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	108,124	-
	REILS		✓	-	29,827	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 5,827,728**	**$ 904,256**	**$ 814,330**

20 Year Total Estimated Cost: *$ 7,546,314*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Blue Earth - SBU

Blue Earth Municipal Airport

Associated City: Blue Earth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bowstring - 9Y0

Bowstring Airport

Associated City: Bowstring, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	7-25
Length (Feet)	2,531
Width (Feet)	150
Average *PCI Value	No PCI exists
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bowstring - 9Y0

Bowstring Airport

Associated City: Bowstring, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***7***	***8***	***8***	***9***
Single Engine Piston	7	8	8	9
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***1,900***	***2,002***	***2,088***	***2,637***
	1,900	2,002	2,088	2,637
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	950	1,001	1,044	1,318
Itinerant:	950	1,001	1,044	1,319

*Aircraft Operation Purpose:				
Business:	380	401	418	527
Training:	1,330	1,401	1,462	1,846
Leisure:	190	200	208	264

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bowstring - 9Y0

Bowstring Airport

Associated City: Bowstring, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,531	2,000 Feet	No Change
Runway Width (Feet)	150	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	LIRLs	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Apron (S.Y.)	3,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	4	95% of Single & Multi	No Change
Conventional Hangar (Units)	4		Construct
Landside Facilities:			
Automobile Parking (Spaces)	50	1 Stall per B.A.	No Change
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bowstring - 9Y0

Bowstring Airport

Associated City: Bowstring, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,531	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	3,000	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	4	0	0	0
Conventional Hangar (Units)	4	0	0	1
Landside Facilities:				
Automobile Parking (Spaces)	50	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bowstring - 9Y0

Bowstring Airport

Associated City: Bowstring, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars		✓	-	-	64,350
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	-	10,920
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	216,320	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon		✓	-	41,600	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			$ 60,000	$ 257,920	$ 75,270

20 Year Total Estimated Cost: $ 393,190

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Bowstring - 9Y0

Bowstring Airport

Associated City: Bowstring, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Brainerd - BRD

Brainerd Lakes Regional Airport

Associated City: Brainerd, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	Yes
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	16-34
Length (Feet)	7,100
Width (Feet)	150
Average *PCI Value	96
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	90

Crosswind Runway:

Designation	5-23
Length (Feet)	6,514
Width (Feet)	150
Average *PCI Value	80
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	87

Other Runways:

Alternate Runway #1	12-30
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Brainerd - BRD

Brainerd Lakes Regional Airport

Associated City: Brainerd, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***85***	***98***	***109***	***130***
Single Engine Piston	65	74	81	98
Multi-Engine Piston	6	7	8	9
Turboprop	2	2	3	3
Jet	1	1	1	1
Light Sport	3	5	6	8
Military	0	0	0	0
Other	8	9	10	11

*Aircraft Operations:				
Total:	***35,824***	***40,530***	***44,966***	***58,814***
	27,261	30,158	33,100	45,827
Multi-Engine Piston	2,647	2,860	3,132	3,562
Turboprop	1,982	2,277	2,499	2,479
Jet	656	909	985	979
Light Sport	944	1,582	2,161	2,635
Military	400	379	357	320
Other	1,934	2,365	2,732	3,012

*Aircraft Operation Type:				
Local:	10,663	12,063	13,384	17,506
Itinerant:	25,161	28,467	31,582	41,308

*Aircraft Operation Purpose:				
Business:	14,912	16,870	18,716	24,482
Training:	13,951	15,784	17,512	22,905
Leisure:	6,961	7,876	8,738	11,429

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Brainerd - BRD

Brainerd Lakes Regional Airport

Associated City: Brainerd, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	7,100	5,000 Feet	No Change
Runway Width (Feet)	150	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	HIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Apron (S.Y.)	23,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	Yes	Commercial Terminal	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	85	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	25		No Change
Landside Facilities:			
Automobile Parking (Spaces)	351	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Partial	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Brainerd - BRD

Brainerd Lakes Regional Airport

Associated City: Brainerd, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	7,100	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	23,000	50,000	8,000	23,000
Based Apron (S.Y.)	NP	2,000	-	-
Tie Downs (Each)	NP	6	-	1
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	Enhanced NPI w/Vertical*	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	Yes	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	85	0	0	14
Conventional Hangar (Units)	25	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	351	-	-	-
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided. *End opposite PI.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Brainerd - BRD

Brainerd Lakes Regional Airport

Associated City: Brainerd, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)	✓		-	-	-
	Based Aircraft Apron		✓	-	436,293	-
	Transient Aircraft Apron		✓	-	2,453,818	973,066
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		1,030,000	-	-
FF	Fuel Farm Development	✓		70,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	644,685	363,433	863,608
	Runway Maintenance		✓	-	6,725	988,871
	Taxiway Maintenance	✓	✓	40,921	158,999	875,962
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	150,000	320,000	320,000
	Master Plan	✓	✓	200,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		460,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓	✓	550,000	-	642,134
	Hangar Site Preparation	✓	✓	700,000	-	211,007
	Miscellaneous Equipment	✓		275,000	-	-
	Snow Removal Equipment	✓		2,165,000	-	-
OB	Obstruction Removal		✓	-	780,000	-
PA	Parking	✓		335,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	544,705	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓	✓	25,000	-	-
VI	Visual Approach Aids					
	MALSR	✓		290,800	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 6,936,406**	**$ 5,213,973**	**$ 5,024,648**

20 Year Total Estimated Cost: *$ 17,175,027*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Brainerd - BRD

Brainerd Lakes Regional Airport

Associated City: Brainerd, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Brooten - 6D1

Brooten Municipal Airport

Associated City: Brooten, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	3,500
Width (Feet)	60
Average *PCI Value	70
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Brooten - 6D1

Brooten Municipal Airport

Associated City: Brooten, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***7***	***8***	***8***	***9***
Single Engine Piston	5	6	6	7
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	2	2	2	2

*Aircraft Operations:				
Total:	***6,000***	***6,647***	***7,113***	***8,917***
	4,876	5,297	5,609	7,258
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1,124	1,350	1,504	1,659

*Aircraft Operation Type:				
Local:	4,800	5,318	5,691	7,133
Itinerant:	1,200	1,329	1,422	1,784

*Aircraft Operation Purpose:				
Business:	3,000	3,324	3,557	4,458
Training:	2,400	2,659	2,845	3,567
Leisure:	600	664	711	892

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Brooten - 6D1

Brooten Municipal Airport

Associated City: Brooten, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,500	2,400 Feet	No Change
Runway Width (Feet)	60	75 Feet	Widen
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	None	24/7 100LL Desirable	Install
Transient Apron (S.Y.)	5,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	8		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	10		No Change

Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desireable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Brooten - 6D1

Brooten Municipal Airport

Associated City: Brooten, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,500	-	-	-
Runway Widening (Feet)	60	15	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	4,000	-	-
Transient Apron (S.Y.)	5,000	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	8	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	10	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	20	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Brooten - 6D1

Brooten Municipal Airport

Associated City: Brooten, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓	✓	200,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	18,863	34,231	121,521
	Runway Maintenance	✓	✓	69,689	105,027	896,108
	Taxiway Maintenance	✓	✓	4,374	7,434	66,231
	Runway Extension/Expansion	✓	✓	20,000	302,402	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		100,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		200,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,910	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	217,835	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	113,892	-
	REILS		✓	-	31,418	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 902,926**	**$ 943,148**	**$ 1,373,860**

20 Year Total Estimated Cost: *$ 3,219,933*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Brooten - 6D1

Brooten Municipal Airport

Associated City: Brooten, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Buffalo - CFE

Buffalo Municipal Airport

Associated City: Buffalo, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	18-36
Length (Feet)	3,200
Width (Feet)	75
Average *PCI Value	91
Runway Lighting	LIRLs
Taxiway Type:	Full
Average *PCI Value:	96

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Buffalo - CFE

Buffalo Municipal Airport

Associated City: Buffalo, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***65***	***74***	***82***	***97***
Single Engine Piston	61	69	75	89
Multi-Engine Piston	2	2	3	3
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	2	3	4	5
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***22,733***	***25,122***	***27,625***	***37,347***
	21,257	23,262	25,397	34,764
Multi-Engine Piston	733	784	854	971
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	523	867	1,178	1,436
Military	220	209	196	176
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	15,913	17,584	19,338	26,143
Itinerant:	6,820	7,538	8,287	11,204

*Aircraft Operation Purpose:				
Business:	2,274	2,512	2,763	3,735
Training:	18,186	20,096	22,100	29,878
Leisure:	2,273	2,514	2,762	3,734

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Buffalo - CFE

Buffalo Municipal Airport

Associated City: Buffalo, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,200	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	2,480	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	780		
Based Tie Downs (Each)	2		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	41	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	48		No Change
Landside Facilities:			
Automobile Parking (Spaces)	44	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Buffalo - CFE

Buffalo Municipal Airport

Associated City: Buffalo, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,200	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	2,480	16,000	18,000	25,000
Based Aircraft Apron (SY)	780	1,000	-	-
Tie Downs (Each)	2	4	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	41	0	0	4
Conventional Hangar (Units)	48	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	44	50	60	80
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Buffalo - CFE

Buffalo Municipal Airport

Associated City: Buffalo, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	240,884	-
	Transient Aircraft Apron		✓	-	840,902	327,018
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓		260,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	127,200	71,282	360,800
	Runway Maintenance	✓	✓	120,000	49,709	191,048
	Taxiway Maintenance	✓	✓	76,800	24,119	129,941
	Runway Extension/Expansion	✓		-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other	✓		50,000	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓	✓	1,160,000	-	202,589
	Hangar Site Preparation	✓	✓	400,000	-	66,571
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		160,000	-	-
OB	Obstruction Removal	✓	✓	664,000	-	-
PA	Parking	✓	✓	20,000	554,032	402,932
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	65,000	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,138,000**	**$ 1,845,929**	**$ 1,970,899**

20 Year Total Estimated Cost: $ 6,954,828

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Buffalo - CFE

Buffalo Municipal Airport

Associated City: Buffalo, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	YES	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Caledonia - CHU

Caledonia Houston County Airport

Associated City: Caledonia, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	3,499
Width (Feet)	77
Average *PCI Value	16
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	No PCI exists

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Caledonia - CHU

Caledonia Houston County Airport

Associated City: Caledonia, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***14***	***15***	***15***	***16***
Single Engine Piston	13	14	14	15
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***3,500***	***3,668***	***3,740***	***4,482***
	3,238	3,399	3,467	4,171
Multi-Engine Piston	262	269	273	311
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	3,150	3,301	3,366	4,034
Itinerant:	350	367	374	448

*Aircraft Operation Purpose:				
Business:	2,450	2,567	2,618	3,137
Training:	1,050	1,100	1,122	1,345
Leisure:	0	1	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Caledonia - CHU

Caledonia Houston County Airport

Associated City: Caledonia, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,499	2,400 Feet	No Change
Runway Width (Feet)	77	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	8,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	780		
Based Tie Downs (Each)	2		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	14		Construct

Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Full	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Caledonia - CHU

Caledonia Houston County Airport

Associated City: Caledonia, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,499	-	-	-
Runway Widening (Feet)	77	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	8,000	-	-	-
Based Aircraft Apron (SY)	780	-	-	-
Tie Downs (Each)	2	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	14	1	0	1
Landside Facilities:				
Automobile Parking (Spaces)	20	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Caledonia - CHU

Caledonia Houston County Airport

Associated City: Caledonia, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	-	571,851	50,525
	Runway Maintenance	✓	✓	1,643,083	16,690	190,417
	Taxiway Maintenance	✓	✓	42,326	64	4,421
	Runway Extension/Expansion	✓		5,000,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	-	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars		✓	-	67,246	67,246
	T-Hangars			-	-	-
	Hangar Site Preparation	✓	✓	100,000	10,270	10,270
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓	✓	90,000	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓	✓	35,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	118,190	-
	REILS		✓	-	32,604	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS	✓		125,000	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 7,225,409**	**$ 816,915**	**$ 612,879**

20 Year Total Estimated Cost: $ 8,655,203

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Caledonia - CHU

Caledonia Houston County Airport

Associated City: Caledonia, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	NO	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cambridge - CBG

Cambridge Municipal Airport

Associated City: Cambridge, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	4,000
Width (Feet)	75
Average *PCI Value	76
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	84

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cambridge - CBG

Cambridge Municipal Airport

Associated City: Cambridge, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***46***	***53***	***58***	***73***
Single Engine Piston	39	44	48	57
Multi-Engine Piston	1	1	1	2
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	4	6	7	11
Military	0	0	0	0
Other	2	2	2	3

*Aircraft Operations:				
Total:	***17,122***	***19,653***	***21,919***	***29,169***
	15,018	16,637	18,104	24,660
Multi-Engine Piston	405	438	476	541
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1,155	1,939	2,627	3,202
Military	100	95	89	80
Other	444	544	623	686

*Aircraft Operation Type:				
Local:	8,177	9,386	10,468	13,931
Itinerant:	8,945	10,267	11,451	15,238

*Aircraft Operation Purpose:				
Business:	7,127	8,180	9,123	12,142
Training:	6,668	7,654	8,536	11,360
Leisure:	3,327	3,819	4,260	5,667

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cambridge - CBG

Cambridge Municipal Airport

Associated City: Cambridge, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,000	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Full	Construct
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	11,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	58		No Change
Landside Facilities:			
Automobile Parking (Spaces)	18	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cambridge - CBG

Cambridge Municipal Airport

Associated City: Cambridge, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,000	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	Full	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	11,000	15,000	3,000	9,000
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	4	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	No	-	-	-
T-Hangar (Units)	0	0	0	12
Conventional Hangar (Units)	58	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	18	50	10	20
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cambridge - CBG

Cambridge Municipal Airport

Associated City: Cambridge, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	240,884	-
	Transient Aircraft Apron		✓	-	840,902	973,066
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway		✓	-	648,844	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	304,920	107,283	421,132
	Runway Maintenance	✓	✓	650,000	106,332	303,257
	Taxiway Maintenance	✓	✓	66,840	27,923	131,438
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		140,000	-	-
	Taxiway			-	130,000	-
MA	Master Plan					
	ALP	✓	✓	75,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		300,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars		✓	-	-	607,768
	Hangar Site Preparation	✓	✓	500,000	-	199,714
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	302,199	100,733
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		15,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓		25,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS	✓		20,000	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,196,760**	**$ 2,404,368**	**$ 3,027,107**

20 Year Total Estimated Cost: $ 7,628,235

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cambridge - CBG

Cambridge Municipal Airport

Associated City: Cambridge, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Canby - CNB

Canby Municipal Airport - Myers Field

Associated City: Canby, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	12-30
Length (Feet)	4,648
Width (Feet)	75
Average *PCI Value	88
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Canby - CNB

Canby Municipal Airport - Myers Field

Associated City: Canby, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***25***	***28***	***29***	***30***
Single Engine Piston	20	22	23	24
Multi-Engine Piston	5	6	6	6
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***6,720***	***7,247***	***7,405***	***8,840***
	5,321	5,766	5,894	7,122
Multi-Engine Piston	1,399	1,481	1,511	1,718
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	3,360	3,624	3,702	4,420
Itinerant:	3,360	3,623	3,703	4,420

*Aircraft Operation Purpose:				
Business:	5,040	5,436	5,554	6,630
Training:	1,344	1,449	1,481	1,768
Leisure:	336	362	370	442

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Canby - CNB

Canby Municipal Airport - Myers Field

Associated City: Canby, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,648	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	10,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	NP		
Based Tie Downs (Each)	NP		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	13	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	17		No Change
Landside Facilities:			
Automobile Parking (Spaces)	8	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Canby - CNB

Canby Municipal Airport - Myers Field

Associated City: Canby, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,648	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	6,000	-	-	-
Transient Aircraft Apron (SY)	10,000	-	-	-
Based Aircraft Apron (SY)	NP	-	-	-
Tie Downs (Each)	NP	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	13	0	0	0
Conventional Hangar (Units)	17	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	8	30	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Canby - CNB

Canby Municipal Airport - Myers Field

Associated City: Canby, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		790,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	100,000	116,876	133,060
	Runway Maintenance	✓	✓	150,000	73,304	255,540
	Taxiway Maintenance	✓	✓	186,360	2,236	25,391
	Runway Extension/Expansion	✓		620,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	135,491	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,946,360**	**$ 327,908**	**$ 703,991**

20 Year Total Estimated Cost: $ 2,978,259

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Canby - CNB

Canby Municipal Airport - Myers Field

Associated City: Canby, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Clarissa - 8Y5

Clarissa Municipal Airport

Associated City: Clarissa, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	10-28
Length (Feet)	2,600
Width (Feet)	200
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Clarissa - 8Y5

Clarissa Municipal Airport

Associated City: Clarissa, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***1***	***1***	***1***	***1***
Single Engine Piston	1	1	1	1
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***1,200***	***1,245***	***1,273***	***1,541***
	1,200	1,245	1,273	1,541
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	648	672	688	832
Itinerant:	552	573	585	709

*Aircraft Operation Purpose:				
Business:	500	518	530	642
Training:	467	485	496	600
Leisure:	233	242	247	299

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Clarissa - 8Y5

Clarissa Municipal Airport

Associated City: Clarissa, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,600	2,000 Feet	No Change
Runway Width (Feet)	200	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	None	LIRLs if Open 24/7	Install
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Apron (S.Y.)	-	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	No		Construct
T-Hangar (Units)	0	95% of Single & Multi	No Change
Conventional Hangar (Units)	0		Construct
Landside Facilities:			
Automobile Parking (Spaces)	-	1 Stall per B.A.	Construct
Perimeter Fencing	Partial	Separate Auto from Air	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Clarissa - 8Y5

Clarissa Municipal Airport

Associated City: Clarissa, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,600	-	-	-
Runway Widening (Feet)	200	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	None	LIRLs	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	-	1,500	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	No	Yes	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	0	1	0	0
Landside Facilities:				
Automobile Parking (Spaces)	-	4	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Clarissa - 8Y5

Clarissa Municipal Airport

Associated City: Clarissa, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	63,461	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway		✓	-	33,800	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings		✓	-	16,781	-
	Conventional Hangars		✓	-	65,445	-
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	11,106	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	18,244	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon		✓	-	42,307	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 60,000**	**$ 251,143**	**$ -**

20 Year Total Estimated Cost: $ 311,143

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Clarissa - 8Y5

Clarissa Municipal Airport

Associated City: Clarissa, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cloquet - COQ

Cloquet/Carlton County Airport

Associated City: Cloquet, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	17-35
Length (Feet)	4,003
Width (Feet)	75
Average *PCI Value	64
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	74

Crosswind Runway:

Designation	7-25
Length (Feet)	3,100
Width (Feet)	75
Average *PCI Value	69
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cloquet - COQ

Cloquet/Carlton County Airport

Associated City: Cloquet, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***43***	***46***	***48***	***51***
Single Engine Piston	41	44	45	48
Multi-Engine Piston	0	0	0	0
Turboprop	1	1	1	1
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***9,999***	***10,480***	***10,830***	***13,112***
	9,201	9,549	9,815	12,036
Multi-Engine Piston	0	0	0	0
Turboprop	530	571	587	583
Jet	0	0	0	0
Light Sport	168	265	339	413
Military	100	95	89	80
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	9,000	9,432	9,748	11,800
Itinerant:	999	1,048	1,082	1,312

*Aircraft Operation Purpose:				
Business:	3,000	3,144	3,249	3,934
Training:	3,000	3,144	3,249	3,933
Leisure:	3,999	4,192	4,332	5,245

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cloquet - COQ

Cloquet/Carlton County Airport

Associated City: Cloquet, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,003	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	7,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	780		
Based Tie Downs (Each)	2		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	ODALs		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	36	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	17		No Change
Landside Facilities:			
Automobile Parking (Spaces)	38	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cloquet - COQ

Cloquet/Carlton County Airport

Associated City: Cloquet, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,003	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Aircraft Apron (SY)	7,500	-	-	-
Based Aircraft Apron (SY)	780	-	-	-
Tie Downs (Each)	2	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	ODALs	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	36	0	0	0
Conventional Hangar (Units)	17	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	38	24	-	30
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cloquet - COQ

Cloquet/Carlton County Airport

Associated City: Cloquet, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	344,861	617,952	377,239
	Runway Maintenance	✓	✓	783,503	282,559	1,138,039
	Taxiway Maintenance	✓	✓	164,965	18,758	133,638
	Runway Extension/Expansion	✓		175,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		600,000	-	-
	Hangar Site Preparation	✓		300,000	-	-
	Miscellaneous Equipment	✓		335,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	137,280	-
PA	Parking		✓	-	113,667	28,417
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	228,434	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,993,329**	**$ 1,398,650**	**$ 1,967,333**

20 Year Total Estimated Cost: $ 6,359,312

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cloquet - COQ

Cloquet/Carlton County Airport

Associated City: Cloquet, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cook - CQM

Cook Municipal Airport

Associated City: Cook, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	4,000
Width (Feet)	75
Average *PCI Value	46
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	7-25
Length (Feet)	1,525
Width (Feet)	120
Average *PCI Value	Turf
Runway Lighting	None
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cook - CQM

Cook Municipal Airport

Associated City: Cook, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***20***	***21***	***21***	***22***
Single Engine Piston	18	19	19	20
Multi-Engine Piston	0	0	0	0
Turboprop	1	1	1	1
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1
***Aircraft Operations:**				
Total:	***5,951***	***6,078***	***6,153***	***7,155***
	5,115	5,187	5,243	6,231
Multi-Engine Piston	0	0	0	0
Turboprop	672	707	715	709
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	164	184	195	215
***Aircraft Operation Type:**				
Local:	2,975	3,039	3,077	3,578
Itinerant:	2,976	3,039	3,076	3,577
***Aircraft Operation Purpose:**				
Business:	1,785	1,824	1,846	2,147
Training:	4,165	4,254	4,307	5,008
Leisure:	1	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cook - CQM

Cook Municipal Airport

Associated City: Cook, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,000	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	4,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	3,510		
Based Tie Downs (Each)	9		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	26		No Change
Landside Facilities:			
Automobile Parking (Spaces)	24	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cook - CQM

Cook Municipal Airport

Associated City: Cook, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,000	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	6,000	-	-	-
Transient Aircraft Apron (SY)	4,500	3,500	-	1,000
Based Aircraft Apron (SY)	3,510	-	-	-
Tie Downs (Each)	9	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	26	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	24	-	-	4
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cook - CQM

Cook Municipal Airport

Associated City: Cook, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		100,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	153,754	43,930
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		510,000	-	-
FF	Fuel Farm Development	✓		80,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	22,080	25,842	132,887
	Runway Maintenance	✓	✓	15,000	51,306	261,657
	Taxiway Maintenance	✓	✓	5,000	3,341	24,400
	Runway Extension/Expansion	✓		135,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	25,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		100,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓		20,000	-	-
	Miscellaneous Equipment	✓		40,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓	✓	20,000	-	-
PA	Parking	✓	✓	120,000	-	18,944
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	228,434	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon	✓		10,000	-	-
WX	Weather Reporting					
	AWOS	✓		10,000	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,312,080**	**$ 462,676**	**$ 771,817**

20 Year Total Estimated Cost: $ 2,546,573

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Cook - CQM

Cook Municipal Airport

Associated City: Cook, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	NO	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Crookston - CKN

Crookston Municipal Airport - Kirkwood Field

Associated City: Crookston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	4,300
Width (Feet)	75
Average *PCI Value	54
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	41

Crosswind Runway:

Designation	17-35
Length (Feet)	2,977
Width (Feet)	202
Average *PCI Value	-
Runway Lighting	None
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	6-24
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Crookston - CKN

Crookston Municipal Airport - Kirkwood Field

Associated City: Crookston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***50***	***54***	***56***	***60***
Single Engine Piston	47	51	53	56
Multi-Engine Piston	0	0	0	0
Turboprop	3	3	3	4
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***28,000***	***30,033***	***30,728***	***36,332***
	24,287	25,926	26,528	32,171
Multi-Engine Piston	0	0	0	0
Turboprop	3,663	4,060	4,155	4,121
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	50	47	45	40
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	14,000	15,017	15,364	18,166
Itinerant:	14,000	15,016	15,364	18,166

*Aircraft Operation Purpose:				
Business:	5,600	6,007	6,146	7,267
Training:	2,800	3,003	3,073	3,633
Leisure:	19,600	21,023	21,509	25,432

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Crookston - CKN

Crookston Municipal Airport - Kirkwood Field

Associated City: Crookston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,300	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	12,133	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	390		
Based Tie Downs (Each)	1		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	44	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	2		Construct
Landside Facilities:			
Automobile Parking (Spaces)	45	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Crookston - CKN

Crookston Municipal Airport - Kirkwood Field

Associated City: Crookston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,300	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Aircraft Apron (SY)	12,133	27,500	1,000	6,500
Based Aircraft Apron (SY)	390	1,000	-	-
Tie Downs (Each)	1	2	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	44	5	0	0
Conventional Hangar (Units)	2	1	2	4
Landside Facilities:				
Automobile Parking (Spaces)	45	24	-	6
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Crookston - CKN

Crookston Municipal Airport - Kirkwood Field

Associated City: Crookston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	209,138	-
	Transient Aircraft Apron		✓	-	1,155,960	263,640
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓		150,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	396,097	987,992	129,388
	Runway Maintenance	✓	✓	1,283,797	98,318	242,844
	Taxiway Maintenance	✓	✓	1,520,990	2,149	164,806
	Runway Extension/Expansion	✓		1,600,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	185,250	-	190,000
	Master Plan	✓		-	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars		✓	-	62,742	250,965
	T-Hangars		✓	-	307,808	-
	Hangar Site Preparation		✓	-	111,794	42,588
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	104,949	26,237
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	210,912	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR	✓		300,000	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			$ 5,436,135	$ 3,251,760	$ 1,410,467

20 Year Total Estimated Cost: *$ 10,098,362*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Crookston - CKN

Crookston Municipal Airport - Kirkwood Field

Associated City: Crookston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Detroit Lakes - DTL

Detroit Lakes Municipal Airport - Wething Field

Associated City: Detroit Lakes, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	4,500
Width (Feet)	75
Average *PCI Value	34
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	76

Crosswind Runway:

Designation	17-35
Length (Feet)	1,880
Width (Feet)	250
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Detroit Lakes - DTL

Detroit Lakes Municipal Airport - Wething Field

Associated City: Detroit Lakes, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***32***	***36***	***38***	***42***
Single Engine Piston	24	27	29	32
Multi-Engine Piston	0	0	0	0
Turboprop	4	5	5	6
Jet	2	2	2	2
Light Sport	0	0	0	0
Military	0	0	0	0
Other	2	2	2	2

*Aircraft Operations:				
Total:	***16,200***	***18,385***	***19,460***	***22,955***
	10,240	11,253	11,913	15,401
Multi-Engine Piston	0	0	0	0
Turboprop	4,033	4,602	4,872	4,832
Jet	1,335	1,837	1,920	1,908
Light Sport	0	0	0	0
Military	100	95	89	80
Other	492	598	666	734

*Aircraft Operation Type:				
Local:	5,400	6,128	6,487	7,652
Itinerant:	10,800	12,257	12,973	15,303

*Aircraft Operation Purpose:				
Business:	6,743	7,653	8,100	9,556
Training:	6,309	7,160	7,579	8,940
Leisure:	3,148	3,572	3,781	4,461

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Detroit Lakes - DTL

Detroit Lakes Municipal Airport - Wething Field

Associated City: Detroit Lakes, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,500	5,000 Feet	Extend
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Full	Extend
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	10,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	Yes		No Change
Approach Lighting	ALSF-2/MASLR		No Change
Airport Buildings:			
Commercial Terminal	Yes	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	56	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	14		No Change
Landside Facilities:			
Automobile Parking (Spaces)	15	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Detroit Lakes - DTL

Detroit Lakes Municipal Airport - Wething Field

Associated City: Detroit Lakes, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,500	500	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	-	Full
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Aircraft Apron (SY)	10,000	27,000	2,000	5,000
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	2	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	Yes	-	-	-
Approach Lighting	ALSF-2/MASLR	-	-	-
Airport Buildings:				
Commercial Terminal	Yes	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	56	0	0	0
Conventional Hangar (Units)	14	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	15	40	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Detroit Lakes - DTL

Detroit Lakes Municipal Airport - Wething Field

Associated City: Detroit Lakes, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	214,500	-
	Transient Aircraft Apron		✓	-	1,206,400	208,000
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		800,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	29,286	78,518	533,054
	Runway Maintenance	✓	✓	2,082,939	22,023	251,254
	Taxiway Maintenance		✓	84,518	34,725	126,137
	Runway Extension/Expansion	✓	✓	8,664,072	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		1,116,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	320,000
	Master Plan		✓	-	-	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		1,283,800	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		330,000	-	-
	Hangar Site Preparation	✓		220,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking	✓	✓	10,500	189,446	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	216,320	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	113,100	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport		✓	-	6,210,000	-
O	Other			-	-	-
	TOTALS			**$ 14,621,115**	**$ 8,285,033**	**$ 1,588,445**

20 Year Total Estimated Cost: $ 24,494,592

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Detroit Lakes - DTL

Detroit Lakes Municipal Airport - Wething Field

Associated City: Detroit Lakes, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	NO	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Dodge Center - TOB

Dodge Center Municipal Airport

Associated City: Dodge Center, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	16-34
Length (Feet)	4,500
Width (Feet)	75
Average *PCI Value	92
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	4-22
Length (Feet)	2,390
Width (Feet)	200
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Dodge Center - TOB

Dodge Center Municipal Airport

Associated City: Dodge Center, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***44***	***50***	***54***	***61***
Single Engine Piston	39	44	47	54
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	2	2	2
Military	0	0	0	0
Other	4	4	5	5
****Aircraft Operations:***				
Total:	***8,800***	***9,813***	***10,562***	***13,665***
	8,161	8,966	9,558	12,517
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	157	261	347	423
Military	0	0	0	0
Other	482	586	657	725
***Aircraft Operation Type:**				
Local:	2,200	2,453	2,640	3,416
Itinerant:	6,600	7,360	7,922	10,249
***Aircraft Operation Purpose:**				
Business:	2,640	2,944	3,168	4,100
Training:	2,640	2,944	3,168	4,099
Leisure:	3,520	3,925	4,225	5,466

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Dodge Center - TOB

Dodge Center Municipal Airport

Associated City: Dodge Center, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,500	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	5,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	2,730		
Tie Downs (Each)	7		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	46		No Change
Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Full	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Dodge Center - TOB

Dodge Center Municipal Airport

Associated City: Dodge Center, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,500	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	5,000	13,000	1,000	6,000
Based Aircraft Apron (SY)	2,730	1,000	-	-
Tie Downs (Each)	7	3	-	1
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	8	0	4
Conventional Hangar (Units)	46	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	20	50	-	10
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Dodge Center - TOB

Dodge Center Municipal Airport

Associated City: Dodge Center, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	224,153	-
	Transient Aircraft Apron		✓	-	608,608	260,832
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		170,000	-	-
FF	Fuel Farm Development	✓		120,000	-	-
IM	Improvements					
	Apron Maintenance		✓	176,522	1,882	82,814
	Runway Maintenance	✓	✓	2,000	-	191,030
	Taxiway Maintenance		✓	-	698	40,973
	Runway Extension/Expansion	✓		92,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓	✓	600,000	-	188,518
	Hangar Site Preparation		✓	-	-	61,948
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	135,850	-
PA	Parking	✓	✓	183,262	-	46,868
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		2,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,635,784**	**$ 971,190**	**$ 1,162,982**

20 Year Total Estimated Cost: $ 3,769,957

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Dodge Center - TOB

Dodge Center Municipal Airport

Associated City: Dodge Center, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Duluth - DLH

Duluth International Airport

Associated City: Duluth, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	Yes
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	9-27
Length (Feet)	10,162
Width (Feet)	150
Average *PCI Value	63
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	47

Crosswind Runway:

Designation	3-21
Length (Feet)	5,718
Width (Feet)	150
Average *PCI Value	100
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	12

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Duluth - DLH

Duluth International Airport

Associated City: Duluth, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***88***	***91***	***95***	***97***
Single Engine Piston	51	53	54	55
Multi-Engine Piston	11	11	12	12
Turboprop	0	0	0	0
Jet	2	2	2	2
Light Sport	1	1	2	2
Military	22	23	24	25
Other	1	1	1	1

*Aircraft Operations:				
Total:	***42,753***	***43,311***	***43,345***	***48,683***
	26,456	26,806	27,078	32,132
Multi-Engine Piston	6,003	5,940	5,987	6,809
Turboprop	0	0	0	0
Jet	1,623	2,060	2,053	2,040
Light Sport	389	597	751	916
Military	7,983	7,573	7,120	6,393
Other	299	335	356	393

*Aircraft Operation Type:				
Local:	11,543	11,694	11,703	13,145
Itinerant:	31,210	31,617	31,642	35,538

*Aircraft Operation Purpose:				
Business:	36,340	36,814	36,844	41,381
Training:	2,138	2,166	2,167	2,434
Leisure:	4,275	4,331	4,334	4,868

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Duluth - DLH

Duluth International Airport

Associated City: Duluth, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	10,162	5,000 Feet	No Change
Runway Width (Feet)	150	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	HIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	1,394,399	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	NP		
Based Tie Downs (Each)	NP		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	Yes	Commercial Terminal	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	25	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	40		Construct
Landside Facilities:			
Automobile Parking (Spaces)	202	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Duluth - DLH

Duluth International Airport

Associated City: Duluth, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	10,162	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	100,000	-	-	-
Transient Aircraft Apron (SY)	1,394,399	-	-	-
Based Aircraft Apron (SY)	NP	-	-	-
Tie Downs (Each)	NP	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	Yes	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	25	0	0	0
Conventional Hangar (Units)	40	0	3	1
Landside Facilities:				
Automobile Parking (Spaces)	202	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Duluth - DLH

Duluth International Airport

Associated City: Duluth, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		8,450,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		10,875,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	700,000	600,000	600,000
	Runway Maintenance	✓	✓	500,000	600,000	600,000
	Taxiway Maintenance	✓	✓	325,000	600,000	600,000
	Runway Extension/Expansion	✓		22,525,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		350,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		15,732,000	-	-
	Conventional Hangars	✓	✓	1,560,000	203,861	67,954
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	34,595	11,532
	Miscellaneous Equipment	✓		2,045,000	-	-
	Snow Removal Equipment	✓		1,465,000	-	-
OB	Obstruction Removal	✓		100,000	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs	✓		100,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 65,212,000**	**$ 2,508,455**	**$ 2,349,485**

20 Year Total Estimated Cost: *$ 70,069,940*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Duluth - DLH

Duluth International Airport

Associated City: Duluth, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Duluth Sky Harbor - DYT

Duluth - Sky Harbor Airport and Seaplane Base

Associated City: Duluth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	3,050
Width (Feet)	75
Average *PCI Value	61
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	61

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Duluth Sky Harbor - DYT

Duluth - Sky Harbor Airport and Seaplane Base

Associated City: Duluth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***32***	***33***	***34***	***35***
Single Engine Piston	29	30	31	32
Multi-Engine Piston	3	3	3	3
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***13,900***	***14,065***	***14,320***	***17,149***
	12,536	12,714	12,947	15,587
Multi-Engine Piston	1,364	1,351	1,373	1,562
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	10,981	11,111	11,313	13,547
Itinerant:	2,919	2,954	3,007	3,602

*Aircraft Operation Purpose:				
Business:	417	422	430	515
Training:	13,205	13,362	13,604	16,291
Leisure:	278	281	286	343

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Duluth Sky Harbor - DYT

Duluth - Sky Harbor Airport and Seaplane Base

Associated City: Duluth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,050	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	22,375	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	13,260		
Based Tie Downs (Each)	34		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	18		Construct

Landside Facilities:			
Automobile Parking (Spaces)	7	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Duluth Sky Harbor - DYT

Duluth - Sky Harbor Airport and Seaplane Base

Associated City: Duluth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,050	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	22,375	-	-	-
Based Aircraft Apron (SY)	13,260	-	-	-
Tie Downs (Each)	34	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	14	0	0
Conventional Hangar (Units)	18	0	1	1
Landside Facilities:				
Automobile Parking (Spaces)	7	40	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Duluth Sky Harbor - DYT

Duluth - Sky Harbor Airport and Seaplane Base

Associated City: Duluth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		670,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		100,000	-	-
FF	Fuel Farm Development	✓		100,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	35,000	738,423	154,708
	Runway Maintenance	✓	✓	784,077	1,757	129,448
	Taxiway Maintenance	✓	✓	340,995	7,184	114,744
	Runway Extension/Expansion	✓		6,280,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		620,000	-	-
	Conventional Hangars	✓	✓	500,000	-	67,954
	T-Hangars		✓	-	381,005	-
	Hangar Site Preparation		✓	-	125,199	11,531
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		40,000	-	-
OB	Obstruction Removal	✓	✓	-	137,280	-
PA	Parking		✓	-	189,446	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon	✓		75,000	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 9,835,072**	**$ 1,580,295**	**$ 768,384**

20 Year Total Estimated Cost: $ 12,183,751

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Duluth Sky Harbor - DYT

Duluth - Sky Harbor Airport and Seaplane Base

Associated City: Duluth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

East Gull Lake - 9Y2

East Gull Lake Airport

Associated City: East Gull Lake, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	13-31
Length (Feet)	2,618
Width (Feet)	160
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

East Gull Lake - 9Y2

East Gull Lake Airport

Associated City: East Gull Lake, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***2***	***2***	***3***	***3***
Single Engine Piston	2	2	3	3
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operations:**

Total:	***1,400***	***1,563***	***1,715***	***2,371***
	1,400	1,563	1,715	2,371
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operation Type:**

Local:	826	922	1,012	1,399
Itinerant:	574	641	703	972

***Aircraft Operation Purpose:**

Business:	0	0	0	0
Training:	1,400	1,563	1,715	2,371
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

East Gull Lake - 9Y2

East Gull Lake Airport

Associated City: East Gull Lake, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,618	2,000 Feet	No Change
Runway Width (Feet)	160	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	None	LIRLs if Open 24/7	Install
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Apron (S.Y.)	2,480	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	No		Construct
T-Hangar (Units)	0	95% of Single & Multi	No Change
Conventional Hangar (Units)	0		Construct
Landside Facilities:			
Automobile Parking (Spaces)	10	1 Stall per B.A.	No Change
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

East Gull Lake - 9Y2

East Gull Lake Airport

Associated City: East Gull Lake, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,618	-	-	-
Runway Widening (Feet)	160	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	None	LIRLs	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	2,480	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	No	Yes	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	0	2	1	0
Landside Facilities:				
Automobile Parking (Spaces)	10	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

East Gull Lake - 9Y2

East Gull Lake Airport

Associated City: East Gull Lake, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway		✓	-	34,034	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings		✓	-	16,781	-
	Conventional Hangars		✓	-	196,332	-
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	33,316	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	219,997	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	3,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon		✓	-	42,307	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 63,000**	**$ 542,768**	**$ -**

20 Year Total Estimated Cost: *$ 605,768*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

East Gull Lake - 9Y2

East Gull Lake Airport

Associated City: East Gull Lake, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Elbow Lake - Y63

Elbow Lake Municipal - Pride of the Prairie Airport

Associated City: Elbow Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	3,400
Width (Feet)	60
Average *PCI Value	87
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Elbow Lake - Y63

Elbow Lake Municipal - Pride of the Prairie Airport

Associated City: Elbow Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***18***	***19***	***20***	***21***
Single Engine Piston	17	18	19	20
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

***Aircraft Operations:**

Total:	***4,200***	***4,389***	***4,529***	***5,541***
	4,062	4,230	4,357	5,351
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	138	159	172	190

***Aircraft Operation Type:**

Local:	1,400	1,463	1,510	1,847
Itinerant:	2,800	2,926	3,019	3,694

***Aircraft Operation Purpose:**

Business:	1,748	1,827	1,885	2,306
Training:	1,636	1,709	1,764	2,158
Leisure:	816	853	879	1,077

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Elbow Lake - Y63

Elbow Lake Municipal - Pride of the Prairie Airport

Associated City: Elbow Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,400	2,400 Feet	No Change
Runway Width (Feet)	60	75 Feet	Widen
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	1,860	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	16	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	5		No Change
Landside Facilities:			
Automobile Parking (Spaces)	-	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Elbow Lake - Y63

Elbow Lake Municipal - Pride of the Prairie Airport

Associated City: Elbow Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,400	-	-	-
Runway Widening (Feet)	60	15	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	1,860	5,500	-	1,500
Based Aircraft Apron (SY)	-	-	-	1,000
Tie Downs (Each)	-	-	-	2
Navigational Systems:				
Primary R/W Approach Type	Visual	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	16	0	0	0
Conventional Hangar (Units)	5	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	-	25	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Elbow Lake - Y63

Elbow Lake Municipal - Pride of the Prairie Airport

Associated City: Elbow Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		350,000	-	-
	Based Aircraft Apron		✓	-	-	216,002
	Transient Aircraft Apron		✓	-	230,402	62,837
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	5,485	25,663	133,295
	Runway Maintenance		✓	35,957	64,988	189,711
	Taxiway Maintenance		✓	983	3,046	11,360
	Runway Extension/Expansion	✓	✓	380,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		20,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings		✓	-	172,801	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,910	-
PA	Parking		✓	-	112,909	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	217,835	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 892,424**	**$ 1,148,552**	**$ 713,205**

20 Year Total Estimated Cost: $ 2,754,181

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Elbow Lake - Y63

Elbow Lake Municipal - Pride of the Prairie Airport

Associated City: Elbow Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Runway and taxiway pavement conditions within airport classification PCI targets

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Ely - ELO

Ely Municipal Airport

Associated City: Ely, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	12-30
Length (Feet)	5,600
Width (Feet)	100
Average *PCI Value	63
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Ely - ELO

Ely Municipal Airport

Associated City: Ely, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***23***	***24***	***25***	***26***
Single Engine Piston	20	21	21	22
Multi-Engine Piston	2	2	2	2
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***8,200***	***8,457***	***8,673***	***10,329***
	7,176	7,294	7,392	8,830
Multi-Engine Piston	755	749	758	862
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	269	414	523	637
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	3,280	3,383	3,469	4,132
Itinerant:	4,920	5,074	5,204	6,197

*Aircraft Operation Purpose:				
Business:	6,970	7,189	7,372	8,780
Training:	820	846	867	1,033
Leisure:	410	422	434	516

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Ely - ELO

Ely Municipal Airport

Associated City: Ely, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,600	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Full	Construct
Runway Lighting	MIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	7,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	24	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	6		No Change
Landside Facilities:			
Automobile Parking (Spaces)	80	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Partial	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Ely - ELO

Ely Municipal Airport

Associated City: Ely, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,600	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Turnaround	Full	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	7,500	5,000	-	7,000
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	4	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	24	0	0	0
Conventional Hangar (Units)	6	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	80	-	-	-
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Ely - ELO

Ely Municipal Airport

Associated City: Ely, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	226,512	-
	Transient Aircraft Apron		✓	-	219,648	307,507
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓	✓	3,400,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	490,736	1,255,225	243,769
	Runway Maintenance		✓	783,798	238,966	187,766
	Taxiway Maintenance		✓	14,401	24,845	157,900
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		1,200,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		175,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking	✓		150,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	565,594	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR		✓	-	755,040	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 6,683,935**	**$ 3,755,829**	**$ 1,366,942**

20 Year Total Estimated Cost: $ 11,806,707

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Ely - ELO

Ely Municipal Airport

Associated City: Ely, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Eveleth - EVM

Eveleth Virginia Airport

Associated City: Eveleth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	9-27
Length (Feet)	4,215
Width (Feet)	100
Average *PCI Value	35
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	14-32
Length (Feet)	2,506
Width (Feet)	100
Average *PCI Value	70
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	5-23
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Eveleth - EVM

Eveleth Virginia Airport

Associated City: Eveleth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***40***	***41***	***43***	***44***
Single Engine Piston	36	37	38	39
Multi-Engine Piston	1	1	1	1
Turboprop	1	1	1	1
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	1	1	1	1

***Aircraft Operations:**

Total:	***8,000***	***8,208***	***8,353***	***9,805***
	7,069	7,163	7,235	8,586
Multi-Engine Piston	207	204	206	234
Turboprop	464	488	493	489
Jet	0	0	0	0
Light Sport	147	226	284	347
Military	0	0	0	0
Other	113	127	135	149

***Aircraft Operation Type:**

Local:	7,600	7,798	7,936	9,314
Itinerant:	400	410	417	491

***Aircraft Operation Purpose:**

Business:	7,200	7,387	7,518	8,824
Training:	640	657	668	784
Leisure:	160	164	167	197

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Eveleth - EVM

Eveleth Virginia Airport

Associated City: Eveleth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,215	2,400 Feet	No Change
Runway Width (Feet)	100	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	18,888	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	780		
Based Tie Downs (Each)	2		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	46		No Change
Landside Facilities:			
Automobile Parking (Spaces)	57	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Full	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Eveleth - EVM

Eveleth Virginia Airport

Associated City: Eveleth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,215	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	12,500	-	-	-
Transient Aircraft Apron (SY)	18,888	-	-	-
Based Aircraft Apron (SY)	780	-	-	-
Tie Downs (Each)	2	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	46	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	57	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Eveleth - EVM

Eveleth Virginia Airport

Associated City: Eveleth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		2,256,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		585,000	-	-
FF	Fuel Farm Development	✓		230,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	471,482	626,750	188,813
	Runway Maintenance	✓	✓	3,012,702	153,553	1,249,465
	Taxiway Maintenance	✓	✓	634,128	26,464	269,904
	Runway Extension/Expansion	✓		2,031,763	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		290,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	-	-	100,000
	Other	✓		50,000	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		150,000	-	-
OB	Obstruction Removal		✓	-	137,280	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon	✓		9,000	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 9,720,074**	**$ 1,134,046**	**$ 1,808,183**

20 Year Total Estimated Cost: $ 12,662,303

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Eveleth - EVM

Eveleth Virginia Airport

Associated City: Eveleth, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	YES	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	NO	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Faribault - FBL

Faribault Municipal Airport

Associated City: Faribault, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	12-30
Length (Feet)	4,257
Width (Feet)	75
Average *PCI Value	74
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	70

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Faribault - FBL

Faribault Municipal Airport

Associated City: Faribault, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***80***	***87***	***91***	***98***
Single Engine Piston	64	70	72	78
Multi-Engine Piston	6	7	7	8
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	9	9	10	10

***Aircraft Operations:**

Total:	***18,595***	***19,919***	***20,805***	***25,428***
	15,524	16,470	17,085	21,245
Multi-Engine Piston	1,531	1,586	1,642	1,867
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	182	292	378	460
Military	100	95	89	80
Other	1,258	1,476	1,611	1,776

***Aircraft Operation Type:**

Local:	13,017	13,944	14,563	17,801
Itinerant:	5,578	5,975	6,242	7,627

***Aircraft Operation Purpose:**

Business:	930	996	1,040	1,271
Training:	13,017	13,944	14,563	17,801
Leisure:	4,648	4,979	5,202	6,356

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Faribault - FBL

Faribault Municipal Airport

Associated City: Faribault, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,257	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Full	Construct
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	13,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	4,680		
Based Tie Downs (Each)	12		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	44	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	64		No Change
Landside Facilities:			
Automobile Parking (Spaces)	30	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Faribault - FBL

Faribault Municipal Airport

Associated City: Faribault, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,257	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	Full	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Aircraft Apron (SY)	13,000	-	-	6,000
Based Aircraft Apron (SY)	4,680	-	-	-
Tie Downs (Each)	12	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	44	0	0	0
Conventional Hangar (Units)	64	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	30	85	-	15
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Faribault - FBL

Faribault Municipal Airport

Associated City: Faribault, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	-	280,301
DV	Development Land	✓		264,000	-	-
EX	Extension/Expansion					
	Taxiway	✓	✓	1,188,000	272,515	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	105,885	214,826	581,140
	Runway Maintenance		✓	-	55,904	278,441
	Taxiway Maintenance	✓	✓	54,156	26,061	186,958
	Runway Extension/Expansion	✓		94,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway		✓	-	78,000	-
MA	Master Plan					
	ALP	✓	✓	100,000	-	190,000
	Master Plan	✓	✓	64,000	-	100,000
	Other	✓		50,000	-	-
MS	Miscellaneous					
	Buildings	✓		150,000	-	-
	Conventional Hangars	✓		900,000	-	-
	T-Hangars	✓		692,000	-	-
	Hangar Site Preparation	✓		200,000	-	-
	Miscellaneous Equipment	✓		10,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	145,990	-
PA	Parking		✓	-	428,115	75,550
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		335,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 4,222,041**	**$ 1,221,411**	**$ 1,692,390**

20 Year Total Estimated Cost: $ 7,135,842

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Faribault - FBL

Faribault Municipal Airport

Associated City: Faribault, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fairmont - FRM

Fairmont Municipal Airport

Associated City: Fairmont, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	13-31
Length (Feet)	5,505
Width (Feet)	100
Average *PCI Value	62
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	60

Crosswind Runway:

Designation	2-20
Length (Feet)	3,300
Width (Feet)	75
Average *PCI Value	33
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fairmont - FRM

Fairmont Municipal Airport

Associated City: Fairmont, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***32***	***33***	***33***	***34***
Single Engine Piston	28	29	29	30
Multi-Engine Piston	2	2	2	2
Turboprop	0	0	0	0
Jet	2	2	2	2
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***7,229***	***7,466***	***7,522***	***8,669***
	6,007	6,075	6,136	7,236
Multi-Engine Piston	451	446	449	511
Turboprop	0	0	0	0
Jet	671	850	848	842
Light Sport	0	0	0	0
Military	100	95	89	80
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	3,615	3,733	3,761	4,335
Itinerant:	3,614	3,733	3,761	4,334

*Aircraft Operation Purpose:				
Business:	5,424	5,600	5,643	6,502
Training:	1,808	1,868	1,881	2,167
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fairmont - FRM

Fairmont Municipal Airport

Associated City: Fairmont, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,505	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	15,625	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	NP		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	20	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	4		Construct
Landside Facilities:			
Automobile Parking (Spaces)	180	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Partial	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fairmont - FRM

Fairmont Municipal Airport

Associated City: Fairmont, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,505	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	15,625	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	NP	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	20	6	0	0
Conventional Hangar (Units)	4	2	0	1
Landside Facilities:				
Automobile Parking (Spaces)	180	-	-	-
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fairmont - FRM

Fairmont Municipal Airport

Associated City: Fairmont, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	331,000	837,123	301,182
	Runway Maintenance	✓	✓	2,068,000	49,520	533,838
	Taxiway Maintenance	✓	✓	863,000	91,564	386,883
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring		✓	-	7,800	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		267,000	-	-
	Conventional Hangars	✓	✓	103,000	-	61,519
	T-Hangars		✓	-	258,694	-
	Hangar Site Preparation	✓	✓	135,000	-	10,440
	Miscellaneous Equipment	✓		25,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	395,034	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	108,124	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 4,262,000**	**$ 2,217,857**	**$ 1,763,861**

20 Year Total Estimated Cost: *$ 8,243,718*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fairmont - FRM

Fairmont Municipal Airport

Associated City: Fairmont, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fergus Falls - FFM

Fergus Falls Municipal Airport - Einar Mickelson Field

Associated City: Fergus Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	13-31
Length (Feet)	5,639
Width (Feet)	100
Average *PCI Value	81
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	89

Crosswind Runway:

Designation	17-35
Length (Feet)	3,301
Width (Feet)	75
Average *PCI Value	68
Runway Lighting	MIRLs
Taxiway Type:	Connector
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fergus Falls - FFM

Fergus Falls Municipal Airport - Einar Mickelson Field

Associated City: Fergus Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***50***	***54***	***56***	***61***
Single Engine Piston	46	49	51	55
Multi-Engine Piston	1	1	1	1
Turboprop	1	1	1	1
Jet	0	0	0	0
Light Sport	2	3	3	4
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***9,550***	***10,139***	***10,594***	***12,951***
	8,538	8,928	9,238	11,455
Multi-Engine Piston	195	199	206	234
Turboprop	439	476	493	489
Jet	0	0	0	0
Light Sport	278	441	568	693
Military	100	95	89	80
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	3,248	3,449	3,604	4,405
Itinerant:	6,302	6,690	6,990	8,546

*Aircraft Operation Purpose:				
Business:	3,975	4,220	4,410	5,391
Training:	3,719	3,949	4,126	5,044
Leisure:	1,856	1,970	2,058	2,516

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fergus Falls - FFM

Fergus Falls Municipal Airport - Einar Mickelson Field

Associated City: Fergus Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,639	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	MIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	5,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	40	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	18		No Change
Landside Facilities:			
Automobile Parking (Spaces)	65	1 Stall per B.A. Plus 50%	Construct
Perimeter Fencing	None	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fergus Falls - FFM

Fergus Falls Municipal Airport - Einar Mickelson Field

Associated City: Fergus Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,639	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	15,000	-	-	-
Transient Aircraft Apron (SY)	5,000	12,000	-	4,000
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	4	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	40	0	0	0
Conventional Hangar (Units)	18	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	65	20	-	-
Perimeter Fencing	None	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fergus Falls - FFM

Fergus Falls Municipal Airport - Einar Mickelson Field

Associated City: Fergus Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	214,500	-
	Transient Aircraft Apron		✓	-	499,200	166,400
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	891,834	51,931	397,666
	Runway Maintenance		✓	763,103	162,662	608,489
	Taxiway Maintenance		✓	459,668	63,229	462,387
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		60,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	320,000	320,000
	Master Plan		✓	-	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		110,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		530,000	-	-
	Hangar Site Preparation	✓		300,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	89,700	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	535,600	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,114,605**	**$ 2,086,822**	**$ 2,104,942**

20 Year Total Estimated Cost: $ 7,306,369

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fergus Falls - FFM

Fergus Falls Municipal Airport - Einar Mickelson Field

Associated City: Fergus Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fertile - D14

Fertile Municipal Airport

Associated City: Fertile, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	3,002
Width (Feet)	60
Average *PCI Value	60
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fertile - D14

Fertile Municipal Airport

Associated City: Fertile, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***3***	***3***	***3***	***3***
Single Engine Piston	3	3	3	3
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***9,600***	***10,203***	***10,381***	***12,454***
	9,600	10,203	10,381	12,454
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	9,600	10,203	10,381	12,454
Itinerant:	0	0	0	0

*Aircraft Operation Purpose:				
Business:	0	0	0	0
Training:	9,600	10,203	10,381	12,454
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fertile - D14

Fertile Municipal Airport

Associated City: Fertile, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,002	2,400 Feet	No Change
Runway Width (Feet)	60	75 Feet	Widen
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	14,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	No		Install
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	No		Construct
T-Hangar (Units)	3	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change

Landside Facilities:			
Automobile Parking (Spaces)	10	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fertile - D14

Fertile Municipal Airport

Associated City: Fertile, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,002	-	-	-
Runway Widening (Feet)	60	15	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	14,000	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	No	Yes	-	-
T-Hangar (Units)	3	0	0	0
Conventional Hangar (Units)	2	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	10	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fertile - D14

Fertile Municipal Airport

Associated City: Fertile, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓		284,734	48,128	183,509
	Runway Maintenance	✓		559,965	18,633	139,222
	Taxiway Maintenance	✓		127,561	322	22,352
	Runway Extension/Expansion	✓	✓	372,786	292,793	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓	✓	125,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓	✓	120,000	16,088	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	126,750	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	210,912	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	110,273	-
	REILS		✓	-	30,420	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,690,046**	**$ 854,318**	**$ 635,083**

20 Year Total Estimated Cost: ***$ 3,179,446***

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fertile - D14

Fertile Municipal Airport

Associated City: Fertile, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Forest Lake - 25D

Forest Lake Airport

Associated City: Forest Lake, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	2,650
Width (Feet)	150
Average *PCI Value	No PCI exists
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Forest Lake - 25D

Forest Lake Airport

Associated City: Forest Lake, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***34***	***37***	***41***	***47***
Single Engine Piston	31	34	37	43
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	1	1	1	1

***Aircraft Operations:**

Total:	***9,210***	***9,990***	***10,873***	***14,398***
	8,554	9,162	9,881	13,240
Multi-Engine Piston	290	304	327	372
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	207	336	451	550
Military	0	0	0	0
Other	159	188	214	236

***Aircraft Operation Type:**

Local:	5,526	5,994	6,523	8,638
Itinerant:	3,684	3,996	4,350	5,760

***Aircraft Operation Purpose:**

Business:	1,842	1,998	2,174	2,879
Training:	5,526	5,994	6,523	8,638
Leisure:	1,842	1,998	2,175	2,881

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Forest Lake - 25D

Forest Lake Airport

Associated City: Forest Lake, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,650	2,000 Feet	No Change
Runway Width (Feet)	150	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	LIRLs	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	100LL	No Requirement	No Change
Transient Apron (S.Y.)	NP	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	NP		
Based Tie Downs (Each)	NP		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	12	95% of Single & Multi	No Change
Conventional Hangar (Units)	22		No Change
Landside Facilities:			
Automobile Parking (Spaces)	7	1 Stall per B.A.	No Change
Perimeter Fencing	None	Separate Auto from Air	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Forest Lake - 25D

Forest Lake Airport

Associated City: Forest Lake, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,650	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	NP	-	-	-
Based Apron (S.Y.)	NP	-	-	-
Tie Downs (Each)	NP	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	12	15	0	0
Conventional Hangar (Units)	22	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	7	-	-	-
Perimeter Fencing	None	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Forest Lake - 25D

Forest Lake Airport

Associated City: Forest Lake, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion	✓		1,470,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		300,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	60,000
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		750,000	-	-
	Hangar Site Preparation	✓		270,000	-	-
	Miscellaneous Equipment	✓		200,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓		100,000	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI	✓		25,000	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS	✓		100,000	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,215,000**	**$ -**	**$ 60,000**

20 Year Total Estimated Cost: $ 3,275,000

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Forest Lake - 25D

Forest Lake Airport

Associated City: Forest Lake, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NA	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NA	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

NA = Not Applicable

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fosston - FSE

Fosston Municipal Airport

Associated City: Fosston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	3,501
Width (Feet)	75
Average *PCI Value	80
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fosston - FSE

Fosston Municipal Airport

Associated City: Fosston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***11***	***12***	***12***	***13***
Single Engine Piston	9	10	10	11
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***9,200***	***9,866***	***10,124***	***12,133***
	7,790	8,326	8,519	10,329
Multi-Engine Piston	911	950	970	1,104
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	499	590	635	700

*Aircraft Operation Type:				
Local:	5,612	6,018	6,175	7,401
Itinerant:	3,588	3,848	3,949	4,732

*Aircraft Operation Purpose:				
Business:	920	987	1,012	1,213
Training:	8,004	8,583	8,808	10,555
Leisure:	276	296	304	365

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fosston - FSE

Fosston Municipal Airport

Associated City: Fosston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,501	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	10,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	3,120		
Based Tie Downs (Each)	8		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	6	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	5		Construct
Landside Facilities:			
Automobile Parking (Spaces)	6	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fosston - FSE

Fosston Municipal Airport

Associated City: Fosston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,501	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	10,000	-	-	-
Based Aircraft Apron (SY)	3,120	-	-	-
Tie Downs (Each)	8	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	6	0	0	0
Conventional Hangar (Units)	5	7	0	0
Landside Facilities:				
Automobile Parking (Spaces)	6	10	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fosston - FSE

Fosston Municipal Airport

Associated City: Fosston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		1,300,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	249,717	28,177	124,979
	Runway Maintenance	✓	✓	37,827	77,392	230,426
	Taxiway Maintenance	✓	✓	2,770	7,824	28,308
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		200,000	-	-
	Conventional Hangars	✓	✓	500,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓	✓	300,000	-	-
	Miscellaneous Equipment	✓		40,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,000	-
PA	Parking		✓	-	44,850	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other	✓		250,000	-	-
	TOTALS			**$ 2,980,314**	**$ 288,242**	**$ 673,714**

20 Year Total Estimated Cost: $ 3,942,270

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Fosston - FSE

Fosston Municipal Airport

Associated City: Fosston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Glencoe - GYL

Glencoe Municipal Airport - Vernon F. Perschau Field

Associated City: Glencoe, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	3,300
Width (Feet)	75
Average *PCI Value	56
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Glencoe - GYL

Glencoe Municipal Airport - Vernon F. Perschau Field

Associated City: Glencoe, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***35***	***38***	***41***	***45***
Single Engine Piston	29	32	34	38
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	5	5	6	6

*Aircraft Operations:				
Total:	***10,615***	***11,451***	***12,143***	***15,327***
	9,347	9,998	10,550	13,558
Multi-Engine Piston	339	354	373	424
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	929	1,099	1,220	1,345

*Aircraft Operation Type:				
Local:	4,246	4,580	4,857	6,131
Itinerant:	6,369	6,871	7,286	9,196

*Aircraft Operation Purpose:				
Business:	1,592	1,718	1,822	2,299
Training:	7,961	8,588	9,107	11,495
Leisure:	1,062	1,145	1,214	1,533

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Glencoe - GYL

Glencoe Municipal Airport - Vernon F. Perschau Field

Associated City: Glencoe, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,300	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	5,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	27	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	8		Construct
Landside Facilities:			
Automobile Parking (Spaces)	8	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Glencoe - GYL

Glencoe Municipal Airport - Vernon F. Perschau Field

Associated City: Glencoe, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,300	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	4,000	-	-
Transient Aircraft Apron (SY)	5,000	11,500	1,000	5,000
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	4	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	27	0	0	4
Conventional Hangar (Units)	8	2	2	0
Landside Facilities:				
Automobile Parking (Spaces)	8	50	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Glencoe - GYL

Glencoe Municipal Airport - Vernon F. Perschau Field

Associated City: Glencoe, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	240,884	-
	Transient Aircraft Apron		✓	-	583,960	233,584
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		600,000	-	-
FF	Fuel Farm Development	✓		10,000	-	-
IM	Improvements					
	Apron Maintenance		✓	203,724	448,355	155,708
	Runway Maintenance		✓	909,006	26,146	195,360
	Taxiway Maintenance		✓	54,648	113	7,809
	Runway Extension/Expansion	✓		2,160,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		150,000	-	-
	Conventional Hangars	✓	✓	720,000	-	196,332
	T-Hangars	✓	✓	220,000	202,589	202,589
	Hangar Site Preparation	✓		350,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓		112,300	-	-
PA	Parking		✓	-	251,832	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	242,927	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI	✓		80,000	-	-
	REILS	✓		30,000	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 5,889,678**	**$ 1,996,806**	**$ 1,281,382**

20 Year Total Estimated Cost: *$ 9,167,866*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Glencoe - GYL

Glencoe Municipal Airport - Vernon F. Perschau Field

Associated City: Glencoe, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	NO	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Glenwood - GHW

Glenwood Municipal Airport

Associated City: Glenwood, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	4,500
Width (Feet)	75
Average *PCI Value	No PCI exists
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	5-23
Length (Feet)	2,778
Width (Feet)	205
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Glenwood - GHW

Glenwood Municipal Airport

Associated City: Glenwood, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***11***	***12***	***13***	***14***
Single Engine Piston	11	12	13	14
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***4,900***	***5,211***	***5,421***	***6,776***
	4,900	5,211	5,421	6,776
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,715	1,824	1,897	2,372
Itinerant:	3,185	3,387	3,524	4,404

*Aircraft Operation Purpose:				
Business:	980	1,042	1,084	1,355
Training:	2,940	3,127	3,253	4,066
Leisure:	980	1,042	1,084	1,355

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Glenwood - GHW

Glenwood Municipal Airport

Associated City: Glenwood, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,500	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	5,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	No		No Change
Restroom	Yes		No Change
T-Hangar (Units)	10	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	5		No Change
Landside Facilities:			
Automobile Parking (Spaces)	23	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Glenwood - GHW

Glenwood Municipal Airport

Associated City: Glenwood, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,500	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	5,000	3,500	-	2,000
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	10	0	0	0
Conventional Hangar (Units)	5	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	23	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Glenwood - GHW

Glenwood Municipal Airport

Associated City: Glenwood, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	146,619	83,782
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	50,160	35,899	175,254
	Runway Maintenance	✓	✓	12,360	49,271	268,803
	Taxiway Maintenance	✓	✓	15,480	4,967	50,573
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		15,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		400,000	-	-
	Hangar Site Preparation	✓		520,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		380,205	-	-
OB	Obstruction Removal		✓	-	130,910	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	217,835	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓		35,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS		✓	-	31,418	-
	Rotating Beacon	✓		30,000	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			$ 1,558,205	$ 616,920	$ 868,413

20 Year Total Estimated Cost: $ 3,043,537

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Glenwood - GHW

Glenwood Municipal Airport

Associated City: Glenwood, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grand Marais - CKC

Grand Marais/Cook County Airport

Associated City: Grand Marais, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	9-27
Length (Feet)	4,199
Width (Feet)	75
Average *PCI Value	45
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grand Marais - CKC

Grand Marais/Cook County Airport

Associated City: Grand Marais, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***14***	***17***	***18***	***20***
Single Engine Piston	13	15	16	18
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	2	2	2
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***3,200***	***3,620***	***3,925***	***5,120***
	3,025	3,329	3,540	4,650
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	175	291	385	470
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	960	1,086	1,178	1,536
Itinerant:	2,240	2,534	2,747	3,584

*Aircraft Operation Purpose:				
Business:	640	724	785	1,024
Training:	2,240	2,534	2,748	3,584
Leisure:	320	362	392	512

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grand Marais - CKC

Grand Marais/Cook County Airport

Associated City: Grand Marais, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,199	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	64,350	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	8	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	14		No Change
Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grand Marais - CKC

Grand Marais/Cook County Airport

Associated City: Grand Marais, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,199	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	4,500	-	-	-
Transient Aircraft Apron (SY)	64,350	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	8	0	0	0
Conventional Hangar (Units)	14	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	20	-	-	4
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grand Marais - CKC

Grand Marais/Cook County Airport

Associated City: Grand Marais, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		5,300,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	328,800	1,041,326	343,762
	Runway Maintenance	✓	✓	3,386,400	21,615	246,596
	Taxiway Maintenance	✓	✓	184,800	182	12,628
	Runway Extension/Expansion	✓		9,600,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓		70,000	-	190,000
	Master Plan	✓		30,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	-	18,944
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	228,434	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 18,900,000**	**$ 1,291,557**	**$ 911,930**

20 Year Total Estimated Cost: $ 21,103,486

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grand Marais - CKC

Grand Marais/Cook County Airport

Associated City: Grand Marais, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grand Rapids - GPZ

Grand Rapids/Itasca County Airport - Gordon Newstrom I

Associated City: Grand Rapids, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	16-34
Length (Feet)	5,755
Width (Feet)	100
Average *PCI Value	62
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	72

Crosswind Runway:

Designation	5-23
Length (Feet)	3,000
Width (Feet)	60
Average *PCI Value	94
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	10-28
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grand Rapids - GPZ

Grand Rapids/Itasca County Airport - Gordon Newstrom Field

Associated City: Grand Rapids, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***80***	***87***	***91***	***101***
Single Engine Piston	74	80	84	92
Multi-Engine Piston	3	3	3	4
Turboprop	0	0	0	0
Jet	1	1	1	1
Light Sport	2	3	3	4
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***19,653***	***20,979***	***22,015***	***27,504***
	18,074	19,040	19,858	25,075
Multi-Engine Piston	771	793	825	939
Turboprop	0	0	0	0
Jet	382	504	519	516
Light Sport	366	585	759	926
Military	60	57	54	48
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	9,827	10,490	11,008	13,752
Itinerant:	9,826	10,488	11,007	13,752

*Aircraft Operation Purpose:				
Business:	11,792	12,588	13,209	16,502
Training:	3,931	4,196	4,403	5,501
Leisure:	3,930	4,195	4,403	5,501

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grand Rapids - GPZ

Grand Rapids/Itasca County Airport - Gordon Newstrom Field

Associated City: Grand Rapids, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,755	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	16,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	11,700		
Based Tie Downs (Each)	30		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	44	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	30		Construct
Landside Facilities:			
Automobile Parking (Spaces)	150	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grand Rapids - GPZ

Grand Rapids/Itasca County Airport - Gordon Newstrom Field

Associated City: Grand Rapids, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,755	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Aircraft Apron (SY)	16,500	1,000	1,000	6,000
Based Aircraft Apron (SY)	11,700	-	-	-
Tie Downs (Each)	30	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	44	9	4	9
Conventional Hangar (Units)	30	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	150	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided. *End opposite PI.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grand Rapids - GPZ

Grand Rapids/Itasca County Airport - Gordon Newstrom Field

Associated City: Grand Rapids, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	83,200	249,600
DV	Development Land	✓		370,000	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓		25,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	353,554	738,776	1,850,431
	Runway Maintenance	✓	✓	1,438,039	89,342	575,283
	Taxiway Maintenance	✓	✓	90,000	170,054	1,315,530
	Runway Extension/Expansion	✓		3,970,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓	✓	720,000	586,300	450,450
	Hangar Site Preparation		✓	-	192,660	133,380
	Miscellaneous Equipment	✓		200,000	-	-
	Snow Removal Equipment	✓		250,000	-	-
OB	Obstruction Removal	✓		10,000	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 7,576,593**	**$ 2,330,332**	**$ 5,044,674**

20 Year Total Estimated Cost: $ 14,951,599

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grand Rapids - GPZ

Grand Rapids/Itasca County Airport - Gordon Newstrom Field

Associated City: Grand Rapids, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Granite Falls - GDB

Granite Falls Municipal Airport

Associated City: Granite Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	4,350
Width (Feet)	75
Average *PCI Value	78
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Granite Falls - GDB

Granite Falls Municipal Airport

Associated City: Granite Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***17***	***18***	***19***	***19***
Single Engine Piston	13	14	15	15
Multi-Engine Piston	2	2	2	2
Turboprop	0	0	0	0
Jet	2	2	2	2
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***5,501***	***6,097***	***6,219***	***7,203***
	3,922	4,178	4,274	5,173
Multi-Engine Piston	635	660	674	767
Turboprop	0	0	0	0
Jet	944	1,259	1,271	1,263
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	2,475	2,744	2,799	3,241
Itinerant:	3,026	3,353	3,420	3,962

*Aircraft Operation Purpose:				
Business:	3,300	3,659	3,731	4,322
Training:	1,650	1,829	1,866	2,161
Leisure:	551	609	622	720

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Granite Falls - GDB

Granite Falls Municipal Airport

Associated City: Granite Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,350	5,000 Feet	Extend
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	6,300	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	3,120		
Based Tie Downs (Each)	8		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	18		Construct
Landside Facilities:			
Automobile Parking (Spaces)	55	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Granite Falls - GDB

Granite Falls Municipal Airport

Associated City: Granite Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,350	650	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	6,300	1,500	-	1,500
Based Aircraft Apron (SY)	3,120	-	-	-
Tie Downs (Each)	8	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	10	0	0
Conventional Hangar (Units)	18	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	55	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Granite Falls - GDB

Granite Falls Municipal Airport

Associated City: Granite Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		356,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	62,837	62,837
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		2,614,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	216,000	31,383	288,181
	Runway Maintenance	✓	✓	888,000	107,716	317,645
	Taxiway Maintenance	✓	✓	12,000	7,670	23,181
	Runway Extension/Expansion	✓	✓	8,992,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		752,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	71,000	-	320,000
	Master Plan		✓	-	-	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		200,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓	✓	974,000	-	-
	Hangar Site Preparation	✓	✓	131,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		150,000	-	-
OB	Obstruction Removal	✓	✓	37,000	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport		✓	-	6,210,000	-
O	Other			-	-	-
	TOTALS			$ 15,393,000	$ 6,419,606	$ 1,161,844

20 Year Total Estimated Cost: *$ 22,974,450*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Granite Falls - GDB

Granite Falls Municipal Airport

Associated City: Granite Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grygla - 3G2

Grygla Municipal Airport - Mel Wilkens Field

Associated City: Grygla, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	17-35
Length (Feet)	3,437
Width (Feet)	92
Average *PCI Value	No PCI exists
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grygla - 3G2

Grygla Municipal Airport - Mel Wilkens Field

Associated City: Grygla, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***2***	***2***	***2***	***2***
Single Engine Piston	2	2	2	2
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***1,400***	***1,462***	***1,486***	***1,775***
	1,400	1,462	1,486	1,775
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	826	863	877	1,047
Itinerant:	574	599	609	728

*Aircraft Operation Purpose:				
Business:	583	609	618	739
Training:	545	570	579	691
Leisure:	272	284	289	345

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grygla - 3G2

Grygla Municipal Airport - Mel Wilkens Field

Associated City: Grygla, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,437	2,000 Feet	No Change
Runway Width (Feet)	92	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	LIRLs	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Apron (S.Y.)	3,720	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	No		Construct
T-Hangar (Units)	0	95% of Single & Multi	No Change
Conventional Hangar (Units)	0		Construct
Landside Facilities:			
Automobile Parking (Spaces)	-	1 Stall per B.A.	No Change
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grygla - 3G2

Grygla Municipal Airport - Mel Wilkens Field

Associated City: Grygla, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,437	-	-	-
Runway Widening (Feet)	92	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	3,720	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	No	Yes	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	0	2	0	0
Landside Facilities:				
Automobile Parking (Spaces)	-	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grygla - 3G2

Grygla Municipal Airport - Mel Wilkens Field

Associated City: Grygla, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP			-	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings		✓	-	16,088	-
	Conventional Hangars		✓	-	125,483	-
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	21,294	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	210,912	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ -**	**$ 373,776**	**$ -**

20 Year Total Estimated Cost: *$ 373,776*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Grygla - 3G2

Grygla Municipal Airport - Mel Wilkens Field

Associated City: Grygla, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hallock - HCO

Hallock Municipal Airport

Associated City: Hallock, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	4,007
Width (Feet)	75
Average *PCI Value	69
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hallock - HCO

Hallock Municipal Airport

Associated City: Hallock, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***13***	***13***	***13***	***13***
Single Engine Piston	11	11	11	11
Multi-Engine Piston	0	0	0	0
Turboprop	2	2	2	2
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***4,800***	***4,828***	***4,733***	***5,063***
	3,357	3,339	3,273	3,615
Multi-Engine Piston	0	0	0	0
Turboprop	1,443	1,489	1,460	1,448
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	3,120	3,138	3,077	3,291
Itinerant:	1,680	1,690	1,656	1,772

*Aircraft Operation Purpose:				
Business:	4,752	4,780	4,686	5,012
Training:	48	48	47	51
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hallock - HCO

Hallock Municipal Airport

Associated City: Hallock, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,007	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	3,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	10	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	3		No Change
Landside Facilities:			
Automobile Parking (Spaces)	10	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hallock - HCO

Hallock Municipal Airport

Associated City: Hallock, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,007	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	3,000	2,500	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	10	0	0	0
Conventional Hangar (Units)	3	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	10	8	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hallock - HCO

Hallock Municipal Airport

Associated City: Hallock, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		130,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	101,400	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		235,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	26,531	68,906	144,966
	Runway Maintenance	✓	✓	146,508	1,067,363	62,303
	Taxiway Maintenance	✓	✓	9,584	14,723	87,218
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		60,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		260,000	-	-
	Hangar Site Preparation	✓		40,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		160,000	-	-
OB	Obstruction Removal		✓	-	126,750	-
PA	Parking		✓	-	34,983	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	210,912	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI	✓		30,000	-	-
	REILS	✓		60,000	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,447,623**	**$ 1,625,037**	**$ 584,488**

20 Year Total Estimated Cost: *$ 3,657,148*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hallock - HCO

Hallock Municipal Airport

Associated City: Hallock, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hawley - 04Y

Hawley Municipal Airport

Associated City:	Hawley, MN
MnDOT Classification:	Intermediate Airport
NPIAS Airport:	Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	3,404
Width (Feet)	75
Average *PCI Value	69
Runway Lighting	MIRLs
Taxiway Type	None
Average *PCI Value	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type	-
Average *PCI Value	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hawley - 04Y

Hawley Municipal Airport

Associated City: Hawley, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2011	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***31***	***34***	***35***	***37***
Single Engine Piston	26	28	29	30
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	2	3	3	4
Military	0	0	0	0
Other	2	2	2	2

***Aircraft Operations:**

Total:	***8,600***	***9,187***	***9,633***	***11,714***
Single Engine Piston	7,527	7,812	8,028	9,832
Multi-Engine Piston	305	309	317	360
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	434	683	874	1,065
Military	0	0	0	0
Other	334	383	414	457

***Aircraft Operation Type:**

Local:	4,644	4,961	5,201	6,325
Itinerant:	3,956	4,226	4,432	5,389

***Aircraft Operation Purpose:**

Business:	3,580	3,824	4,009	4,876
Training:	3,349	3,578	3,751	4,562
Leisure:	1,671	1,785	1,873	2,276

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hawley - 04Y

Hawley Municipal Airport

Associated City: Hawley, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Recommendations

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,404	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	5,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	1,950		
Based Tie Downs (Each)	5		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	39	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	1		No Change
Landside Facilities:			
Automobile Parking (Spaces)	10	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hawley - 04Y

Hawley Municipal Airport

Associated City: Hawley, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,404	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	5,000	5,500	-	8,000
Based Apron (S.Y.)	1,950	-	-	-
Tie Downs (Each)	5	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	39	0	0	0
Conventional Hangar (Units)	1	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	10	40	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hawley - 04Y

Hawley Municipal Airport

Associated City: Hawley, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	228,800	104,000
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	-	165,412	124,422
	Runway Maintenance		✓	-	206,803	1,086,630
	Taxiway Maintenance		✓	-	1,482	6,722
	Runway Extension/Expansion	✓		406,000	-	-
IN	Instrument Approach Aid					
	PIA			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan	✓	✓	90,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		450,000	-	-
	Hangar Site Preparation	✓		150,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,000	-
PA	Parking		✓	-	179,400	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS		✓	-	31,200	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,286,000**	**$ 943,097**	**$ 1,611,774**

20 Year Total Estimated Cost: *$ 3,840,871*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hawley - 04Y

Hawley Municipal Airport

Associated City: Hawley, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hector - 1D6

Hector Municipal Airport

Associated City: Hector, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	12-30
Length (Feet)	2,776
Width (Feet)	50
Average *PCI Value	67
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	5-23
Length (Feet)	2,580
Width (Feet)	165
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hector - 1D6

Hector Municipal Airport

Associated City: Hector, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***40***	***41***	***42***	***43***
Single Engine Piston	35	36	36	37
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	4	4	4	4

*Aircraft Operations:				
Total:	***7,600***	***7,699***	***7,873***	***9,297***
	6,990	6,966	7,048	8,354
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	150	226	285	347
Military	0	0	0	0
Other	460	507	540	596

*Aircraft Operation Type:				
Local:	1,086	1,100	1,125	1,328
Itinerant:	6,514	6,599	6,748	7,969

*Aircraft Operation Purpose:				
Business:	3,163	3,205	3,277	3,870
Training:	2,960	2,998	3,066	3,621
Leisure:	1,477	1,496	1,529	1,807

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hector - 1D6

Hector Municipal Airport

Associated City: Hector, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,776	2,400 Feet	No Change
Runway Width (Feet)	50	75 Feet	Widen
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	1,240	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	1,000		
Based Tie Downs (Each)	4		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	7	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	24		Construct
Landside Facilities:			
Automobile Parking (Spaces)	8	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hector - 1D6

Hector Municipal Airport

Associated City: Hector, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,776	-	-	-
Runway Widening (Feet)	50	25	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	500	-	-	-
Transient Apron (S.Y.)	1,240	15,000	-	3,000
Based Apron (S.Y.)	1,000	-	-	-
Tie Downs (Each)	4	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	7	8	0	0
Conventional Hangar (Units)	24	0	1	1
Landside Facilities:				
Automobile Parking (Spaces)	8	50	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hector - 1D6

Hector Municipal Airport

Associated City: Hector, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	628,368	125,674
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		160,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	93,382	34,800	279,877
	Runway Maintenance		✓	64,331	96,000	483,227
	Taxiway Maintenance		✓	30,829	-	4,390
	Runway Extension/Expansion	✓	✓	60,000	504,004	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway		✓	-	36,655	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		210,000	-	-
	Conventional Hangars	✓	✓	175,000	-	64,800
	T-Hangars		✓	-	181,663	-
	Hangar Site Preparation	✓	✓	335,000	59,695	10,996
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,910	-
PA	Parking		✓	-	225,819	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	113,892	-
	REILS		✓	-	31,418	-
	Rotating Beacon		✓	-	41,891	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,228,542**	**$ 2,275,114**	**$ 1,068,964**

20 Year Total Estimated Cost: $ 4,572,620

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hector - 1D6

Hector Municipal Airport

Associated City: Hector, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Henning - 05Y

Henning Municipal Airport

Associated City: Henning, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	17-35
Length (Feet)	3,280
Width (Feet)	200
Average *PCI Value	No PCI exisits
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Henning - 05Y

Henning Municipal Airport

Associated City: Henning, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***13***	***14***	***14***	***15***
Single Engine Piston	11	12	12	13
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	2	2	2	2

*Aircraft Operations:				
Total:	***3,600***	***3,807***	***3,972***	***4,889***
	3,259	3,412	3,540	4,413
Multi-ngine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	341	395	432	476

*Aircraft Operation Type:				
Local:	2,124	2,247	2,344	2,885
Itinerant:	1,476	1,560	1,628	2,004

*Aircraft Operation Purpose:				
Business:	720	762	795	978
Training:	2,520	2,665	2,780	3,422
Leisure:	360	380	397	489

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Henning - 05Y

Henning Municipal Airport

Associated City: Henning, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,280	2,000 Feet	No Change
Runway Width (Feet)	200	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	LIRLs	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	100LL	No Requirement	No Change
Transient Apron (S.Y.)	7,750	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	None		No Change
PAPIs / VASIs	No		No Change
REILs	None		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	5	95% of Single & Multi	No Change
Conventional Hangar (Units)	10		No Change
Landside Facilities:			
Automobile Parking (Spaces)	12	1 Stall per B.A.	Construct
Perimeter Fencing	Full	Separate Auto from Air	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Henning - 05Y

Henning Municipal Airport

Associated City:	Henning, MN
MnDOT Classification:	Landing Strip Airport
NPIAS Airport:	No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,280	-	-	-
Runway Widening (Feet)	200	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	7,750	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	None	-	-	-
PAPIs / VASIs	No	-	-	-
REILs	None	-	-	-
Approach Lighting	None			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	5	0	0	0
Conventional Hangar (Units)	10	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	12	10	-	-
Perimeter Fencing	Full	-	-	-

Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Henning - 05Y

Henning Municipal Airport

Associated City: Henning, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓		20,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		15,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	45,614	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 35,000**	**$ 45,614**	**$ -**

20 Year Total Estimated Cost: *$ 80,614*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Henning - 05Y

Henning Municipal Airport

Associated City: Henning, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	YES	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Herman - 06Y

Herman Municipal Airport

Associated City: Herman, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	2,997
Width (Feet)	60
Average *PCI Value	66
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Herman - 06Y

Herman Municipal Airport

Associated City: Herman, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***4***	***4***	***4***	***4***
Single Engine Piston	4	4	4	4
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***2,400***	***2,465***	***2,509***	***3,007***
	2,400	2,465	2,509	3,007
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,440	1,479	1,505	1,804
Itinerant:	960	986	1,004	1,203

*Aircraft Operation Purpose:				
Business:	960	986	1,004	1,203
Training:	1,200	1,233	1,254	1,503
Leisure:	240	246	251	301

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Herman - 06Y

Herman Municipal Airport

Associated City: Herman, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,997	2,400 Feet	No Change
Runway Width (Feet)	60	75 Feet	Widen
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	1,240	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	6	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	0		No Change
Landside Facilities:			
Automobile Parking (Spaces)	8	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Herman - 06Y

Herman Municipal Airport

Associated City: Herman, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,997	-	-	-
Runway Widening (Feet)	60	15	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	1,240	2,000	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPI	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	6	0	0	0
Conventional Hangar (Units)	0	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	8	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Herman - 06Y

Herman Municipal Airport

Associated City: Herman, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	83,782	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	-	65,507	121,861
	Runway Maintenance		✓	-	729,605	38,593
	Taxiway Maintenance		✓	-	9,865	37,236
	Runway Extension/Expansion		✓	-	302,402	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓	✓	50,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other	✓		5,000	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		30,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,910	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	113,892	-
	REILS		✓	-	31,418	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 375,000**	**$ 1,467,381**	**$ 487,690**

20 Year Total Estimated Cost: *$ 2,330,072*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Herman - 06Y

Herman Municipal Airport

Associated City: Herman, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hibbing - HIB

Hibbing Municipal - Range Regional Airport

Associated City: Hibbing, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	Yes
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	13-31
Length (Feet)	6,758
Width (Feet)	150
Average *PCI Value	63
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	76

Crosswind Runway:

Designation	4-22
Length (Feet)	3,075
Width (Feet)	75
Average *PCI Value	63
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hibbing - HIB

Hibbing Municipal - Range Regional Airport

Associated City: Hibbing, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***53***	***55***	***57***	***59***
Single Engine Piston	44	46	47	49
Multi-Engine Piston	2	2	2	2
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	6	6	6	6

*Aircraft Operations:				
Total:	***27,127***	***27,987***	***28,635***	***33,960***
	23,636	24,057	24,394	29,172
Multi-Engine Piston	1,130	1,123	1,137	1,293
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	403	621	784	956
Military	100	95	89	80
Other	1,858	2,091	2,231	2,459

*Aircraft Operation Type:				
Local:	8,138	8,396	8,591	10,188
Itinerant:	18,989	19,591	20,044	23,772

*Aircraft Operation Purpose:				
Business:	18,989	19,591	20,045	23,773
Training:	5,425	5,598	5,727	6,792
Leisure:	2,713	2,798	2,863	3,395

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hibbing - HIB

Hibbing Municipal - Range Regional Airport

Associated City: Hibbing, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	6,758	5,000 Feet	No Change
Runway Width (Feet)	150	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	HIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	11,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	No		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	Yes	Commercial Terminal	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	24	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	21		Construct
Landside Facilities:			
Automobile Parking (Spaces)	300	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Partial	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hibbing - HIB

Hibbing Municipal - Range Regional Airport

Associated City: Hibbing, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	6,758	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	11,000	35,000	1,000	9,000
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	4	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	No	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	Yes	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	24	8	0	0
Conventional Hangar (Units)	21	0	2	2
Landside Facilities:				
Automobile Parking (Spaces)	300	-	-	-
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hibbing - HIB

Chisholm-Hibbing Municipal - Range Regional Airport

Associated City: Hibbing, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		2,830,000	-	-
	Based Aircraft Apron		✓	-	226,512	-
	Transient Aircraft Apron		✓	-	1,581,466	395,366
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		500,000	-	-
FF	Fuel Farm Development	✓		379,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	2,305,061	956,974	512,876
	Runway Maintenance	✓	✓	24,078	164,953	906,278
	Taxiway Maintenance	✓	✓	1,519,198	534,530	583,181
	Runway Extension/Expansion	✓		4,120,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway	✓		350,000	-	-
MA	Master Plan					
	ALP		✓	-	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		4,925,000	-	-
	Conventional Hangars		✓	-	-	135,907
	T-Hangars		✓	-	476,256	-
	Hangar Site Preparation		✓	-	156,499	23,063
	Miscellaneous Equipment	✓		476,000	-	-
	Snow Removal Equipment	✓		800,000	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	565,594	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	119,434	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 18,393,337**	**$ 5,252,218**	**$ 3,026,672**

20 Year Total Estimated Cost: $ 26,672,227

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hibbing - HIB

Hibbing Municipal - Range Regional Airport

Associated City: Hibbing, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hill City - 07Y

Hill City - Quadna Mountain Airport

Associated City: Hill City, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	2,850
Width (Feet)	150
Average *PCI Value	No PCI exisits
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hill City - 07Y

Hill City - Quadna Mountain Airport

Associated City: Hill City, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***2***	***2***	***2***	***3***
Single Engine Piston	2	2	2	3
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***1,400***	***1,506***	***1,578***	***2,003***
	1,400	1,506	1,578	2,003
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	826	889	931	1,182
Itinerant:	574	617	647	821

*Aircraft Operation Purpose:				
Business:	583	627	657	834
Training:	545	587	614	780
Leisure:	272	292	307	389

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hill City - 07Y

Hill City - Quadna Mountain Airport

Associated City: Hill City, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,850	2,000 Feet	No Change
Runway Width (Feet)	150	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	None	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Apron (S.Y.)	-	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	None		No Change
PAPIs / VASIs	No		No Change
REILs	None		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	Yes		No Change
T-Hangar (Units)	4	95% of Single & Multi	No Change
Conventional Hangar (Units)	0		No Change
Landside Facilities:			
Automobile Parking (Spaces)	-	1 Stall per B.A.	Construct
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hill City - 07Y

Hill City - Quadna Mountain Airport

Associated City: Hill City, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,850	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	None	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	-	2,000	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	None	-	-	-
PAPIs / VASIs	No	-	-	-
REILs	None	-	-	-
Approach Lighting	None			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	4	0	0	0
Conventional Hangar (Units)	0	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	-	4	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hill City - 07Y

Hill City - Quadna Mountain Airport

Associated City: Hill City, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	84,614	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	18,245	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	219,997	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 60,000**	**$ 322,857**	**$ -**

20 Year Total Estimated Cost: *$ 382,857*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hill City - 07Y

Hill City - Quadna Mountain Airport

Associated City: Hill City, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hutchinson - HCD

Hutchinson Municipal Airport

Associated City: Hutchinson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	4,000
Width (Feet)	75
Average *PCI Value	57
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	63

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hutchinson - HCD

Hutchinson Municipal Airport

Associated City: Hutchinson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***46***	***49***	***51***	***57***
Single Engine Piston	38	40	42	46
Multi-Engine Piston	3	3	3	4
Turboprop	1	1	1	1
Jet	0	0	0	0
Light Sport	2	3	3	4
Military	0	0	0	0
Other	2	2	2	2

*Aircraft Operations:				
Total:	***12,149***	***12,771***	***13,473***	***16,508***
	9,962	10,273	10,701	13,415
Multi-Engine Piston	827	833	866	985
Turboprop	620	663	691	685
Jet	0	0	0	0
Light Sport	393	614	797	971
Military	45	43	40	36
Other	302	345	378	416

*Aircraft Operation Type:				
Local:	6,683	7,024	7,410	9,080
Itinerant:	5,466	5,747	6,063	7,428

*Aircraft Operation Purpose:				
Business:	5,057	5,316	5,608	6,872
Training:	4,732	4,973	5,247	6,429
Leisure:	2,360	2,482	2,618	3,207

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hutchinson - HCD

Hutchinson Municipal Airport

Associated City: Hutchinson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,000	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	21,522	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	34	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	10		No Change
Landside Facilities:			
Automobile Parking (Spaces)	51	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hutchinson - HCD

Hutchinson Municipal Airport

Associated City: Hutchinson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,000	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	12,000	-	-	-
Transient Aircraft Apron (SY)	21,522	-	-	-
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	4	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	34	16	0	0
Conventional Hangar (Units)	10	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	51	20	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hutchinson - HCD

Hutchinson Municipal Airport

Associated City: Hutchinson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		350,000	-	-
	Based Aircraft Apron		✓	-	216,002	-
	Transient Aircraft Apron			-	-	-
DV	Development Land	✓		225,000	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	285,629	167,279	617,414
	Runway Maintenance		✓	1,046,811	31,034	231,882
	Taxiway Maintenance		✓	636,751	53,126	193,032
	Runway Extension/Expansion	✓		75,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		1,000,000	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		110,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	-	-
PA	Parking		✓	-	90,328	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	217,834	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 4,019,191**	**$ 775,602**	**$ 1,332,328**

20 Year Total Estimated Cost: *$ 6,127,121*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Hutchinson - HCD

Hutchinson Municipal Airport

Associated City: Hutchinson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

International Falls - INL

Falls International Airport International Falls

Associated City: International Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	Yes
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	7,400
Width (Feet)	150
Average *PCI Value	87
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	71

Crosswind Runway:

Designation	4-22
Length (Feet)	2,999
Width (Feet)	75
Average *PCI Value	72
Runway Lighting	None
Taxiway Type:	Partial
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

International Falls - INL

Falls International Airport International Falls

Associated City: International Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***33***	***37***	***39***	***43***
Single Engine Piston	26	27	28	29
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	7	10	11	14
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***16,060***	***17,961***	***19,276***	***23,158***
	13,278	13,681	13,894	16,626
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	2,682	4,185	5,293	6,452
Military	100	95	89	80
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	4,818	5,388	5,783	6,947
Itinerant:	11,242	12,573	13,493	16,211

*Aircraft Operation Purpose:				
Business:	2,730	3,054	3,277	3,937
Training:	12,848	14,369	15,420	18,526
Leisure:	482	538	579	695

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

International Falls - INL

Falls International Airport International Falls

Associated City: International Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	7,400	5,000 Feet	No Change
Runway Width (Feet)	150	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	HIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	20,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	Yes	Commercial Terminal	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	17	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	18		No Change
Landside Facilities:			
Automobile Parking (Spaces)	180	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

International Falls - INL

Falls International Airport International Falls

Associated City: International Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	7,400	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	12,000	-	-	-
Transient Aircraft Apron (SY)	20,000	10,000	3,000	7,000
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	2	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	Yes	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	17	0	0	0
Conventional Hangar (Units)	18	1	2	3
Landside Facilities:				
Automobile Parking (Spaces)	180	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

International Falls - INL

Falls International Airport

Associated City: International Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	214,500	-
	Transient Aircraft Apron		✓	-	540,800	291,200
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	228,720	410,776	381,935
	Runway Maintenance	✓	✓	1,024,680	384,856	1,174,119
	Taxiway Maintenance	✓	✓	4,400,000	778,395	342,976
	Runway Extension/Expansion	✓		250,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		55,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		8,470,000	-	-
	Conventional Hangars	✓	✓	1,000,000	193,050	193,050
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	32,760	32,760
	Miscellaneous Equipment	✓		135,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle	✓		800,000	-	-
SE	Security Improvements					
	Fencing	✓		150,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 16,998,400**	**$ 3,025,137**	**$ 2,886,040**

20 Year Total Estimated Cost: ***$ 22,909,577***

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

International Falls - INL

Falls International Airport International Falls

Associated City: International Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Jackson - MJQ

Jackson Municipal Airport

Associated City: Jackson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	3,591
Width (Feet)	75
Average *PCI Value	70
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	4-22
Length (Feet)	2,280
Width (Feet)	300
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Jackson - MJQ

Jackson Municipal Airport

Associated City: Jackson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***20***	***22***	***23***	***25***
Single Engine Piston	19	21	22	24
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***6,000***	***6,493***	***6,729***	***8,312***
	5,814	6,274	6,491	8,051
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	10	9	9	8
Other	176	210	229	253

*Aircraft Operation Type:				
Local:	1,800	1,948	2,019	2,494
Itinerant:	4,200	4,545	4,710	5,818

*Aircraft Operation Purpose:				
Business:	6,000	6,494	6,729	8,312
Training:	0	0	0	0
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Jackson - MJQ

Jackson Municipal Airport

Associated City: Jackson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,591	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	1,550	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	1,950		
Based Tie Downs (Each)	5		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	20	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	6		No Change

Landside Facilities:			
Automobile Parking (Spaces)	13	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Jackson - MJQ

Jackson Municipal Airport

Associated City: Jackson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,591	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	6,000	-	-	-
Transient Aircraft Apron (SY)	1,550	9,000	-	2,000
Based Aircraft Apron (SY)	1,950	-	-	-
Tie Downs (Each)	5	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	20	0	0	0
Conventional Hangar (Units)	6	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	13	20	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Jackson - MJQ

Jackson Municipal Airport

Associated City: Jackson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	357,926	79,539
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		237,500	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	61,634	58,384	204,404
	Runway Maintenance	✓	✓	136,397	312,177	461,081
	Taxiway Maintenance	✓	✓	46,769	6,327	48,897
	Runway Extension/Expansion	✓		3,413,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	216,000	-	190,000
	Master Plan	✓	✓	167,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars	✓		540,220	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		88,000	-	-
	Snow Removal Equipment	✓		202,000	-	-
OB	Obstruction Removal	✓	✓	-	124,280	-
PA	Parking	✓	✓	190,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 5,298,520**	**$ 859,094**	**$ 1,083,921**

20 Year Total Estimated Cost: *$ 7,241,536*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Jackson - MJQ

Jackson Municipal Airport

Associated City: Jackson, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Karlstad - 23D

Karlstad Municipal Airport

Associated City: Karlstad, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	Yes

Primary Runway:

Designation	17-35
Length (Feet)	2,606
Width (Feet)	159
Average *PCI Value	No PCI exisits
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Karlstad - 23D

Karlstad Municipal Airport

Associated City: Karlstad, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***0***	***0***	***0***	***0***
Single Engine Piston	0	0	0	0
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***1,000***	***1,000***	***1,000***	***1,000***
	1,000	1,000	1,000	1,000
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	0	0	0	0
Itinerant:	1,000	1,000	1,000	1,000

*Aircraft Operation Purpose:				
Business:	0	0	0	0
Training:	1,000	1,000	1,000	1,000
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Karlstad - 23D

Karlstad Municipal Airport

Associated City: Karlstad, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,606	2,000 Feet	No Change
Runway Width (Feet)	159	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	LIRLs	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Apron (S.Y.)	1,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	No		Construct
T-Hangar (Units)	0	95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change
Landside Facilities:			
Automobile Parking (Spaces)	50	1 Stall per B.A.	No Change
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Karlstad - 23D

Karlstad Municipal Airport

Associated City: Karlstad, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,606	-	-	-
Runway Widening (Feet)	159	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	1,500	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	No	Yes	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	2	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	50	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Karlstad - 23D

Karlstad Municipal Airport

Associated City: Karlstad, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings		✓	-	16,088	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	210,912	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon		✓	-	40,560	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 60,000**	**$ 267,560**	**$ -**

20 Year Total Estimated Cost: *$ 327,560*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Karlstad - 23D

Karlstad Municipal Airport

Associated City: Karlstad, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Le Sueur - 12Y

Le Sueur Municipal Airport

Associated City: Le Sueur, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	3,005
Width (Feet)	75
Average *PCI Value	88
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	90

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Le Sueur - 12Y

Le Sueur Municipal Airport

Associated City: Le Sueur, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***72***	***78***	***81***	***91***
Single Engine Piston	21	23	24	27
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	2	3	3	5
Military	0	0	0	0
Other	48	51	53	58

*Aircraft Operations:				
Total:	***14,401***	***16,409***	***18,000***	***21,180***
	5,880	6,256	6,607	8,515
Multi-Engine Piston	295	306	323	367
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	420	677	890	1,085
Military	60	57	54	48
Other	7,746	9,113	10,126	11,165

*Aircraft Operation Type:				
Local:	5,760	6,564	7,200	8,472
Itinerant:	8,641	9,845	10,800	12,708

*Aircraft Operation Purpose:				
Business:	2,880	3,282	3,600	4,236
Training:	8,640	9,845	10,799	12,708
Leisure:	2,881	3,282	3,601	4,236

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Le Sueur - 12Y

Le Sueur Municipal Airport

Associated City: Le Sueur, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,005	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Full	Construct
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	6,200	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	5	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	28		No Change

Landside Facilities:			
Automobile Parking (Spaces)	36	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Le Sueur - 12Y

Le Sueur Municipal Airport

Associated City: Le Sueur, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,005	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	-	Full
Runway Lighting	MIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	6,200	17,500	2,500	4,500
Based Apron (S.Y.)	-	2,000	-	-
Tie Downs (Each)	-	6	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	5	42	0	10
Conventional Hangar (Units)	28	0	2	0
Landside Facilities:				
Automobile Parking (Spaces)	36	60	-	20
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Le Sueur - 12Y

Le Sueur Municipal Airport

Associated City: Le Sueur, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	481,767	-
	Transient Aircraft Apron		✓	-	934,336	210,226
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓	✓	774,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	148,500	54,366	374,034
	Runway Maintenance	✓	✓	42,500	24,832	141,664
	Taxiway Maintenance	✓	✓	8,000	3,459	26,221
	Runway Extension/Expansion	✓		1,209,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	190,000	-	190,000
	Master Plan		✓	-	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars		✓	-	2,228,481	506,473
	Hangar Site Preparation		✓	-	732,286	166,429
	Miscellaneous Equipment	✓		35,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓	✓	200,000	-	-
PA	Parking		✓	-	302,199	402,932
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,607,000**	**$ 4,761,726**	**$ 2,117,979**

20 Year Total Estimated Cost: *$ 9,486,705*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Le Sueur - 12Y

Le Sueur Municipal Airport

Associated City: Le Sueur, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Litchfield - LJF

Litchfield Municipal Airport

Associated City: Litchfield, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	4,002
Width (Feet)	100
Average *PCI Value	69
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	74

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Litchfield - LJF

Litchfield Municipal Airport

Associated City: Litchfield, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***30***	***31***	***33***	***36***
Single Engine Piston	27	28	30	33
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	2	2	2	2

*Aircraft Operations:				
Total:	***9,000***	***9,224***	***9,673***	***12,152***
	8,321	8,500	8,893	11,281
Multi-Engine Piston	324	323	338	384
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	355	401	442	487

*Aircraft Operation Type:				
Local:	4,500	4,612	4,836	6,076
Itinerant:	4,500	4,612	4,837	6,076

*Aircraft Operation Purpose:				
Business:	900	923	967	1,215
Training:	6,300	6,457	6,771	8,506
Leisure:	1,800	1,844	1,935	2,431

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Litchfield - LJF

Litchfield Municipal Airport

Associated City: Litchfield, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,002	2,400 Feet	No Change
Runway Width (Feet)	100	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	7,700	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	5,460		
Based Tie Downs (Each)	14		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	33		No Change
Landside Facilities:			
Automobile Parking (Spaces)	78	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Litchfield - LJF

Litchfield Municipal Airport

Associated City: Litchfield, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,002	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Aircraft Apron (SY)	7,700	-	-	6,000
Based Aircraft Apron (SY)	5,460	-	-	-
Tie Downs (Each)	14	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	33	0	0	2
Landside Facilities:				
Automobile Parking (Spaces)	78	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Litchfield - LJF

Litchfield Municipal Airport

Associated City: Litchfield, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	-	251,347
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	852,960	71,753	276,218
	Runway Maintenance	✓	✓	904,680	222,165	1,468,957
	Taxiway Maintenance	✓	✓	369,960	100,889	569,533
	Runway Extension/Expansion	✓		-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		326,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars		✓	-	-	129,601
	T-Hangars			-	-	-
	Hangar Site Preparation	✓	✓	160,000	-	21,993
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		365,000	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI	✓		100,000	-	-
	REILS	✓		50,000	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,418,600**	**$ 394,807**	**$ 3,007,650**

20 Year Total Estimated Cost: $ 6,821,057

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Litchfield - LJF

Litchfield Municipal Airport

Associated City: Litchfield, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Little Falls - LXL

Little Falls/Morrison County Airport - Lindbergh Field

Associated City: Little Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	4,011
Width (Feet)	77
Average *PCI Value	72
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	79

Crosswind Runway:

Designation	18-36
Length (Feet)	2,890
Width (Feet)	170
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Little Falls - LXL

Little Falls/Morrison County Airport - Lindbergh Field

Associated City: Little Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***29***	***32***	***33***	***36***
Single Engine Piston	28	31	32	35
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***9,400***	***10,051***	***10,406***	***12,872***
	9,011	9,650	9,995	12,416
Multi-Engine Piston	339	354	366	416
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	50	47	45	40
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,709	1,828	1,892	2,340
Itinerant:	7,691	8,223	8,514	10,532

*Aircraft Operation Purpose:				
Business:	3,913	4,184	4,332	5,358
Training:	3,661	3,915	4,052	5,013
Leisure:	1,826	1,952	2,022	2,501

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Little Falls - LXL

Little Falls/Morrison County Airport - Lindbergh Field

Associated City: Little Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,011	2,400 Feet	No Change
Runway Width (Feet)	77	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	4,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	No		No Change
T-Hangar (Units)	24	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	9		Construct
Landside Facilities:			
Automobile Parking (Spaces)	12	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Little Falls - LXL

Little Falls/Morrison County Airport - Lindbergh Field

Associated City: Little Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,011	-	-	-
Runway Widening (Feet)	77	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	4,000	16,000	-	5,000
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	4	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical*	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	No	-	-	-
T-Hangar (Units)	24	0	0	0
Conventional Hangar (Units)	9	0	0	2
Landside Facilities:				
Automobile Parking (Spaces)	12	34	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided. *Requires obstruction mitigation.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Little Falls - LXL

Little Falls/Morrison County Airport - Lindbergh Field

Associated City: Little Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		345,000	-	-
	Based Aircraft Apron		✓	-	218,147	-
	Transient Aircraft Apron		✓	-	676,915	211,536
DV	Development Land	✓		150,000	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	104,434	467,989	409,139
	Runway Maintenance		✓	79,516	122,726	343,031
	Taxiway Maintenance	✓	✓	70,200	60,043	202,028
	Runway Extension/Expansion	✓		2,315,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		274,000	-	-
	Taxiway	✓		165,000	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	-	-	100,000
	Other	✓		84,419	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars		✓	-	-	130,888
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	-	22,212
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	132,210	-
PA	Parking		✓	-	155,082	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	218,698	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓	✓	30,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,617,570**	**$ 2,051,809**	**$ 1,608,833**

20 Year Total Estimated Cost: *$ 7,278,212*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Little Falls - LXL

Little Falls/Morrison County Airport - Lindbergh Field

Associated City: Little Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Littlefork - 13Y

Littlefork Municipal - Hanover Airport

Associated City: Littlefork, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	09-27
Length (Feet)	3,000
Width (Feet)	150
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Littlefork - 13Y

Littlefork Municipal - Hanover Airport

Associated City: Littlefork, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***3***	***3***	***4***	***4***
Single Engine Piston	2	2	2	2
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***2,400***	***2,821***	***3,120***	***3,763***
	1,745	1,799	1,827	2,187
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	655	1,022	1,293	1,576
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,200	1,410	1,560	1,881
Itinerant:	1,200	1,411	1,560	1,882

*Aircraft Operation Purpose:				
Business:	0	0	0	0
Training:	2,280	2,680	2,964	3,574
Leisure:	120	141	156	189

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Littlefork - 13Y

Littlefork Municipal - Hanover Airport

Associated City: Littlefork, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,000	2,000 Feet	No Change
Runway Width (Feet)	150	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	None	LIRLs if Open 24/7	Install
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Apron (S.Y.)	620	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	No	Wind Cone, Rotating Beacon if Open 24/7	Install
Rotating Beacon	None		No Change
PAPIs / VASIs	No		No Change
REILs	None		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	2	95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change
Landside Facilities:			
Automobile Parking (Spaces)	-	1 Stall per B.A.	Construct
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Littlefork - 13Y

Littlefork Municipal - Hanover Airport

Associated City: Littlefork, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,000	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	None	LIRLs	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	620	3,500	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	No	Yes	-	-
Rotating Beacon	None	-	-	-
PAPIs / VASIs	No	-	-	-
REILs	None	-	-	-
Approach Lighting	None			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	2	0	0	0
Conventional Hangar (Units)	2	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	-	4	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Littlefork - 13Y

Littlefork Municipal - Hanover Airport

Associated City: Littlefork, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	145,600	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway		✓	-	39,000	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	17,940	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	216,320	-
SG	Signs	✓		3,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	3,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon		✓	-	41,600	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 66,000**	**$ 460,460**	**$ -**

20 Year Total Estimated Cost: $ *526,460*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Littlefork - 13Y

Littlefork Municipal - Hanover Airport

Associated City: Littlefork, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	YES	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Long Prairie - 14Y

Long Prairie Municipal Airport - Todd Field

Associated City: Long Prairie, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	3,000
Width (Feet)	75
Average *PCI Value	62
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Long Prairie - 14Y

Long Prairie Municipal Airport - Todd Field

Associated City: Long Prairie, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***17***	***18***	***19***	***20***
Single Engine Piston	15	16	16	17
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***7,000***	***7,432***	***7,713***	***9,277***
	6,240	6,488	6,626	7,992
Multi-Engine Piston	438	444	453	515
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	312	491	625	762
Military	10	9	9	8
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,860	1,975	2,049	2,465
Itinerant:	5,140	5,457	5,664	6,812

*Aircraft Operation Purpose:				
Business:	1,400	1,487	1,542	1,855
Training:	4,900	5,203	5,399	6,494
Leisure:	700	742	772	928

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Long Prairie - 14Y

Long Prairie Municipal Airport - Todd Field

Associated City: Long Prairie, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,000	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	6,320	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	3,900		
Based Tie Downs (Each)	10		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	8	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	11		No Change
Landside Facilities:			
Automobile Parking (Spaces)	12	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Long Prairie - 14Y

Long Prairie Municipal Airport - Todd Field

Associated City: Long Prairie, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,000	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	6,320	4,000	-	3,000
Based Apron (S.Y.)	3,900	-	-	-
Tie Downs (Each)	10	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	8	0	0	0
Conventional Hangar (Units)	11	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	12	12	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Long Prairie - 14Y

Long Prairie Municipal Airport - Todd Field

Associated City: Long Prairie, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	169,229	126,922
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	888,471	82,800	165,000
	Runway Maintenance	✓	✓	1,860,235	24,000	174,600
	Taxiway Maintenance	✓	✓	83,294	-	10,800
	Runway Extension/Expansion	✓		150,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	70,000	-	190,000
	Master Plan		✓	-	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓		50,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	132,210	-
PA	Parking		✓	-	54,734	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓	✓	48,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,150,000**	**$ 462,973**	**$ 767,322**

20 Year Total Estimated Cost: *$ 4,380,294*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Long Prairie - 14Y

Long Prairie Municipal Airport - Todd Field

Associated City: Long Prairie, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Longville - XVG

Longville Municipal Airport

Associated City: Longville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	3,560
Width (Feet)	75
Average *PCI Value	96
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Longville - XVG

Longville Municipal Airport

Associated City: Longville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***16***	***19***	***20***	***25***
Single Engine Piston	15	18	19	23
Multi-Engine Piston	1	1	1	2
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***6,725***	***7,643***	***8,397***	***11,492***
	6,284	7,153	7,860	10,881
Multi-Engine Piston	441	490	537	611
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	2,354	2,675	2,939	4,022
Itinerant:	4,371	4,968	5,458	7,470

*Aircraft Operation Purpose:				
Business:	336	382	420	575
Training:	6,389	7,260	7,977	10,917
Leisure:	0	1	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Longville - XVG

Longville Municipal Airport

Associated City: Longville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,560	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	1,350	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	4,680		
Tie Downs (Each)	12		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	32		No Change
Landside Facilities:			
Automobile Parking (Spaces)	25	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Longville - XVG

Longville Municipal Airport

Associated City: Longville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,560	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	1,350	11,000	1,000	5,000
Based Aircraft Apron (SY)	4,680	1,000	-	-
Tie Downs (Each)	12	2	-	2
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	32	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	25	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Longville - XVG

Longville Municipal Airport

Associated City: Longville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	218,147	-
	Transient Aircraft Apron		✓	-	507,686	211,536
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		500,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	356,874	96,020	92,722
	Runway Maintenance		✓	4,021	58,460	251,633
	Taxiway Maintenance	✓	✓	38,909	7,765	47,080
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		360,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓		705,000	-	-
	Miscellaneous Equipment	✓		9,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	132,210	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS		✓	-	31,730	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,073,804**	**$ 1,052,019**	**$ 892,971**

20 Year Total Estimated Cost: *$ 4,018,793*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Longville - XVG

Longville Municipal Airport

Associated City: Longville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Luverne - LYV

Luverne Municipal Airport - Quentin Aanenson Field

Associated City: Luverne, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	18-36
Length (Feet)	4,200
Width (Feet)	75
Average *PCI Value	92
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	94

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Luverne - LYV

Luverne Municipal Airport - Quentin Aanenson Field

Associated City: Luverne, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***19***	***20***	***20***	***21***
Single Engine Piston	18	19	19	20
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***10,900***	***11,321***	***11,526***	***13,744***
	10,562	10,934	11,112	13,288
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	338	387	414	456

*Aircraft Operation Type:				
Local:	4,360	4,529	4,610	5,498
Itinerant:	6,540	6,792	6,916	8,246

*Aircraft Operation Purpose:				
Business:	3,270	3,397	3,458	4,124
Training:	3,270	3,396	3,458	4,123
Leisure:	4,360	4,528	4,610	5,497

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Luverne - LYV

Luverne Municipal Airport - Quentin Aanenson Field

Associated City: Luverne, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,200	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	3,100	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	20	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	1		No Change
Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Luverne - LYV

Luverne Municipal Airport - Quentin Aanenson Field

Associated City: Luverne, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,200	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	3,100	13,500	-	3,500
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	2	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	20	0	0	0
Conventional Hangar (Units)	1	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	20	10	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Luverne - LYV

Luverne Municipal Airport - Quentin Aanenson Field

Associated City: Luverne, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	205,062	-
	Transient Aircraft Apron		✓	-	536,890	139,194
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		160,000	-	-
FF	Fuel Farm Development	✓		150,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	730,000	27,401	123,591
	Runway Maintenance		✓	131,280	78,368	317,408
	Taxiway Maintenance		✓	13,080	19,575	356,505
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		220,000	-	-
	Conventional Hangars	✓		170,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓		170,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking	✓	✓	150,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	206,801	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			$ 1,994,360	$ 1,264,097	$ 1,036,697

20 Year Total Estimated Cost: $ 4,295,154

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Luverne - LYV

Luverne Municipal Airport - Quentin Aanenson Field

Associated City: Luverne, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Lac Qui Parle - DXX

Lac Qui Parle County Airport

Associated City: Madison, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	13-31
Length (Feet)	3,301
Width (Feet)	75
Average *PCI Value	64
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	8-26
Length (Feet)	3,033
Width (Feet)	135
Average *PCI Value	-
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Lac Qui Parle - DXX

Lac Qui Parle County Airport

Associated City: Madison, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***9***	***10***	***10***	***10***
Single Engine Piston	7	8	8	8
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	2	2	2	2
Total:	***2,000***	***2,152***	***2,194***	***2,568***
	1,717	1,821	1,841	2,179
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	283	331	353	389

***Aircraft Operations:**

***Aircraft Operation Type:**

Local:	1,400	1,507	1,536	1,797
Itinerant:	600	645	658	771

***Aircraft Operation Purpose:**

Business:	800	861	878	1,027
Training:	1,000	1,076	1,097	1,284
Leisure:	200	215	219	257

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Lac Qui Parle - DXX

Lac Qui Parle County Airport

Associated City: Madison, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,301	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	10,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	1,950		
Based Tie Downs (Each)	5		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	8	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change
Landside Facilities:			
Automobile Parking (Spaces)	15	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Lac Qui Parle - DXX

Lac Qui Parle County Airport

Associated City: Madison, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,301	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	10,000	-	-	-
Based Aircraft Apron (SY)	1,950	-	-	-
Tie Downs (Each)	5	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	8	0	0	0
Conventional Hangar (Units)	2	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	15	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Lac Qui Parle - DXX

Lac Qui Parle County Airport

Associated City: Madison, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		1,300,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	115,265	6,767	71,665
	Runway Maintenance		✓	145,648	780,404	127,307
	Taxiway Maintenance		✓	65,320	104,761	21,022
	Runway Extension/Expansion	✓		80,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		23,250	-	-
OB	Obstruction Removal		✓	-	130,910	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	217,835	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓		15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS		✓	-	31,418	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,034,482**	**$ 1,272,094**	**$ 509,994**

20 Year Total Estimated Cost: $ 3,816,570

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Lac Qui Parle - DXX

Lac Qui Parle County Airport

Associated City: Madison, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mahnomen - 3N8

Mahnomen County Airport

Associated City: Mahnomen, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	17-35
Length (Feet)	3,400
Width (Feet)	75
Average *PCI Value	No PCI exists
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	-

Crosswind Runway:

Designation	9-27
Length (Feet)	2,720
Width (Feet)	120
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mahnomen - 3N8

Mahnomen County Airport

Associated City: Mahnomen, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***19***	***21***	***22***	***23***
Single Engine Piston	19	21	22	23
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operations:**

Total:	***4,800***	***5,126***	***5,315***	***6,614***
	4,800	5,126	5,315	6,614
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operation Type:**

Local:	4,560	4,869	5,049	6,283
Itinerant:	240	257	266	331

***Aircraft Operation Purpose:**

Business:	4,080	4,357	4,518	5,622
Training:	672	718	744	926
Leisure:	48	52	53	66

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mahnomen - 3N8

Mahnomen County Airport

Associated City: Mahnomen, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,400	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	900	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	3,500		
Based Tie Downs (Each)	7		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	10	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	4		Construct

Landside Facilities:			
Automobile Parking (Spaces)	17	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mahnomen - 3N8

Mahnomen County Airport

Associated City: Mahnomen, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,400	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	900	-	-	-
Based Apron (S.Y.)	3,500	-	-	-
Tie Downs (Each)	7	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	PAPIs	-	-	-
PAPIs / VASIs	Yes	-	-	-
REILs	None	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	10	6	0	0
Conventional Hangar (Units)	4	0	1	1
Landside Facilities:				
Automobile Parking (Spaces)	17	14	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mahnomen - 3N8

Mahnomen County Airport

Associated City: Mahnomen, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		325,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	-	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		150,000	-	-
	Conventional Hangars		✓	-	64,350	64,350
	T-Hangars	✓	✓	300,000	-	-
	Hangar Site Preparation	✓	✓	400,000	10,920	10,920
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		30,000	-	-
OB	Obstruction Removal		✓	-	130,000	-
PA	Parking		✓	-	62,790	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	50,000	216,320	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,255,000**	**$ 674,380**	**$ 175,270**

20 Year Total Estimated Cost: *$ 2,104,650*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mahnomen - 3N8

Mahnomen County Airport

Associated City: Mahnomen, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mankato - MKT

Mankato Regional Airport - Sohler Field

Associated City: Mankato, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	15-33
Length (Feet)	6,600
Width (Feet)	100
Average *PCI Value	92
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	83

Crosswind Runway:

Designation	4-22
Length (Feet)	3,999
Width (Feet)	75
Average *PCI Value	45
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	76

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mankato - MKT

Mankato Regional Airport - Sohler Field

Associated City: Mankato, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***75***	***82***	***87***	***99***
Single Engine Piston	54	59	62	69
Multi-Engine Piston	8	9	9	11
Turboprop	3	3	4	4
Jet	3	3	3	4
Light Sport	2	3	3	5
Military	0	0	0	0
Other	5	5	6	6

*Aircraft Operations:				
Total:	***102,500***	***112,665***	***119,240***	***143,762***
	70,093	74,871	78,666	100,330
Multi-Engine Piston	10,924	11,395	11,947	13,588
Turboprop	9,203	10,206	10,724	10,636
Jet	6,092	8,150	8,451	8,398
Light Sport	1,947	3,151	4,122	5,025
Military	500	474	446	400
Other	3,741	4,418	4,884	5,385

*Aircraft Operation Type:				
Local:	69,700	76,612	81,084	97,759
Itinerant:	32,800	36,053	38,156	46,003

*Aircraft Operation Purpose:				
Business:	20,500	22,533	23,848	28,753
Training:	30,750	33,800	35,773	43,129
Leisure:	51,250	56,332	59,619	71,880

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mankato - MKT

Mankato Regional Airport - Sohler Field

Associated City: Mankato, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	6,600	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	100,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	7,800		
Based Tie Downs (Each)	20		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	Yes	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	70	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	13		No Change
Landside Facilities:			
Automobile Parking (Spaces)	300	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mankato - MKT

Mankato Regional Airport - Sohler Field

Associated City: Mankato, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	6,600	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Aircraft Apron (SY)	100,000	-	-	14,000
Based Aircraft Apron (SY)	7,800	-	-	-
Tie Downs (Each)	20	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	Yes	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	70	11	0	0
Conventional Hangar (Units)	13	0	0	1
Landside Facilities:				
Automobile Parking (Spaces)	300	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mankato - MKT

Mankato Regional Airport - Sohler Field

Associated City: Mankato, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	-	654,035
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	611,400	496,516	689,634
	Runway Maintenance	✓	✓	1,090,000	85,751	841,559
	Taxiway Maintenance	✓	✓	1,016,160	372,684	1,485,394
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring		✓	-	7,800	-
LI	Lighting					
	Runway			-	-	-
	Taxiway	✓		350,000	-	-
MA	Master Plan					
	ALP	✓	✓	250,000	320,000	320,000
	Master Plan	✓	✓	150,000	150,000	150,000
	Other	✓		100,000	-	-
MS	Miscellaneous					
	Buildings	✓		2,140,000	-	-
	Conventional Hangars	✓		1,900,000	-	-
	T-Hangars	✓	✓	870,000	-	-
	Hangar Site Preparation	✓	✓	750,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		133,000	-	-
OB	Obstruction Removal			-	-	-
PA	Parking	✓		682,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		250,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 10,292,560**	**$ 1,432,751**	**$ 4,140,621**

20 Year Total Estimated Cost: $ 15,865,932

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mankato - MKT

Mankato Regional Airport - Sohler Field

Associated City: Mankato, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Maple Lake - MGG

Maple Lake Municipal Airport

Associated City: Maple Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	10-28
Length (Feet)	2,796
Width (Feet)	60
Average *PCI Value	14
Runway Lighting	LIRLs
Taxiway Type:	Full
Average *PCI Value:	72

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Maple Lake - MGG

Maple Lake Municipal Airport

Associated City: Maple Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***47***	***54***	***59***	***70***
Single Engine Piston	43	49	54	64
Multi-Engine Piston	4	5	5	6
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***9,400***	***10,358***	***11,356***	***15,427***
	8,562	9,454	10,367	14,303
Multi-Engine Piston	838	904	989	1,124
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	8,742	9,633	10,560	14,347
Itinerant:	658	725	796	1,080

*Aircraft Operation Purpose:				
Business:	1,880	2,072	2,271	3,085
Training:	2,350	2,589	2,839	3,857
Leisure:	5,170	5,697	6,246	8,485

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Maple Lake - MGG

Maple Lake Municipal Airport

Associated City: Maple Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,796	3,200 Feet	Extend
Runway Width (Feet)	60	75 Feet	Widen
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	2,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	6		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	22	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	24		No Change
Landside Facilities:			
Automobile Parking (Spaces)	28	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Maple Lake - MGG

Maple Lake Municipal Airport

Associated City: Maple Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,796	404	-	-
Runway Widening (Feet)	60	15	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	2,500	-	-	1,000
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	6	-	4	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	22	6	5	10
Conventional Hangar (Units)	24	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	28	45	-	15
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Maple Lake - MGG

Maple Lake Municipal Airport

Associated City: Maple Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	240,884	-
	Transient Aircraft Apron		✓	-	-	46,717
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		262,800	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	314,212	79,418	79,259
	Runway Maintenance		✓	1,021,659	4,902	106,971
	Taxiway Maintenance	✓	✓	276,120	8,487	74,516
	Runway Extension/Expansion	✓	✓	523,500	381,783	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓	✓	104,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	20,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars		✓	-	557,120	506,473
	Hangar Site Preparation		✓	-	183,071	166,429
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓	✓	10,000	-	-
PA	Parking		✓	-	226,910	75,550
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	242,927	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	127,011	-
	REILS		✓	-	35,038	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,632,291**	**$ 2,087,552**	**$ 1,345,914**

20 Year Total Estimated Cost: $ 6,065,756

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Maple Lake - MGG

Maple Lake Municipal Airport

Associated City: Maple Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	NO	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Marshall - MML

Marshall - Southwest Minnesota Regional Airport - Ryan I

Associated City: Marshall, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	12-30
Length (Feet)	7,220
Width (Feet)	100
Average *PCI Value	93
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	93

Crosswind Runway:

Designation	2-20
Length (Feet)	4,000
Width (Feet)	75
Average *PCI Value	76
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	89

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Marshall - MML

Marshall - Southwest Minnesota Regional Airport - Ryan Field

Associated City: Marshall, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***33***	***34***	***36***	***40***
Single Engine Piston	19	20	21	23
Multi-Engine Piston	3	3	3	4
Turboprop	5	5	6	6
Jet	5	5	5	6
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***22,847***	***25,024***	***25,918***	***28,824***
	10,201	10,576	10,982	13,708
Multi-Engine Piston	1,694	1,716	1,778	2,022
Turboprop	6,344	6,829	7,092	7,034
Jet	4,199	5,453	5,589	5,553
Light Sport	0	0	0	0
Military	100	95	89	80
Other	309	355	388	427

*Aircraft Operation Type:				
Local:	8,682	9,509	9,848	10,953
Itinerant:	14,165	15,515	16,070	17,871

*Aircraft Operation Purpose:				
Business:	17,136	18,768	19,438	21,618
Training:	3,427	3,754	3,888	4,324
Leisure:	2,284	2,502	2,592	2,882

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Marshall - MML

Marshall - Southwest Minnesota Regional Airport - Ryan Field

Associated City: Marshall, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	7,220	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	43,680	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	5,460		
Based Tie Downs (Each)	14		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	22	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	14		No Change
Landside Facilities:			
Automobile Parking (Spaces)	148	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Partial	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Marshall - MML

Marshall - Southwest Minnesota Regional Airport - Ryan Field

Associated City: Marshall, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	7,220	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	12,500	-	-	-
Transient Aircraft Apron (SY)	43,680	4,500	2,000	4,500
Based Aircraft Apron (SY)	5,460	-	-	-
Tie Downs (Each)	14	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	22	4	0	0
Conventional Hangar (Units)	14	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	148	-	-	-
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Marshall - MML

Southwest Minnesota Regional Airport - Marshall/Ryan Field

Associated City: Marshall, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		1,500,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	258,502	178,963
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	76,680	97,446	569,121
	Runway Maintenance	✓	✓	185,000	211,906	1,168,393
	Taxiway Maintenance		✓	34,200	66,724	372,556
	Runway Extension/Expansion	✓		958,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring		✓	-	7,800	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		750,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓	✓	250,000	-	-
	Hangar Site Preparation	✓	✓	1,500,000	-	-
	Miscellaneous Equipment	✓		116,850	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	393,872	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS	✓		75,000	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 6,324,602**	**$ 1,112,378**	**$ 2,759,034**

20 Year Total Estimated Cost: *$ 10,196,013*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Marshall - MML

Marshall - Southwest Minnesota Regional Airport - Ryan Field

Associated City: Marshall, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

McGregor - HZX

McGregor Isedor Iverson Airport

Associated City: McGregor, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	3,400
Width (Feet)	75
Average *PCI Value	8
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

McGregor - HZX

McGregor Isedor Iverson Airport

Associated City: McGregor, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***14***	***15***	***16***	***18***
Single Engine Piston	13	14	15	17
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

***Aircraft Operations:**

Total:	***4,000***	***4,316***	***4,524***	***5,684***
	3,830	4,114	4,302	5,439
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	170	202	222	245

***Aircraft Operation Type:**

Local:	2,360	2,547	2,670	3,354
Itinerant:	1,640	1,769	1,854	2,330

***Aircraft Operation Purpose:**

Business:	1,665	1,797	1,883	2,366
Training:	1,558	1,681	1,762	2,213
Leisure:	777	838	879	1,105

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

McGregor - HZX

McGregor Isedor Iverson Airport

Associated City: McGregor, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,400	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	4,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Primary R/W Approach Type			
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	No		Install
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	16		Construct

Landside Facilities:			
Automobile Parking (Spaces)	-	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

McGregor - HZX

McGregor Isedor Iverson Airport

Associated City: McGregor, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,400	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	4,500	-	-	1,000
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	16	0	0	2
Landside Facilities:				
Automobile Parking (Spaces)	-	24	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

McGregor - HZX

McGregor Isedor Iverson Airport

Associated City: McGregor, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	-	42,307
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		200,000	-	-
FF	Fuel Farm Development	✓		2,000	-	-
IM	Improvements					
	Apron Maintenance		✓	51,857	335,012	81,889
	Runway Maintenance	✓	✓	1,552,951	13,449	175,117
	Taxiway Maintenance		✓	62,849	95	6,565
	Runway Extension/Expansion	✓		830,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other	✓		5,000	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars		✓	-	-	130,888
	T-Hangars			-	-	-
	Hangar Site Preparation	✓	✓	70,000	-	22,211
	Miscellaneous Equipment	✓		75,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	132,210	-
PA	Parking		✓	-	109,470	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	219,998	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	81,753	-
	REILS		✓	-	65,000	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,949,657**	**$ 956,986**	**$ 748,978**

20 Year Total Estimated Cost: $ 4,655,621

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

McGregor - HZX

McGregor Isedor Iverson Airport

Associated City: McGregor, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	NO	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Milaca - 18Y

Milaca Municipal Airport

Associated City: Milaca, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	2,900
Width (Feet)	150
Average *PCI Value	No PCI exisits
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Milaca - 18Y

Milaca Municipal Airport

Associated City: Milaca, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***28***	***31***	***32***	***36***
Single Engine Piston	28	31	32	36
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operations:**

Total:	***11,000***	***11,774***	***12,388***	***15,879***
	11,000	11,774	12,388	15,879
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operation Type:**

Local:	6,491	6,948	7,310	9,370
Itinerant:	4,509	4,826	5,078	6,509

***Aircraft Operation Purpose:**

Business:	4,579	4,901	5,156	6,609
Training:	4,284	4,585	4,825	6,184
Leisure:	2,138	2,288	2,407	3,086

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Milaca - 18Y

Milaca Municipal Airport

Associated City: Milaca, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,900	2,000 Feet	No Change
Runway Width (Feet)	150	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	LIRLs	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	100LL	No Requirement	No Change
Transient Apron (S.Y.)	3,100	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	None		No Change
PAPIs / VASIs	No		No Change
REILs	None		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	95% of Single & Multi	Construct
Conventional Hangar (Units)	27		No Change
Landside Facilities:			
Automobile Parking (Spaces)	-	1 Stall per B.A.	Construct
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Milaca - 18Y

Milaca Municipal Airport

Associated City: Milaca, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,900	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	4,000	-	-
Transient Apron (S.Y.)	3,100	9,000	-	4,000
Based Apron (S.Y.)	-	1,000	-	-
Tie Downs (Each)	-	2	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	None	-	-	-
PAPIs / VASIs	No	-	-	-
REILs	None	-	-	-
Approach Lighting	None			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	4
Conventional Hangar (Units)	27	3	1	0
Landside Facilities:				
Automobile Parking (Spaces)	-	40	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Milaca - 18Y

Milaca Municipal Airport

Associated City: Milaca, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	240,884	-
	Transient Aircraft Apron		✓	-	420,451	186,867
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓	✓	50,000	88,586	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion	✓		175,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓		10,000	-	-
	Master Plan	✓		5,000	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		20,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars		✓	-	202,589	202,589
	Hangar Site Preparation		✓	-	66,572	66,572
	Miscellaneous Equipment	✓		50,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓		100,000	-	-
PA	Parking	✓	✓	60,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	25,000	242,927	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS	✓		50,000	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 545,000**	**$ 1,262,009**	**$ 456,028**

20 Year Total Estimated Cost: $ 2,263,037

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Milaca - 18Y

Milaca Municipal Airport

Associated City: Milaca, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - LVN (Airlake)

Minneapolis - Airlake Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	12-30
Length (Feet)	4,098
Width (Feet)	75
Average *PCI Value	80
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	75

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - LVN (Airlake)

Minneapolis - Airlake Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***147***	***155***	***157***	***160***
Single Engine Piston	133	139	141	142
Multi-Engine Piston	10	10	10	10
Turboprop	1	1	1	1
Jet	0	0	0	1
Light Sport	2	2	2	3
Military	0	0	0	0
Other	1	3	3	3

***Aircraft Operations:**

Total:	***35,662***	***39,590***	***42,070***	***48,006***
	32,266	34,813	37,013	40,815
Multi-Engine Piston	1,746	1,835	1,927	2,115
Turboprop	987	1,878	1,789	1,642
Jet	490	790	1,058	3,130
Light Sport	78	86	95	116
Military	0	0	0	0
Other	95	188	188	188

***Aircraft Operation Type:**

Local:	7,133	7,918	8,414	9,601
Itinerant:	28,529	31,672	33,656	38,405

***Aircraft Operation Purpose:**

Business:	14,844	16,479	17,512	19,982
Training:	13,888	15,418	16,384	18,696
Leisure:	6,930	7,693	8,174	9,328

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - LVN (Airlake)

Minneapolis - Airlake Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,098	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	NP	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	NP		
Based Tie Downs (Each)	32		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	16	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	144		No Change
Landside Facilities:			
Automobile Parking (Spaces)	22	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - LVN (Airlake)

Minneapolis - Airlake Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,098	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	NP	-	-	-
Based Aircraft Apron (SY)	NP	-	-	-
Tie Downs (Each)	32	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	16	0	0	0
Conventional Hangar (Units)	144	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	22	-	-	-
Perimeter Fencing	None	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Airlake - LVN

Airlake Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		1,000,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓		200,000	-	-
	Runway Maintenance	✓		200,000	-	-
	Taxiway Maintenance	✓		200,000	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		2,700,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		50,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 4,640,000**	**$ -**	**$ 290,000**

20 Year Total Estimated Cost: *$ 4,930,000*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - LVN (Airlake)

Minneapolis - Airlake Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NA	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NA	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NA	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	NA	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

NA = Not Applicable

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - ANE (Anoka)

Minneapolis - Anoka County/Blaine Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	9-27
Length (Feet)	5,000
Width (Feet)	100
Average *PCI Value	90
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	90

Crosswind Runway:

Designation	18-36
Length (Feet)	4,855
Width (Feet)	100
Average *PCI Value	80
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	80

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - ANE (Anoka)

Minneapolis - Anoka County/Blaine Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***433***	***439***	***422***	***390***
Single Engine Piston	346	342	323	291
Multi-Engine Piston	48	47	42	30
Turboprop	7	7	7	7
Jet	15	24	29	39
Light Sport	6	8	9	11
Military	0	0	0	0
Other	11	11	12	12

*Aircraft Operations:				
Total:	***79,589***	***80,583***	***83,489***	***92,601***
	52,719	49,737	50,472	53,312
Multi-Engine Piston	15,035	12,820	11,742	9,447
Turboprop	2,788	2,739	2,692	2,675
Jet	4,552	10,739	13,603	21,923
Light Sport	590	651	719	876
Military	0	0	0	0
Other	3,905	3,897	4,261	4,368

*Aircraft Operation Type:				
Local:	43,828	44,375	45,975	50,993
Itinerant:	35,761	36,208	37,514	41,608

*Aircraft Operation Purpose:				
Business:	33,128	33,541	34,751	38,544
Training:	30,995	31,382	32,514	36,063
Leisure:	15,466	15,660	16,224	17,994

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - ANE (Anoka)

Minneapolis - Anoka County/Blaine Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,000	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Apron (S.Y.)	NP	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	NP		
Based Tie Downs (Each)	NP		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	93	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	417		No Change
Landside Facilities:			
Automobile Parking (Spaces)	NP	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - ANE (Anoka)

Minneapolis - Anoka County/Blaine Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,000	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	NP	-	-	-
Based Apron (S.Y.)	NP	-	-	-
Tie Downs (Each)	NP	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	93	0	0	0
Conventional Hangar (Units)	417	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	NP	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Anoka - ANE

Anoka County - Blaine Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		900,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓		200,000	-	-
	Runway Maintenance	✓		200,000	-	-
	Taxiway Maintenance	✓		800,000	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		1,850,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		600,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs	✓		500,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 5,520,000**	**$ 470,000**	**$ 470,000**

20 Year Total Estimated Cost: *$ 6,460,000*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - ANE (Anoka)

Minneapolis - Anoka County/Blaine Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NA	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NA	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NA	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	NA	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

NA = Not Applicable

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - MIC (Crystal)

Minneapolis - Crystal Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	14L-32R	
Length (Feet)	3,263	
Width (Feet)	75	
Average *PCI Value	20	
Runway Lighting	MIRLs	
Taxiway Type:	Full	
Average *PCI Value:	80 A east	50 A west

Crosswind Runway:

Designation	6L-24R	
Length (Feet)	2,499	
Width (Feet)	75	
Average *PCI Value	80	
Runway Lighting	MIRLs	
Taxiway Type:	Full	
Average *PCI Value:	90 E north	60 E south

Other Runways:

Alternate Runway #1	14R-32L
Alternate Runway #2	6R-24L

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - MIC (Crystal)

Minneapolis - Crystal Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***218***	***243***	***245***	***250***
Single Engine Piston	195	214	212	209
Multi-Engine Piston	13	14	15	16
Turboprop	1	1	1	1
Jet	1	4	6	11
Light Sport	1	1	1	1
Military	0	0	0	0
Other	7	9	10	12

*Aircraft Operations:				
Total:	***44,230***	***51,751***	***55,752***	***64,074***
	36,510	41,793	43,513	46,879
Multi-Engine Piston	3,528	3,913	4,327	5,237
Turboprop	1,376	1,309	1,246	1,144
Jet	1,139	2,750	4,353	8,158
Light Sport	36	40	44	54
Military	0	0	0	0
Other	1,641	1,946	2,269	2,602

*Aircraft Operation Type:				
Local:	23,675	27,701	29,843	34,298
Itinerant:	20,555	24,050	25,909	29,776

*Aircraft Operation Purpose:				
Business:	18,410	21,541	23,206	26,670
Training:	17,225	20,154	21,713	24,953
Leisure:	8,595	10,056	10,833	12,451

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - MIC (Crystal)

Minneapolis - Crystal Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,263	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	NP	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	NP		
Based Tie Downs (Each)	58		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	Yes		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	182	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	200		No Change
Landside Facilities:			
Automobile Parking (Spaces)	NP	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Full	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - MIC (Crystal)

Minneapolis - Crystal Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,263	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	20,000	-	-	-
Transient Aircraft Apron (SY)	NP	-	-	-
Based Aircraft Apron (SY)	NP	-	-	-
Tie Downs (Each)	58	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	Yes	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	182	0	0	0
Conventional Hangar (Units)	200	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	NP	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Crystal - MIC

Crystal Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓		630,000	-	-
	Runway Maintenance	✓		630,000	-	-
	Taxiway Maintenance	✓		630,000	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		600,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓		300,000	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs	✓		300,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,380,000**	**$ -**	**$ 290,000**

20 Year Total Estimated Cost: *$ 3,670,000*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - MIC (Crystal)

Minneapolis - Crystal Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NA	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	YES	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NA	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NA	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	NA	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

NA = Not Applicable

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - FCM (Flying Cloud)

Minneapolis - Flying Cloud Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	10R-28L
Length (Feet)	5,000
Width (Feet)	100
Average *PCI Value	100
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	100

Crosswind Runway:

Designation	18-36	
Length (Feet)	2,691	
Width (Feet)	75	
Average *PCI Value	80 Seg. 1	80 Seg. 2
Runway Lighting	MIRLs	
Taxiway Type:	Full	
Average *PCI Value:	80 Seg. 1	80 Seg. 2

Other Runways:

Alternate Runway #1	10L-28R
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - FCM (Flying Cloud)

Minneapolis - Flying Cloud Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***404***	***398***	***394***	***388***
Single Engine Piston	310	297	284	265
Multi-Engine Piston	35	31	28	24
Turboprop	20	19	19	19
Jet	29	40	51	66
Light Sport	3	4	4	6
Military	0	0	0	0
Other	7	7	8	8

***Aircraft Operations:**

Total:	***94,244***	***91,985***	***100,390***	***116,690***
	66,720	61,762	63,425	69,433
Multi-Engine Piston	10,214	7,901	7,304	7,194
Turboprop	5,002	4,678	4,600	4,569
Jet	5,868	11,192	17,638	27,807
Light Sport	256	283	312	381
Military	0	0	0	0
Other	6,184	6,169	7,111	7,306

***Aircraft Operation Type:**

Local:	55,126	53,804	58,720	68,255
Itinerant:	39,118	38,181	41,670	48,435

***Aircraft Operation Purpose:**

Business:	39,228	38,288	41,785	48,571
Training:	36,702	35,823	39,096	45,444
Leisure:	18,314	17,874	19,509	22,675

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - FCM (Flying Cloud)

Minneapolis - Flying Cloud Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,000	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	-	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	5,850		
Based Tie Downs (Each)	123		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	193	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	310		No Change
Landside Facilities:			
Automobile Parking (Spaces)	NP	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - FCM (Flying Cloud)

Minneapolis - Flying Cloud Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,000	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	50,000	-	-	-
Transient Aircraft Apron (SY)	-	-	-	-
Based Aircraft Apron (SY)	5,850	-	-	-
Tie Downs (Each)	123	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	193	0	0	0
Conventional Hangar (Units)	310	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	NP	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Flying Cloud - FCM

Flying Cloud Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓		200,000	-	-
	Runway Maintenance	✓		300,000	-	-
	Taxiway Maintenance	✓		2,000,000	-	-
	Runway Extension/Expansion	✓		1,700,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		2,200,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		2,500,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking	✓		300,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 9,350,000**	**$ 470,000**	**$ 470,000**

20 Year Total Estimated Cost: *$ 10,290,000*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis - FCM (Flying Cloud)

Minneapolis - Flying Cloud Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NA	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	YES	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NA	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NA	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	NA	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

NA = Not Applicable

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis-St. Paul - MSP

Minneapolis-Saint Paul International Airport

Associated City: Saint Paul, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	Yes
Cargo Service:	Yes
Flight Training:	No
On-Demand Charter:	Yes

Primary Runway:

Designation	12R-30L
Length (Feet)	10,000
Width (Feet)	200
Average *PCI Value	85
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	85

Crosswind Runway:

Designation	4-22
Length (Feet)	11,006
Width (Feet)	150
Average *PCI Value	78
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	100

Other Runways:

Alternate Runway #1	12L-30R
Alternate Runway #2	17-35

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis-St. Paul - MSP

Minneapolis-Saint Paul International Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***27***	***30***	***30***	***30***
Single Engine Piston	0	0	0	0
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	27	30	30	30
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operations:**

Total:	***30,066***	***31,896***	***32,079***	***32,156***
	0	0	0	0
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	27,921	29,751	29,934	30,011
Light Sport	0	0	0	0
Military	2,145	2,145	2,145	2,145
Other	0	0	0	0

***Aircraft Operation Type:**

Local:	30,066	31,896	32,079	32,156
Itinerant:	0	0	0	0

***Aircraft Operation Purpose:**

Business:	29,765	31,577	31,759	31,834
Training:	301	319	320	322
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis-St. Paul - MSP

Minneapolis-Saint Paul International Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	10,000	5,000 Feet	No Change
Runway Width (Feet)	200	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	HIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	745,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	Yes	Commercial Terminal	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	30		No Change
Landside Facilities:			
Automobile Parking (Spaces)	23,600	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis-St. Paul - MSP

Minneapolis-Saint Paul International Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	10,000	-	-	-
Runway Widening (Feet)	200	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	745,000	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	Yes	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	30	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	23,600	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis-St. Paul - MSP

Minneapolis-Saint Paul International Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓		3,500,000	-	-
IM	Improvements					
	Apron Maintenance	✓		15,400,000	-	-
	Runway Maintenance	✓		1,425,000	-	-
	Pavement Maintenance	✓		8,775,000	-	-
	Runway/Apron Extension/Expansi	✓		8,600,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓		1,000,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		2,525,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓		5,000,000	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		575,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Noise Mitigation	✓		8,320,000	-	-
VI	Visual Approach Aids					
	MALSR	✓		1,900,000	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other	✓		10,300,000	-	-
	TOTALS			**$ 67,320,000**	**$ -**	**$ -**

20 Year Total Estimated Cost: ***$ 67,320,000***

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Minneapolis-St. Paul - MSP

Minneapolis-Saint Paul International Airport

Associated City: Saint Paul, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NA	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NA	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NA	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	NA	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

NA = Not Applicable

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Montevideo - MVE

Montevideo/Chippewa County Airport

Associated City: Montevideo, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	3,995
Width (Feet)	75
Average *PCI Value	7
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	94

Crosswind Runway:

Designation	3-21
Length (Feet)	2,385
Width (Feet)	165
Average *PCI Value	Turf
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Montevideo - MVE

Montevideo/Chippewa County Airport

Associated City: Montevideo, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***25***	***26***	***27***	***29***
Single Engine Piston	22	23	24	26
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	2	2	2	2

*Aircraft Operations:				
Total:	***12,001***	***12,524***	***12,873***	***15,519***
	10,889	11,320	11,606	14,108
Multi-Engine Piston	521	529	541	615
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	20	19	18	16
Other	571	656	708	780

*Aircraft Operation Type:				
Local:	6,000	6,262	6,436	7,760
Itinerant:	6,001	6,262	6,437	7,759

*Aircraft Operation Purpose:				
Business:	10,800	11,271	11,585	13,968
Training:	960	1,002	1,030	1,242
Leisure:	241	251	258	309

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Montevideo - MVE

Montevideo/Chippewa County Airport

Associated City: Montevideo, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,995	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	620	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	4,680		
Based Tie Downs (Each)	12		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	24	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change
Landside Facilities:			
Automobile Parking (Spaces)	30	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Montevideo - MVE

Montevideo/Chippewa County Airport

Associated City: Montevideo, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,000	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	620	11,500	-	3,500
Based Aircraft Apron (SY)	4,680	-	-	-
Tie Downs (Each)	12	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	24	0	0	0
Conventional Hangar (Units)	2	0	0	2
Landside Facilities:				
Automobile Parking (Spaces)	30	-	-	10
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Montevideo - MVE

Montevideo/Chippewa County Airport

Associated City: Montevideo, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	481,749	146,619
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓		165,000	-	-
IM	Improvements					
	Apron Maintenance		✓	11,880	33,772	152,781
	Runway Maintenance	✓	✓	2,100,000	8,766	191,293
	Taxiway Maintenance		✓	3,240	35,665	628,066
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	-	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars	✓	✓	320,000	-	129,601
	T-Hangars			-	-	-
	Hangar Site Preparation	✓	✓	80,000	-	21,993
	Miscellaneous Equipment	✓		20,000	-	-
	Snow Removal Equipment	✓		50,000	-	-
OB	Obstruction Removal		✓	-	130,000	-
PA	Parking		✓	-	-	45,163
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,750,120**	**$ 879,952**	**$ 1,415,516**

20 Year Total Estimated Cost: *$ 5,045,588*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Montevideo - MVE

Montevideo/Chippewa County Airport

Associated City: Montevideo, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	NO	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Moorhead - JKJ

Moorhead Municipal Airport

Associated City: Moorhead, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	12-30
Length (Feet)	4,300
Width (Feet)	75
Average *PCI Value	74
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	80

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Moorhead - JKJ

Moorhead Municipal Airport

Associated City: Moorhead, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***39***	***41***	***43***	***46***
Single Engine Piston	34	36	37	40
Multi-Engine Piston	5	5	6	6
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***9,000***	***9,292***	***9,570***	***11,660***
	7,794	8,072	8,316	10,234
Multi-Engine Piston	1,206	1,220	1,254	1,426
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	6,030	6,226	6,411	7,812
Itinerant:	2,970	3,066	3,159	3,848

*Aircraft Operation Purpose:				
Business:	3,746	3,868	3,983	4,853
Training:	3,505	3,619	3,727	4,541
Leisure:	1,749	1,805	1,860	2,266

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Moorhead - JKJ

Moorhead Municipal Airport

Associated City: Moorhead, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,300	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	6,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	32	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	8		No Change

Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Moorhead - JKJ

Moorhead Municipal Airport

Associated City: Moorhead, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,300	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	4,000	-	-	-
Transient Aircraft Apron (SY)	6,000	1,000	-	1,500
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	4	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	32	11	0	0
Conventional Hangar (Units)	8	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	20	40	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Moorhead - JKJ

Moorhead Municipal Airport

Associated City: Moorhead, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	214,500	-
	Transient Aircraft Apron		✓	-	41,600	62,400
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	785,040	323,070	334,283
	Runway Maintenance	✓	✓	112,920	121,009	342,375
	Taxiway Maintenance	✓	✓	86,040	48,784	177,459
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		200,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓	✓	650,000	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,000	-
PA	Parking		✓	-	179,400	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,934,000**	**$ 1,058,364**	**$ 1,206,516**

20 Year Total Estimated Cost: *$ 4,198,880*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Moorhead - JKJ

Moorhead Municipal Airport

Associated City: Moorhead, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Moose Lake - MZH

Moose Lake Carlton County Airport

Associated City: Cloquet, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	4-22
Length (Feet)	3,200
Width (Feet)	75
Average *PCI Value	55
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Moose Lake - MZH

Moose Lake Carlton County Airport

Associated City: Moose Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***13***	***14***	***14***	***15***
Single Engine Piston	10	11	11	12
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	3	3	3	3
Total:	***4,900***	***5,233***	***5,465***	***6,658***
	4,178	4,393	4,550	5,649
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	722	840	915	1,009
Local:	2,205	2,355	2,459	2,996
Itinerant:	2,695	2,878	3,006	3,662
Business:	1,960	2,093	2,186	2,664
Training:	1,470	1,570	1,640	1,997
Leisure:	1,470	1,570	1,639	1,997

***Aircraft Operations:**

***Aircraft Operation Type:**

***Aircraft Operation Purpose:**

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Moose Lake - MZH

Moose Lake Carlton County Airport

Associated City: Cloquet, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,200	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	4,539	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	12	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	6		No Change
Landside Facilities:			
Automobile Parking (Spaces)	23	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Moose Lake - MZH

Moose Lake Carlton County Airport

Associated City: Cloquet, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,200	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	4,539	3,000	-	1,500
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	12	0	0	0
Conventional Hangar (Units)	6	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	23	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Moose Lake - MZH

Moose Lake Carlton County Airport

Associated City: Moose Lake, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	131,789	65,894
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	40,920	476,223	124,941
	Runway Maintenance	✓	✓	1,093,680	25,797	192,752
	Taxiway Maintenance	✓	✓	161,400	251	17,395
	Runway Extension/Expansion	✓		60,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		700,000	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	137,280	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	228,434	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			$ 2,346,000	$ 999,773	$ 690,983

20 Year Total Estimated Cost: $ 4,036,756

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Moose Lake - MZH

Moose Lake Carlton County Airport

Associated City: Cloquet, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mora - JMR

Mora Municipal Airport

Associated City: Mora, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	17-35
Length (Feet)	4,799
Width (Feet)	75
Average *PCI Value	88
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	90

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mora - JMR

Mora Municipal Airport

Associated City: Mora, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***29***	***34***	***36***	***42***
Single Engine Piston	25	28	30	34
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	3	5	5	7
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***9,400***	***10,828***	***11,824***	***15,164***
	8,445	9,319	9,881	12,827
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	760	1,271	1,678	2,045
Military	0	0	0	0
Other	195	238	265	292

*Aircraft Operation Type:				
Local:	2,460	2,834	3,095	3,969
Itinerant:	6,940	7,994	8,729	11,195

*Aircraft Operation Purpose:				
Business:	3,913	4,507	4,922	6,312
Training:	3,661	4,217	4,605	5,906
Leisure:	1,826	2,104	2,297	2,946

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mora - JMR

Mora Municipal Airport

Associated City: Mora, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,799	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	7,555	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	6	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	22		No Change

Landside Facilities:			
Automobile Parking (Spaces)	39	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mora - JMR

Mora Municipal Airport

Associated City: Mora, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,799	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	5,000	-	-	-
Transient Aircraft Apron (SY)	7,555	12,000	2,000	6,000
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	2	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	6	10	0	0
Conventional Hangar (Units)	22	0	0	2
Landside Facilities:				
Automobile Parking (Spaces)	39	-	-	20
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mora - JMR

Mora Municipal Airport

Associated City: Mora, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	240,884	-
	Transient Aircraft Apron		✓	-	654,035	280,301
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	346,200	104,587	385,107
	Runway Maintenance		✓	177,840	80,632	286,732
	Taxiway Maintenance	✓	✓	500,000	17,293	149,641
	Runway Extension/Expansion	✓		1,365,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway	✓		200,000	-	-
MA	Master Plan					
	ALP	✓	✓	150,000	-	190,000
	Master Plan	✓	✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		200,000	-	-
	Conventional Hangars		✓	-	-	130,888
	T-Hangars	✓	✓	600,000	-	-
	Hangar Site Preparation	✓	✓	75,000	-	24,526
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	145,990	-
PA	Parking		✓	-	-	54,016
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		500,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon	✓		80,000	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone	✓		5,000	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 4,299,040**	**$ 1,243,421**	**$ 1,601,211**

20 Year Total Estimated Cost: *$ 7,143,672*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Mora - JMR

Mora Municipal Airport

Associated City: Mora, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Morris - MOX

Morris Municipal Airport

Associated City: Morris, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	14-32
Length (Feet)	4,000
Width (Feet)	75
Average *PCI Value	75
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	4-22
Length (Feet)	2,640
Width (Feet)	150
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Morris - MOX

Morris Municipal Airport

Associated City: Morris, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***19***	***20***	***21***	***23***
Single Engine Piston	11	12	12	13
Multi-Engine Piston	4	4	4	5
Turboprop	2	2	2	2
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	1	1	1	1
***Aircraft Operations:**				
Total:	***5,907***	***6,236***	***6,536***	***7,577***
	3,053	3,145	3,252	4,025
Multi-Engine Piston	1,168	1,175	1,212	1,379
Turboprop	1,312	1,403	1,451	1,439
Jet	0	0	0	0
Light Sport	208	325	418	510
Military	6	6	5	5
Other	160	182	198	219
***Aircraft Operation Type:**				
Local:	4,725	4,989	5,230	6,061
Itinerant:	1,182	1,247	1,306	1,516
***Aircraft Operation Purpose:**				
Business:	5,020	5,301	5,557	6,440
Training:	591	624	654	758
Leisure:	296	311	325	379

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Morris - MOX

Morris Municipal Airport

Associated City: Morris, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,000	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	10,100	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	18	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	4		No Change
Landside Facilities:			
Automobile Parking (Spaces)	22	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Morris - MOX

Morris Municipal Airport

Associated City: Morris, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,000	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Aircraft Apron (SY)	10,100	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	18	0	0	0
Conventional Hangar (Units)	4	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	22	10	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Morris - MOX

Morris Municipal Airport

Associated City: Morris, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		1,300,000	-	-
FF	Fuel Farm Development	✓		5,000	-	-
IM	Improvements					
	Apron Maintenance		✓	357,092	115,557	204,681
	Runway Maintenance		✓	67,544	108,547	310,093
	Taxiway Maintenance		✓	67,380	1,527	19,929
	Runway Extension/Expansion	✓		1,780,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	120,000	-	190,000
	Master Plan	✓	✓	100,000	-	100,000
	Other				-	-
MS	Miscellaneous					
	Buildings	✓		3,500	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓		25,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		200,000	-	-
OB	Obstruction Removal		✓	-	130,910	-
PA	Parking		✓	-	45,165	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 4,025,516**	**$ 401,705**	**$ 824,703**

20 Year Total Estimated Cost: *$ 5,251,925*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Morris - MOX

Morris Municipal Airport

Associated City: Morris, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Murdock - 23Y

Murdock Municipal Airport

Associated City: Murdock, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	12-30
Length (Feet)	3,415
Width (Feet)	150
Average *PCI Value	No PCI exisits
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Murdock - 23Y

Murdock Municipal Airport

Associated City: Murdock, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***0***	***0***	***0***	***0***
Single Engine Piston	0	0	0	0
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***1,000***	***1,000***	***1,000***	***1,000***
	1,000	1,000	1,000	1,000
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	0	0	0	0
Itinerant:	1,000	1,000	1,000	1,000

*Aircraft Operation Purpose:				
Business:	800	800	800	800
Training:	100	100	100	100
Leisure:	100	100	100	100

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Murdock - 23Y

Murdock Municipal Airport

Associated City: Murdock, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,415	2,000 Feet	No Change
Runway Width (Feet)	150	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	None	LIRLs if Open 24/7	Install
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Apron (S.Y.)	9,680	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	1,170		
Based Tie Downs (Each)	3		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	No		Construct
T-Hangar (Units)	1	95% of Single & Multi	No Change
Conventional Hangar (Units)	0		No Change
Landside Facilities:			
Automobile Parking (Spaces)	-	1 Stall per B.A.	Construct
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Murdock - 23Y

Murdock Municipal Airport

Associated City: Murdock, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,415	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	None	LIRLs	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	9,680	-	-	-
Based Apron (S.Y.)	1,170	-	-	-
Tie Downs (Each)	3	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	No	Yes	-	-
T-Hangar (Units)	1	0	0	0
Conventional Hangar (Units)	0	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	-	4	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Murdock - 23Y

Murdock Municipal Airport

Associated City: Murdock, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway		✓	-	44,395	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP			-	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings		✓	-	16,616	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	18,065	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	217,835	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon		✓	-	41,891	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ -**	**$ 338,801**	**$ -**

20 Year Total Estimated Cost: $ *338,801*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNT8 Analysis.

Murdock - 23Y

Murdock Municipal Airport

Associated City: Murdock, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

New Ulm - ULM

New Ulm Municipal Airport

Associated City: New Ulm, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	15-33
Length (Feet)	4,401
Width (Feet)	75
Average *PCI Value	59
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	61

Crosswind Runway:

Designation	4-22
Length (Feet)	2,826
Width (Feet)	160
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

New Ulm - ULM

New Ulm Municipal Airport

Associated City: New Ulm, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***25***	***26***	***27***	***29***
Single Engine Piston	20	21	22	23
Multi-Engine Piston	4	4	4	5
Turboprop	1	1	1	1
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operations:**

Total:	***9,999***	***10,384***	***10,651***	***12,608***
	7,519	7,812	8,016	9,756
Multi-Engine Piston	1,582	1,605	1,643	1,869
Turboprop	888	958	983	975
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	10	9	9	8
Other	0	0	0	0

***Aircraft Operation Type:**

Local:	7,500	7,788	7,989	9,457
Itinerant:	2,499	2,596	2,662	3,151

***Aircraft Operation Purpose:**

Business:	7,000	7,269	7,457	8,826
Training:	2,000	2,077	2,130	2,522
Leisure:	999	1,038	1,064	1,260

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

New Ulm - ULM

New Ulm Municipal Airport

Associated City: New Ulm, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,401	5,000 Feet	Extend
Runway Width (Feet)	75	100 Feet	Extend
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	MIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	8,275	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	PI/Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	18	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	2		Construct
Landside Facilities:			
Automobile Parking (Spaces)	30	1 Stall per B.A. Plus 50%	Construct
Perimeter Fencing	None	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

New Ulm - ULM

New Ulm Municipal Airport

Associated City: New Ulm, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,401	599	-	-
Runway Widening (Feet)	75	25	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	12,000	-	-	-
Transient Aircraft Apron (SY)	8,275	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	PI/Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	18	0	0	0
Conventional Hangar (Units)	2	14	0	0
Landside Facilities:				
Automobile Parking (Spaces)	30	12	-	-
Perimeter Fencing	None	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

New Ulm - ULM

New Ulm Municipal Airport

Associated City: New Ulm, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	367,920	97,389	641,948
	Runway Maintenance		✓	1,196,280	34,137	255,070
	Taxiway Maintenance	✓	✓	2,390,000	76,411	156,591
	Runway Extension/Expansion	✓	✓	7,305,000	-	-
IN	Instrument Approach Aid					
	ILS	✓	✓	1,000,000	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars	✓	✓	800,000	-	-
	T-Hangars	✓		100,000	-	-
	Hangar Site Preparation	✓	✓	200,000	-	-
	Miscellaneous Equipment	✓		210,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	745,680	-
PA	Parking		✓	-	51,451	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	800,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 14,519,200**	**$ 1,475,069**	**$ 1,523,608**

20 Year Total Estimated Cost: ***$ 17,517,878***

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

New Ulm - ULM

New Ulm Municipal Airport

Associated City: New Ulm, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Northome - 43Y

Northome Airport

Associated City: Northome, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	12-30
Length (Feet)	3,199
Width (Feet)	147
Average *PCI Value	No PCI Exists
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	2-20
Length (Feet)	2,201
Width (Feet)	148
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Northome - 43Y

Northome Airport

Associated City: Northome, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***1***	***1***	***1***	***1***
Single Engine Piston	1	1	1	1
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***1,200***	***1,292***	***1,362***	***1,749***
	1,200	1,292	1,362	1,749
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	120	129	136	175
Itinerant:	1,080	1,163	1,226	1,574

*Aircraft Operation Purpose:				
Business:	120	129	136	175
Training:	960	1,034	1,090	1,399
Leisure:	120	129	136	175

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Northome - 43Y

Northome Airport

Associated City: Northome, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,199	2,000 Feet	No Change
Runway Width (Feet)	147	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	None	LIRLs if Open 24/7	Construct
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Apron (S.Y.)	2,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	390		
Based Tie Downs (Each)	1		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	No		Construct
T-Hangar (Units)	1	95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change
Landside Facilities:			
Automobile Parking (Spaces)	10	1 Stall per B.A.	No Change
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Northome - 43Y

Northome Airport

Associated City: Northome, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,199	-	-	-
Runway Widening (Feet)	147	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	None	LIRLs	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	2,500	-	-	2,500
Based Apron (S.Y.)	390	-	-	-
Tie Downs (Each)	1	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	No	Yes	-	-
T-Hangar (Units)	1	0	0	0
Conventional Hangar (Units)	2	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	10	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Northome - 43Y

Northome Airport

Associated City: Northome, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	-	104,000
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓	✓	30,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓	✓	24,000	16,500	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		30,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓		1,500	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	216,320	-
SG	Signs	✓		1,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	3,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon	✓		7,000	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other	✓		10,000	-	-
	TOTALS			**$ 166,500**	**$ 232,820**	**$ 104,000**

20 Year Total Estimated Cost: $ *503,320*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Northome - 43Y

Northome Airport

Associated City: Northome, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Olivia - OVL

Olivia Regional Airport

Associated City: Olivia, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	11-29
Length (Feet)	3,498
Width (Feet)	75
Average *PCI Value	87
Runway Lighting	LIRLs
Taxiway Type:	Partial
Average *PCI Value:	88

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Olivia - OVL

Olivia Regional Airport

Associated City: Olivia, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***13***	***13***	***13***	***13***
Single Engine Piston	8	8	8	8
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	5	5	5	5
Aircraft Operations:				
Total:	***3,640***	***3,714***	***3,805***	***4,401***
	2,676	2,656	2,681	3,162
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	964	1,058	1,124	1,239
Aircraft Operation Type:				
Local:	2,148	2,192	2,245	2,597
Itinerant:	1,492	1,522	1,560	1,804
Aircraft Operation Purpose:				
Business:	1,515	1,546	1,584	1,832
Training:	1,418	1,446	1,482	1,714
Leisure:	707	722	739	855

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Olivia - OVL

Olivia Regional Airport

Associated City: Olivia, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,498	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Turnaround	No Change
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	4,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	6	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	8		No Change

Landside Facilities:			
Automobile Parking (Spaces)	40	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Olivia - OVL

Olivia Regional Airport

Associated City: Olivia, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,498	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	4,500	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	No	-	-	-
T-Hangar (Units)	6	0	0	0
Conventional Hangar (Units)	8	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	40	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Olivia - OVL

Olivia Regional Airport

Associated City: Olivia, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓		10,000	-	-
IM	Improvements					
	Apron Maintenance		✓	4,921	20,443	100,234
	Runway Maintenance		✓	13,308	55,589	197,805
	Taxiway Maintenance		✓	4,733	17,504	77,523
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		25,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,910	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	113,892	-
	REILS		✓	-	31,418	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 157,962**	**$ 559,757**	**$ 475,562**

20 Year Total Estimated Cost: *$ 1,193,281*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Olivia - OVL

Olivia Regional Airport

Associated City: Olivia, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Orr - ORB

Orr Regional Airport

Associated City: Orr, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	4,001
Width (Feet)	75
Average *PCI Value	62
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Orr - ORB

Orr Regional Airport

Associated City: Orr, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***8***	***8***	***8***	***9***
Single Engine Piston	8	8	8	9
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***2,500***	***2,539***	***2,569***	***3,056***
	2,500	2,539	2,569	3,056
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,000	1,016	1,027	1,222
Itinerant:	1,500	1,523	1,542	1,834

*Aircraft Operation Purpose:				
Business:	750	762	771	917
Training:	1,750	1,777	1,798	2,139
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Orr - ORB

Orr Regional Airport

Associated City: Orr, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,001	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	33,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	6	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	4		No Change

Landside Facilities:			
Automobile Parking (Spaces)	22	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Orr - ORB

Orr Regional Airport

Associated City: Orr, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,001	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	5,000	-	-	-
Transient Aircraft Apron (SY)	33,000	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	6	0	0	0
Conventional Hangar (Units)	4	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	22	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Orr - ORB

Orr Regional Airport

Associated City: Orr, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	134,515	672,733	87,384
	Runway Maintenance		✓	1,037,043	2,304	169,767
	Taxiway Maintenance		✓	205,695	362	25,071
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	50,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		307,500	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		250,000	-	-
OB	Obstruction Removal		✓	-	137,280	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,084,753**	**$ 812,679**	**$ 572,222**

20 Year Total Estimated Cost: *$ 3,469,654*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Orr - ORB

Orr Regional Airport

Associated City: Orr, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Ortonville - VVV

Ortonville Municipal Airport - Martinson Field

Associated City: Ortonville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	3,417
Width (Feet)	75
Average *PCI Value	82
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	4-22
Length (Feet)	2,175
Width (Feet)	300
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Ortonville - VVV

Ortonville Municipal Airport - Martinson Field

Associated City: Ortonville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***3***	***3***	***3***	***3***
Single Engine Piston	3	3	3	3
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***5,000***	***5,224***	***5,352***	***6,497***
	5,000	5,224	5,352	6,497
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,500	1,567	1,605	1,949
Itinerant:	3,500	3,657	3,747	4,548

*Aircraft Operation Purpose:				
Business:	2,500	2,612	2,677	3,250
Training:	2,000	2,090	2,141	2,599
Leisure:	500	522	536	650

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Ortonville - VVV

Ortonville Municipal Airport - Martinson Field

Associated City: Ortonville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,417	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	2,170	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	No		Construct
Restroom	Yes		No Change
T-Hangar (Units)	6	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	0		No Change
Landside Facilities:			
Automobile Parking (Spaces)	15	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Ortonville - VVV

Ortonville Municipal Airport - Martinson Field

Associated City: Ortonville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,417	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	2,170	7,000	-	9,000
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	Yes	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	6	0	0	0
Conventional Hangar (Units)	0	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	15	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Ortonville - VVV

Ortonville Municipal Airport - Martinson Field

Associated City: Ortonville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	293,238	83,782
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		1,490,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	-	114,012	118,180
	Runway Maintenance		✓	40,775	78,668	232,249
	Taxiway Maintenance		✓	-	2,557	19,316
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		180,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,910	-
PA	Parking	✓		180,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	217,835	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS		✓	-	31,418	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,005,775**	**$ 868,639**	**$ 743,528**

20 Year Total Estimated Cost: $ 3,617,941

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Ortonville - VVV

Ortonville Municipal Airport - Martinson Field

Associated City: Ortonville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Owatonna - OWA

Owatonna Degner Regional Airport

Associated City: Owatonna, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	12-30
Length (Feet)	5,500
Width (Feet)	100
Average *PCI Value	88
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	89

Crosswind Runway:

Designation	5-23
Length (Feet)	3,000
Width (Feet)	75
Average *PCI Value	97
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	97

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Owatonna - OWA

Owatonna Degner Regional Airport

Associated City: Owatonna, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***52***	***56***	***60***	***68***
Single Engine Piston	48	52	56	63
Multi-Engine Piston	2	2	2	3
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	2	2	2	2

***Aircraft Operations:**

Total:	***30,050***	***32,042***	***33,875***	***43,318***
	27,907	29,742	31,431	40,623
Multi-Engine Piston	1,223	1,273	1,343	1,527
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	250	237	223	200
Other	670	790	878	968

***Aircraft Operation Type:**

Local:	14,469	15,428	16,310	20,857
Itinerant:	15,581	16,614	17,565	22,461

***Aircraft Operation Purpose:**

Business:	12,508	13,337	14,101	18,032
Training:	11,703	12,479	13,192	16,870
Leisure:	5,839	6,226	6,582	8,418

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Owatonna - OWA

Owatonna Degner Regional Airport

Associated City: Owatonna, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,500	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	3,720	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	8		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	Yes	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	30	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	30		No Change
Landside Facilities:			
Automobile Parking (Spaces)	77	1 Stall per B.A. Plus 50%	Construct
Perimeter Fencing	Partial	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Owatonna - OWA

Owatonna Degner Regional Airport

Associated City: Owatonna, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,500	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	NP	-	-	-
Based Aircraft Apron (SY)	NP	-	-	-
Tie Downs (Each)	8	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	Yes	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	30	10	0	0
Conventional Hangar (Units)	30	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	77	23	-	-
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Owatonna - OWA

Owatonna Degner Regional Airport

Associated City: Owatonna, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	564,360	625,218	1,125,201
	Runway Maintenance	✓	✓	180,000	148,390	2,649,210
	Taxiway Maintenance	✓	✓	17,640	96,391	1,646,207
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	320,000	320,000	320,000
	Master Plan	✓	✓	150,000	150,000	150,000
	Other	✓		450,000	-	-
MS	Miscellaneous					
	Buildings	✓		175,000	-	-
	Conventional Hangars	✓		90,000	-	-
	T-Hangars	✓	✓	650,000	-	-
	Hangar Site Preparation	✓	✓	1,100,000	-	-
	Miscellaneous Equipment	✓		205,000	-	-
	Snow Removal Equipment	✓		250,000	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	107,796	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	1,500,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			$ 5,652,000	$ 1,447,796	$ 5,890,618

20 Year Total Estimated Cost: $ 12,990,414

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Owatonna - OWA

Owatonna Degner Regional Airport

Associated City: Owatonna, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Park Rapids - PKD

Park Rapids Municipal Airport - Konshok Field

Associated City: Park Rapids, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	5,498
Width (Feet)	100
Average *PCI Value	71
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	65

Crosswind Runway:

Designation	17-35
Length (Feet)	3,244
Width (Feet)	140
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Park Rapids - PKD

Park Rapids Municipal Airport - Konshok Field

Associated City: Park Rapids, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***29***	***31***	***33***	***36***
Single Engine Piston	26	28	30	32
Multi-Engine Piston	3	3	3	4
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***15,725***	***16,708***	***17,363***	***21,491***
	14,001	14,916	15,507	19,385
Multi-Engine Piston	1,699	1,768	1,834	2,086
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	25	24	22	20
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	7,863	8,354	8,682	10,746
Itinerant:	7,862	8,354	8,681	10,745

*Aircraft Operation Purpose:				
Business:	6,545	6,954	7,228	8,947
Training:	6,124	6,507	6,762	8,370
Leisure:	3,056	3,247	3,373	4,176

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Park Rapids - PKD

Park Rapids Municipal Airport - Konshok Field

Associated City: Park Rapids, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,498	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	6,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	40	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	4		No Change
Landside Facilities:			
Automobile Parking (Spaces)	50	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Partial	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Park Rapids - PKD

Park Rapids Municipal Airport - Konshok Field

Associated City: Park Rapids, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,498	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	6,000	14,500	-	5,500
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	4	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	No	-	-	-
T-Hangar (Units)	40	0	0	0
Conventional Hangar (Units)	4	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	50	-	-	-
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided. *End opposite PI.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Park Rapids - PKD

Park Rapids Municipal Airport - Konshok Field

Associated City: Park Rapids, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	214,500	-
	Transient Aircraft Apron		✓	-	603,200	228,800
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		600,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	461,532	992,992	2,156,516
	Runway Maintenance		✓	162,664	248,076	1,061,768
	Taxiway Maintenance	✓	✓	267,163	193,007	1,012,668
	Runway Extension/Expansion	✓		1,950,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring		✓	-	7,800	-
LI	Lighting					
	Runway	✓		150,000	-	-
	Taxiway	✓		150,000	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		350,000	-	-
	Hangar Site Preparation	✓		175,000	-	-
	Miscellaneous Equipment	✓		11,500	-	-
	Snow Removal Equipment	✓		165,000	-	-
OB	Obstruction Removal	✓		65,000	-	-
PA	Parking	✓		280,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	535,600	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI	✓		60,000	-	-
	REILS	✓		50,000	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 5,367,859**	**$ 3,265,175**	**$ 4,929,751**

20 Year Total Estimated Cost: $ 13,562,785

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Park Rapids - PKD

Park Rapids Municipal Airport - Konshok Field

Associated City: Park Rapids, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Paynesville - PEX

Paynesville Municipal Airport

Associated City: Paynesville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	11-29
Length (Feet)	3,300
Width (Feet)	75
Average *PCI Value	77
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Paynesville - PEX

Paynesville Municipal Airport

Associated City: Paynesville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***24***	***26***	***28***	***31***
Single Engine Piston	22	24	26	29
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1
***Aircraft Operations:**				
Total:	***5,000***	***5,423***	***5,760***	***7,408***
	4,655	5,042	5,348	6,945
Multi-Engine Piston	223	235	249	283
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	122	146	163	180
***Aircraft Operation Type:**				
Local:	3,350	3,634	3,859	4,963
Itinerant:	1,650	1,789	1,901	2,445
***Aircraft Operation Purpose:**				
Business:	500	542	576	741
Training:	4,000	4,339	4,608	5,926
Leisure:	500	542	576	741

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Paynesville - PEX

Paynesville Municipal Airport

Associated City: Paynesville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,300	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	9,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	4,680		
Based Tie Downs (Each)	12		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	20	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	11		No Change
Landside Facilities:			
Automobile Parking (Spaces)	14	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Paynesville - PEX

Paynesville Municipal Airport

Associated City: Paynesville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,300	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	9,500	-	-	-
Based Aircraft Apron (SY)	4,680	-	-	-
Tie Downs (Each)	12	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	20	0	0	0
Conventional Hangar (Units)	11	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	14	20	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Paynesville - PEX

Paynesville Municipal Airport

Associated City: Paynesville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		1,760,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	160,000	69,261	237,489
	Runway Maintenance	✓	✓	960,000	80,442	233,469
	Taxiway Maintenance	✓	✓	480,000	2,796	9,242
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		688,000	-	-
	Hangar Site Preparation	✓		518,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,910	-
PA	Parking		✓	-	90,328	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	217,834	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI	✓	✓	162,000	-	-
	REILS	✓	✓	45,000	-	-
	Rotating Beacon	✓	✓	70,000	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 5,133,000**	**$ 591,571**	**$ 770,199**

20 Year Total Estimated Cost: $ 6,494,771

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Paynesville - PEX

Paynesville Municipal Airport

Associated City: Paynesville, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pelican Rapids - 47Y

Pelican Rapids Municipal Airport - Lyon's Field

Associated City: Pelican Rapids, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	3,260
Width (Feet)	150
Average *PCI Value	No PCI exists
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pelican Rapids - 47Y

Pelican Rapids Municipal Airport - Lyon's Field

Associated City: Pelican Rapids, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***16***	***17***	***18***	***19***
Single Engine Piston	16	17	18	19
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***2,800***	***2,934***	***3,036***	***3,766***
	2,800	2,934	3,036	3,766
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,400	1,467	1,518	1,883
Itinerant:	1,400	1,467	1,518	1,883

*Aircraft Operation Purpose:				
Business:	0	0	0	0
Training:	2,800	2,934	3,036	3,766
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pelican Rapids - 47Y

Pelican Rapids Municipal Airport - Lyon's Field

Associated City: Pelican Rapids, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,260	2,000 Feet	No Change
Runway Width (Feet)	150	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	LIRLs	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	100LL	No Requirement	No Change
Transient Apron (S.Y.)	3,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	Yes		No Change
T-Hangar (Units)	10	95% of Single & Multi	Construct
Conventional Hangar (Units)	4		No Change
Landside Facilities:			
Automobile Parking (Spaces)	-	1 Stall per B.A.	Construct
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pelican Rapids - 47Y

Pelican Rapids Municipal Airport - Lyon's Field

Associated City: Pelican Rapids, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,260	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	3,000	-	-	2,000
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	10	8	0	0
Conventional Hangar (Units)	4	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	-	20	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pelican Rapids - 47Y

Pelican Rapids Municipal Airport - Lyon's Field

Associated City: Pelican Rapids, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	-	83,200
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓		36,000	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance	✓		24,000	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓	✓	500,000	-	-
	Hangar Site Preparation	✓	✓	130,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	89,700	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	216,320	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			$ 750,000	$ 306,020	$ 83,200

20 Year Total Estimated Cost: *$ 1,139,220*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pelican Rapids - 47Y

Pelican Rapids Municipal Airport - Lyon's Field

Associated City: Pelican Rapids, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Perham - 16D

Perham Municipal Airport

Associated City: Perham, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	12-30
Length (Feet)	4,100
Width (Feet)	75
Average *PCI Value	98
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Perham - 16D

Perham Municipal Airport

Associated City: Perham, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***14***	***15***	***15***	***17***
Single Engine Piston	11	12	12	14
Multi-Engine Piston	0	0	0	0
Turboprop	1	1	1	1
Jet	1	1	1	1
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***7,199***	***7,882***	***8,212***	***9,660***
	5,108	5,402	5,625	7,055
Multi-Engine Piston	0	0	0	0
Turboprop	1,097	1,205	1,255	1,244
Jet	726	962	989	983
Light Sport	0	0	0	0
Military	0	0	0	0
Other	268	313	343	378

*Aircraft Operation Type:				
Local:	5,040	5,518	5,748	6,762
Itinerant:	2,159	2,364	2,464	2,898

*Aircraft Operation Purpose:				
Business:	720	788	821	966
Training:	5,760	6,306	6,569	7,728
Leisure:	719	788	822	966

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.

Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Perham - 16D

Perham Municipal Airport

Associated City: Perham, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,100	5,000 Feet	Extend
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	6,640	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	15	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	4		No Change
Landside Facilities:			
Automobile Parking (Spaces)	10	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Perham - 16D

Perham Municipal Airport

Associated City: Perham, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,100	900	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	6,640	1,000	-	2,000
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	15	0	0	0
Conventional Hangar (Units)	4	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	10	10	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = I R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Perham - 16D

Perham Municipal Airport

Associated City: Perham, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	41,600	83,200
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	-	381,730	43,354
	Runway Maintenance		✓	-	69,365	294,919
	Taxiway Maintenance		✓	-	98,516	15,894
	Runway Extension/Expansion		✓	-	7,086,000	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	320,000
	Master Plan		✓	-	-	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		400,000	-	-
	Hangar Site Preparation	✓		240,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		200,000	-	-
OB	Obstruction Removal		✓	-	130,000	-
PA	Parking		✓	-	24,050	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	216,320	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon	✓		5,000	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport		✓	-	6,210,000	-
O	Other			-	-	-
	TOTALS			$ 845,000	$ 14,257,581	$ 907,367

20 Year Total Estimated Cost: ***$ 16,009,948***

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Perham - 16D

Perham Municipal Airport

Associated City: Perham, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pine River - PWC

Pine River Regional Airport

Associated City: Pine River, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	16-34
Length (Feet)	3,000
Width (Feet)	75
Average *PCI Value	51
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	82

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pine River - PWC

Pine River Regional Airport

Associated City: Pine River, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***44***	***50***	***55***	***67***
Single Engine Piston	38	44	48	58
Multi-Engine Piston	2	2	3	3
Turboprop	1	1	1	2
Jet	1	1	1	1
Light Sport	0	0	0	0
Military	0	0	0	0
Other	2	2	2	3

*Aircraft Operations:				
Total:	***11,000***	***12,452***	***13,692***	***18,197***
	9,251	10,345	11,366	15,754
Multi-Engine Piston	512	559	613	698
Turboprop	575	668	734	728
Jet	381	533	578	575
Light Sport	0	0	0	0
Military	0	0	0	0
Other	281	347	401	442

*Aircraft Operation Type:				
Local:	6,600	7,472	8,216	10,918
Itinerant:	4,400	4,980	5,476	7,279

*Aircraft Operation Purpose:				
Business:	1,100	1,245	1,369	1,820
Training:	8,250	9,340	10,270	13,647
Leisure:	1,650	1,867	2,053	2,730

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pine River - PWC

Pine River Regional Airport

Associated City: Pine River, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,000	5,000 Feet	Extend
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	15,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	24		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	VASIs		Install
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	86		No Change
Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pine River - PWC

Pine River Regional Airport

Associated City: Pine River, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,000	2,000	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	15,000	-	-	3,500
Based Aircraft Apron (SY)	-	-	1,000	-
Tie Downs (Each)	24	-	4	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	86	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	20	50	-	15
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pine River - PWC

Pine River Regional Airport

Associated City: Pine River, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		50,000	-	-
	Based Aircraft Apron		✓	-	-	218,147
	Transient Aircraft Apron		✓	-	-	148,075
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		200,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	457,424	56,495	246,759
	Runway Maintenance	✓	✓	1,119,069	13,919	158,798
	Taxiway Maintenance		✓	136,670	62,737	101,135
	Runway Extension/Expansion	✓	✓	1,610,000	7,849,880	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	320,000
	Master Plan		✓	100,000	-	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		550,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	132,210	-
PA	Parking	✓	✓	195,432	-	68,418
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓		20,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	115,023	-
	REILS			-	-	-
	Rotating Beacon		✓	-	41,600	-
WX	Weather Reporting					
	AWOS	✓		20,000	-	-
	Wind Cone			-	-	-
NW	New Key Airport		✓	-	6,210,000	-
O	Other			-	-	-
	TOTALS			**$ 4,458,595**	**$ 14,481,864**	**$ 1,411,332**

20 Year Total Estimated Cost: $ 20,351,790

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pine River - PWC

Pine River Regional Airport

Associated City: Pine River, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pinecreek - 48Y

Piney Pinecreek Border Airport

Associated City: Pine Creek, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	Yes

Primary Runway:

Designation	15-33
Length (Feet)	3,298
Width (Feet)	75
Average *PCI Value	76
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pinecreek - 48Y

Piney Pinecreek Border Airport

Associated City: Pine Creek, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***0***	***0***	***0***	***0***
Single Engine Piston	0	0	0	0
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***1,800***	***1,800***	***1,800***	***1,800***
	1,800	1,800	1,800	1,800
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,062	1,062	1,062	1,062
Itinerant:	738	738	738	738

*Aircraft Operation Purpose:				
Business:	612	612	612	612
Training:	1,188	1,188	1,188	1,188
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pinecreek - 48Y

Piney Pinecreek Border Airport

Associated City: Pine Creek, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,298	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	4,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		

Navigational Systems:

Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change

Airport Buildings:

Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	0		No Change

Landside Facilities:

Automobile Parking (Spaces)	10	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pinecreek - 48Y

Piney Pinecreek Border Airport

Associated City: Pine Creek, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,298	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	4,000	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	0	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	10	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pinecreek - 48Y

Piney Pinecreek Border Airport

Associated City: Pine Creek, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	13,355	30,940	108,922
	Runway Maintenance		✓	61,024	94,239	267,339
	Taxiway Maintenance		✓	7,278	12,189	35,209
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		5,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	126,750	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	210,912	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	110,273	-
	REILS		✓	-	30,420	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 391,657**	**$ 615,723**	**$ 701,470**

20 Year Total Estimated Cost: *$ 1,708,850*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pinecreek - 48Y

Piney Pinecreek Border Airport

Associated City: Pine Creek, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	YES	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pipestone - PQN

Pipestone Municipal Airport

Associated City: Pipestone, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	18-36
Length (Feet)	4,302
Width (Feet)	75
Average *PCI Value	80
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	9-27
Length (Feet)	2,539
Width (Feet)	221
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pipestone - PQN

Pipestone Municipal Airport

Associated City: Pipestone, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***18***	***19***	***20***	***21***
Single Engine Piston	17	18	19	20
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operations:**

Total:	***8,200***	***8,581***	***8,745***	***10,456***
	7,694	8,066	8,222	9,868
Multi-Engine Piston	476	487	496	564
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	30	28	27	24
Other	0	0	0	0

***Aircraft Operation Type:**

Local:	4,100	4,291	4,372	5,228
Itinerant:	4,100	4,290	4,373	5,228

***Aircraft Operation Purpose:**

Business:	8,200	8,581	8,744	10,456
Training:	0	0	0	0
Leisure:	0	0	1	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pipestone - PQN

Pipestone Municipal Airport

Associated City: Pipestone, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,302	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	75,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	25	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change
Landside Facilities:			
Automobile Parking (Spaces)	24	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pipestone - PQN

Pipestone Municipal Airport

Associated City: Pipestone, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,302	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	4,000	-	-	-
Transient Aircraft Apron (SY)	75,000	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	25	0	0	0
Conventional Hangar (Units)	2	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	24	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pipestone - PQN

Pipestone Municipal Airport

Associated City: Pipestone, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		1,550,000	-	-
FF	Fuel Farm Development	✓		55,000	-	-
IM	Improvements					
	Apron Maintenance		✓	118,530	131,766	351,868
	Runway Maintenance		✓	47,103	93,835	278,143
	Taxiway Maintenance		✓	3,829	7,859	50,889
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		50,000	-	-
	Conventional Hangars	✓		1,050,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	124,280	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	159,078	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,133,540**	**$ 547,741**	**$ 780,901**

20 Year Total Estimated Cost: $ 4,462,182

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Pipestone - PQN

Pipestone Municipal Airport

Associated City: Pipestone, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Preston - FKA

Preston/Fillmore County Airport

Associated City: Preston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	11-29
Length (Feet)	4,000
Width (Feet)	75
Average *PCI Value	87
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	88

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Preston - FKA

Preston/Fillmore County Airport

Associated City: Preston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***25***	***27***	***29***	***30***
Single Engine Piston	22	24	25	26
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	2	2	2	2

***Aircraft Operations:**

Total:	***6,500***	***7,068***	***7,382***	***8,998***
	5,983	6,370	6,560	8,043
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	204	329	422	514
Military	0	0	0	0
Other	313	369	400	441

***Aircraft Operation Type:**

Local:	4,550	4,948	5,167	6,299
Itinerant:	1,950	2,120	2,215	2,699

***Aircraft Operation Purpose:**

Business:	2,275	2,474	2,584	3,150
Training:	2,600	2,827	2,953	3,599
Leisure:	1,625	1,767	1,845	2,249

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Preston - FKA

Preston/Fillmore County Airport

Associated City: Preston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,000	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	None	24/7 100LL Desirable	Install
Transient Aircraft Apron (SY)	4,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	No		Install
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	4	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	16		Construct

Landside Facilities:			
Automobile Parking (Spaces)	8	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Preston - FKA

Preston/Fillmore County Airport

Associated City: Preston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,000	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	0	4,000	-	-
Transient Aircraft Apron (SY)	4,500	-	-	1,000
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	2	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	4	6	0	0
Conventional Hangar (Units)	16	0	2	1
Landside Facilities:				
Automobile Parking (Spaces)	8	30	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Preston - FKA

Preston/Fillmore County Airport

Associated City: Preston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	224,153	-
	Transient Aircraft Apron		✓	-	-	43,472
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		77,400	-	-
FF	Fuel Farm Development	✓	✓	78,000	-	-
IM	Improvements					
	Apron Maintenance		✓	20,890	53,213	60,230
	Runway Maintenance		✓	10,799	35,676	188,283
	Taxiway Maintenance		✓	12,506	26,394	136,567
	Runway Extension/Expansion	✓		60,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		114,228	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓		-	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		100,000	-	-
	Conventional Hangars		✓	-	-	67,246
	T-Hangars	✓	✓	100,000	188,518	-
	Hangar Site Preparation	✓	✓	103,200	61,948	11,411
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		80,000	-	-
OB	Obstruction Removal		✓	-	135,850	-
PA	Parking		✓	-	75,397	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI	✓		77,360	-	-
	REILS	✓		31,840	-	-
	Rotating Beacon	✓		38,880	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone	✓		11,055	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,016,159**	**$ 801,148**	**$ 797,209**

20 Year Total Estimated Cost: $ 2,614,516

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Preston - FKA

Preston/Fillmore County Airport

Associated City: Preston, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Princeton - PNM

Princeton Municipal Airport

Associated City: Princeton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	3,900
Width (Feet)	75
Average *PCI Value	53
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	64

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Princeton - PNM

Princeton Municipal Airport

Associated City: Princeton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***47***	***54***	***58***	***69***
Single Engine Piston	44	50	54	63
Multi-Engine Piston	2	2	2	3
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	2	2	3
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operations:**

Total:	***12,300***	***13,535***	***14,693***	***19,486***
	11,269	12,354	13,372	18,013
Multi-Engine Piston	539	577	623	709
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	192	319	430	524
Military	300	285	268	240
Other	0	0	0	0

***Aircraft Operation Type:**

Local:	6,150	6,767	7,346	9,743
Itinerant:	6,150	6,768	7,347	9,743

***Aircraft Operation Purpose:**

Business:	1,845	2,030	2,204	2,923
Training:	9,225	10,151	11,019	14,615
Leisure:	1,230	1,354	1,470	1,948

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Princeton - PNM

Princeton Municipal Airport

Associated City: Princeton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,900	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	18,975	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	14		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	18	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	37		No Change
Landside Facilities:			
Automobile Parking (Spaces)	15	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Princeton - PNM

Princeton Municipal Airport

Associated City: Princeton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,900	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	18,975	-	-	5,000
Based Aircraft Apron (SY)	-	-	-	1,000
Tie Downs (Each)	14	-	-	4
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	18	10	0	0
Conventional Hangar (Units)	37	0	0	1
Landside Facilities:				
Automobile Parking (Spaces)	15	60	-	10
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Princeton - PNM

Princeton Municipal Airport

Associated City: Princeton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	-	240,884
	Transient Aircraft Apron		✓	-	-	233,584
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	456,480	135,894	152,097
	Runway Maintenance		✓	75,120	110,019	310,848
	Taxiway Maintenance	✓	✓	450,000	123,286	767,293
	Runway Extension/Expansion	✓		2,875,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	100,000	-	190,000
	Master Plan		✓	-	-	100,000
	Other	✓		50,000	-	-
MS	Miscellaneous					
	Buildings	✓		600,000	-	-
	Conventional Hangars		✓	-	-	65,444
	T-Hangars	✓	✓	600,000	-	-
	Hangar Site Preparation	✓	✓	100,000	-	12,263
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓	✓	35,000	-	-
PA	Parking		✓	-	302,199	50,367
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		300,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓		25,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI	✓		53,572	-	-
	REILS	✓		16,071	-	-
	Rotating Beacon	✓		37,500	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 5,773,743**	**$ 671,398**	**$ 2,122,780**

20 Year Total Estimated Cost: $ 8,567,921

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Princeton - PNM

Princeton Municipal Airport

Associated City: Princeton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Red Lake Falls - D81

Red Lake Falls Municipal Airport

Associated City: Red Lake Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	2,500
Width (Feet)	60
Average *PCI Value	61
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Red Lake Falls - D81

Red Lake Falls Municipal Airport

Associated City: Red Lake Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***6***	***7***	***7***	***7***
Single Engine Piston	6	7	7	7
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0
****Aircraft Operations:***				
Total:	***3,040***	***3,302***	***3,335***	***3,935***
	3,040	3,302	3,335	3,935
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0
***Aircraft Operation Type:**				
Local:	1,824	1,981	2,001	2,361
Itinerant:	1,216	1,321	1,334	1,574
***Aircraft Operation Purpose:**				
Business:	1,216	1,321	1,334	1,574
Training:	1,216	1,321	1,334	1,574
Leisure:	608	660	667	787

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Red Lake Falls - D81

Red Lake Falls Municipal Airport

Associated City: Red Lake Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,500	2,400 Feet	No Change
Runway Width (Feet)	60	75 Feet	Widen
Parallel Txy/Turnaround	Turnaround	Turnaround	Construct
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	None	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	310	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	6	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change

Landside Facilities:			
Automobile Parking (Spaces)	-	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Red Lake Falls - D81

Red Lake Falls Municipal Airport

Associated City: Red Lake Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,500	-	-	-
Runway Widening (Feet)	60	15	-	-
Parallel Txy/Turnaround	Turnaround	1	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Aircraft Apron (SY)	310	3,000	-	1,000
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	6	0	0	0
Conventional Hangar (Units)	2	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	-	10	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Red Lake Falls - D81

Red Lake Falls Municipal Airport

Associated City: Red Lake Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	121,680	40,560
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	21,131	41,646	144,806
	Runway Maintenance	✓	✓	450,828	15,517	115,941
	Taxiway Maintenance		✓	1,454	2,912	9,619
	Runway Extension/Expansion	✓	✓	370,000	292,793	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓	✓	50,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars	✓		72,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	126,750	-
PA	Parking		✓	-	43,729	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	210,912	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	110,273	-
	REILS		✓	-	30,420	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,065,414**	**$ 1,186,632**	**$ 410,926**

20 Year Total Estimated Cost: *$ 2,662,972*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Red Lake Falls - D81

Red Lake Falls Municipal Airport

Associated City: Red Lake Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Red Wing - RGK

Red Wing Regional Airport

Associated City: Red Wing, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	09-27
Length (Feet)	5,010
Width (Feet)	100
Average *PCI Value	78
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	84

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Red Wing - RGK

Red Wing Regional Airport

Associated City: Red Wing, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***64***	***69***	***71***	***78***
Single Engine Piston	55	60	62	67
Multi-Engine Piston	3	3	3	4
Turboprop	1	1	1	1
Jet	5	5	5	6
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***14,051***	***15,147***	***15,604***	***18,426***
	10,744	11,326	11,737	14,550
Multi-Engine Piston	617	635	656	746
Turboprop	462	505	524	519
Jet	1,528	2,017	2,063	2,050
Light Sport	0	0	0	0
Military	700	664	624	561
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	4,215	4,544	4,681	5,528
Itinerant:	9,836	10,603	10,923	12,898

*Aircraft Operation Purpose:				
Business:	10,539	11,361	11,703	13,820
Training:	2,810	3,029	3,121	3,685
Leisure:	704	757	780	921

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Red Wing - RGK

Red Wing Regional Airport

Associated City: Red Wing, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,010	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	60,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	12	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	64		No Change
Landside Facilities:			
Automobile Parking (Spaces)	50	1 Stall per B.A. Plus 50%	Construct
Perimeter Fencing	Partial	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Red Wing - RGK

Red Wing Regional Airport

Associated City: Red Wing, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,010	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	9,500	-	-	-
Transient Aircraft Apron (SY)	60,000	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	12	0	0	0
Conventional Hangar (Units)	64	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	50	60	-	-
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided. *End opposite PI.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Red Wing - RGK

Red Wing Regional Airport

Associated City: Red Wing, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	294,000	1,418,370	643,771
	Runway Maintenance	✓	✓	134,640	129,948	401,719
	Taxiway Maintenance	✓	✓	346,000	42,847	204,274
	Runway Extension/Expansion	✓		740,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		50,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		10,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		450,000	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		54,000	-	-
	Snow Removal Equipment	✓		140,000	-	-
OB	Obstruction Removal		✓	-	875,940	-
PA	Parking		✓	-	302,199	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	601,479	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,703,640**	**$ 3,840,783**	**$ 1,719,765**

20 Year Total Estimated Cost: $ 8,264,188

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Red Wing - RGK

Red Wing Regional Airport

Associated City: Red Wing, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Redwood Falls - RWF

Redwood Falls Municipal Airport

Associated City: Redwood Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	12-30
Length (Feet)	4,001
Width (Feet)	100
Average *PCI Value	92
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	94

Crosswind Runway:

Designation	5-23
Length (Feet)	2,081
Width (Feet)	200
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Redwood Falls - RWF

Redwood Falls Municipal Airport

Associated City: Redwood Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***18***	***19***	***20***	***20***
Single Engine Piston	11	12	12	12
Multi-Engine Piston	3	3	3	3
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	3	3	3	3

*Aircraft Operations:				
Total:	***14,325***	***15,264***	***15,716***	***18,247***
	9,274	9,618	9,709	11,440
Multi-Engine Piston	2,661	2,695	2,714	3,087
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	632	994	1,249	1,522
Military	300	285	268	240
Other	1,458	1,672	1,776	1,958

*Aircraft Operation Type:				
Local:	9,741	10,378	10,686	12,408
Itinerant:	4,584	4,886	5,030	5,839

*Aircraft Operation Purpose:				
Business:	4,298	4,579	4,715	5,475
Training:	9,741	10,378	10,686	12,408
Leisure:	286	307	315	364

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Redwood Falls - RWF

Redwood Falls Municipal Airport

Associated City: Redwood Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,001	2,400 Feet	No Change
Runway Width (Feet)	100	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	9,300	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	4,680		
Tie Downs (Each)	12		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	16	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change
Landside Facilities:			
Automobile Parking (Spaces)	22	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Redwood Falls - RWF

Redwood Falls Municipal Airport

Associated City: Redwood Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,001	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	12,000	-	-	-
Transient Aircraft Apron (SY)	9,300	1,500	-	2,000
Based Aircraft Apron (SY)	4,680	-	-	-
Tie Downs (Each)	12	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	16	0	0	0
Conventional Hangar (Units)	2	1	0	0
Landside Facilities:				
Automobile Parking (Spaces)	22	4	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Redwood Falls - RWF

Redwood Falls Municipal Airport

Associated City: Redwood Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	59,654	79,539
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		1,206,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	372,500	236,201	635,693
	Runway Maintenance	✓	✓	195,000	97,092	393,188
	Taxiway Maintenance	✓	✓	190,500	16,612	302,475
	Runway Extension/Expansion	✓		798,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	67,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars		✓	-	61,519	-
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	10,440	-
	Miscellaneous Equipment	✓		160,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓		233,000	-	-
PA	Parking		✓	-	17,150	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		150,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓		54,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,526,000**	**$ 498,667**	**$ 1,700,896**

20 Year Total Estimated Cost: ***$ 5,725,563***

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Redwood Falls - RWF

Redwood Falls Municipal Airport

Associated City: Redwood Falls, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Remer - 52Y

Remer Municipal Airport

Associated City: Remer, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	2,765
Width (Feet)	154
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Remer - 52Y

Remer Municipal Airport

Associated City: Remer, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***4***	***4***	***5***	***6***
Single Engine Piston	3	3	4	5
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***1,800***	***2,059***	***2,270***	***3,001***
	1,510	1,698	1,855	2,544
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	290	361	415	457

*Aircraft Operation Type:				
Local:	1,800	2,059	2,270	3,001
Itinerant:	0	0	0	0

*Aircraft Operation Purpose:				
Business:	0	0	0	0
Training:	1,620	1,853	2,043	2,701
Leisure:	180	206	227	300

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Remer - 52Y

Remer Municipal Airport

Associated City: Remer, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,765	2,000 Feet	No Change
Runway Width (Feet)	154	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	None	LIRLs if Open 24/7	Install
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Apron (S.Y.)	10,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	95% of Single & Multi	No Change
Conventional Hangar (Units)	8		No Change
Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A.	No Change
Perimeter Fencing	Partial	Separate Auto from Air	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Remer - 52Y

Remer Municipal Airport

Associated City: Remer, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,765	-	-	-
Runway Widening (Feet)	154	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	None	LIRLs	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	10,000	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	8	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	20	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Remer - 52Y

Remer Municipal Airport

Associated City: Remer, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion	✓		5,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway		✓	-	35,945	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		8,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓		15,000	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs	✓		4,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon		✓	-	42,307	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 92,000**	**$ 78,252**	**$ -**

20 Year Total Estimated Cost: *$ 170,252*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Remer - 52Y

Remer Municipal Airport

Associated City: Remer, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rochester - RST

Rochester International Airport

Associated City: Rochester, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	Yes
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	13-31
Length (Feet)	9,033
Width (Feet)	150
Average *PCI Value	41-100
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	75-100

Crosswind Runway:

Designation	2-20
Length (Feet)	7,300
Width (Feet)	150
Average *PCI Value	-
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rochester - RST

Rochester International Airport

Associated City: Rochester, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***65***	***74***	***82***	***95***
Single Engine Piston	57	65	71	83
Multi-Engine Piston	3	3	4	4
Turboprop	0	0	0	0
Jet	3	3	4	4
Light Sport	1	2	2	3
Military	0	0	0	0
Other	1	1	1	1
****Aircraft Operations:***				
Total:	***31,823***	***36,245***	***39,341***	***51,148***
	27,210	30,316	32,821	44,209
Multi-Engine Piston	1,507	1,639	1,771	2,014
Turboprop	0	0	0	0
Jet	2,240	3,126	3,340	3,319
Light Sport	358	604	815	993
Military	233	221	208	187
Other	275	339	386	426
***Aircraft Operation Type:**				
Local:	18,457	21,022	22,818	29,666
Itinerant:	13,366	15,223	16,523	21,482
***Aircraft Operation Purpose:**				
Business:	25,459	28,996	31,473	40,918
Training:	4,773	5,437	5,901	7,672
Leisure:	1,591	1,812	1,967	2,558

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rochester - RST

Rochester International Airport

Associated City: Rochester, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	9,033	5,000 Feet	No Change
Runway Width (Feet)	150	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	HIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	166,382	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	2,340		
Tie Downs (Each)	6		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	Yes	Commercial Terminal	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	59	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	11		No Change
Landside Facilities:			
Automobile Parking (Spaces)	500	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rochester - RST

Rochester International Airport

Associated City: Rochester, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	9,033	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	80,000	-	-	-
Transient Aircraft Apron (SY)	166,382	-	-	-
Based Aircraft Apron (SY)	2,340	-	-	-
Tie Downs (Each)	6	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	Yes	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	59	10	0	11
Conventional Hangar (Units)	11	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	500	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rochester - RST

Rochester International Airport

Associated City: Rochester, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		2,300,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		13,631,000	-	-
FF	Fuel Farm Development	✓		265,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	750,000	500,000	500,000
	Runway Maintenance	✓	✓	500,000	500,000	500,000
	Taxiway Maintenance	✓	✓	500,000	500,000	500,000
	Runway Extension/Expansion	✓		3,250,000	-	-
IN	Instrument Approach Aid					
	ILS	✓		1,000,000	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		16,100,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓	✓	375,000	-	518,425
	Hangar Site Preparation	✓	✓	175,000	-	170,356
	Miscellaneous Equipment	✓		75,000	-	-
	Snow Removal Equipment	✓		1,570,000	-	-
OB	Obstruction Removal			-	-	-
PA	Parking	✓		5,900,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		1,400,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 48,261,000**	**$ 1,970,000**	**$ 2,658,780**

20 Year Total Estimated Cost: ***$ 52,889,780***

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rochester - RST

Rochester International Airport

Associated City: Rochester, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Roseau - ROX

Roseau Municipal Airport - Rudy Billberg Field

Associated City: Roseau, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	Yes

Primary Runway:

Designation	16-34
Length (Feet)	4,401
Width (Feet)	75
Average *PCI Value	72
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	78

Crosswind Runway:

Designation	6-24
Length (Feet)	2,505
Width (Feet)	250
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Roseau - ROX

Roseau Municipal Airport - Rudy Billberg Field

Associated City: Roseau, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***18***	***19***	***19***	***21***
Single Engine Piston	16	17	17	19
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	2	2	2	2

*Aircraft Operations:				
Total:	***9,000***	***9,136***	***9,496***	***11,665***
	8,395	8,462	8,762	10,855
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	605	674	734	810

*Aircraft Operation Type:				
Local:	900	914	950	1,166
Itinerant:	8,100	8,222	8,546	10,499

*Aircraft Operation Purpose:				
Business:	8,100	8,223	8,547	10,499
Training:	900	913	949	1,166
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Roseau - ROX

Roseau Municipal Airport - Rudy Billberg Field

Associated City: Roseau, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,401	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	77,650	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	1,950		
Tie Downs (Each)	5		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	15	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	4		No Change
Landside Facilities:			
Automobile Parking (Spaces)	25	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Roseau - ROX

Roseau Municipal Airport - Rudy Billberg Field

Associated City: Roseau, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,400	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	4,000	-	-	-
Transient Aircraft Apron (SY)	77,650	-	-	-
Based Aircraft Apron (SY)	1,950	-	-	-
Tie Downs (Each)	5	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	15	0	0	0
Conventional Hangar (Units)	4	0	0	1
Landside Facilities:				
Automobile Parking (Spaces)	25	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Roseau - ROX

Roseau Municipal Airport - Rudy Billberg Field

Associated City: Roseau, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		200,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	336,998	333,086	72,055
	Runway Maintenance		✓	85,768	132,689	371,281
	Taxiway Maintenance		✓	178,032	118,790	275,162
	Runway Extension/Expansion	✓		875,000	-	-
IN	Instrument Approach Aid					
	ILS	✓		500,000	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		155,000	-	-
	Taxiway	✓		300,000	-	-
MA	Master Plan					
	ALP	✓	✓	12,500	-	190,000
	Master Plan		✓	-	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		450,000	-	-
	Conventional Hangars		✓	-	-	62,741
	T-Hangars			-	-	-
	Hangar Site Preparation	✓	✓	50,000	-	10,647
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking	✓		200,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	100,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR	✓		170,000	-	-
	ODALS			-	-	-
	PAPI	✓	✓	150,000	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			$ 3,763,298	$ 584,565	$ 1,081,886

20 Year Total Estimated Cost: $ 5,429,749

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Roseau - ROX

Roseau Municipal Airport - Rudy Billberg Field

Associated City: Roseau, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	YES	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rush City - ROS

Rush City Regional Airport

Associated City: Rush City, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	4,400
Width (Feet)	75
Average *PCI Value	56
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	76

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rush City - ROS

Rush City Regional Airport

Associated City: Rush City, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***59***	***67***	***72***	***84***
Single Engine Piston	56	63	68	79
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	2	2	3
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***22,063***	***24,297***	***26,264***	***34,796***
	21,155	23,132	24,874	33,176
Multi-Engine Piston	397	424	455	518
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	283	469	628	766
Military	10	9	9	8
Other	218	263	298	328

*Aircraft Operation Type:				
Local:	11,032	12,149	13,132	17,398
Itinerant:	11,031	12,148	13,132	17,398

*Aircraft Operation Purpose:				
Business:	2,206	2,430	2,626	3,480
Training:	8,826	9,719	10,506	13,919
Leisure:	11,031	12,148	13,132	17,397

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rush City - ROS

Rush City Regional Airport

Associated City: Rush City, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,400	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	26,450	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	15	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	52		No Change
Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rush City - ROS

Rush City Regional Airport

Associated City: Rush City, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,400	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	4,000	-	-	-
Transient Aircraft Apron (SY)	26,450	3,000	2,000	10,000
Based Aircraft Apron (SY)	-	1,000	-	620
Tie Downs (Each)	-	4	-	2
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	15	0	0	11
Conventional Hangar (Units)	52	0	2	0
Landside Facilities:				
Automobile Parking (Spaces)	20	70	-	15
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rush City - ROS

Rush City Regional Airport

Associated City: Rush City, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	240,884	149,348
	Transient Aircraft Apron		✓	-	233,584	467,168
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	653,653	33,822	204,208
	Runway Maintenance		✓	1,171,450	34,137	255,070
	Taxiway Maintenance		✓	39,714	93,383	205,251
	Runway Extension/Expansion	✓		3,875,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars		✓	-	144,530	-
	T-Hangars		✓	-	-	557,120
	Hangar Site Preparation	✓	✓	1,625,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓		150,000	-	-
PA	Parking		✓	-	352,565	75,550
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		300,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 7,914,817**	**$ 1,132,905**	**$ 2,203,715**

20 Year Total Estimated Cost: $ 11,251,437

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rush City - ROS

Rush City Regional Airport

Associated City: Rush City, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	NO	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rushford - 55Y

Rushford Municipal Airport

Associated City: Rushford, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	3,200
Width (Feet)	60
Average *PCI Value	87
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rushford - 55Y

Rushford Municipal Airport

Associated City: Rushford, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***10***	***12***	***12***	***13***
Single Engine Piston	8	9	9	9
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	2	3	3	4
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***2,000***	***2,255***	***2,434***	***2,954***
	1,684	1,756	1,798	2,179
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	316	499	636	775
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,200	1,353	1,460	1,772
Itinerant:	800	902	974	1,182

*Aircraft Operation Purpose:				
Business:	200	226	243	296
Training:	600	677	730	886
Leisure:	1,200	1,352	1,461	1,772

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rushford - 55Y

Rushford Municipal Airport

Associated City: Rushford, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,200	2,400 Feet	No Change
Runway Width (Feet)	60	75 Feet	Widen
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	2,060	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	1,950		
Based Tie Downs (Each)	5		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	12	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change
Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Full	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rushford - 55Y

Rushford Municipal Airport

Associated City: Rushford, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,200	-	-	-
Runway Widening (Feet)	60	15	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	2,060	-	-	-
Based Apron (S.Y.)	1,950	-	-	-
Tie Downs (Each)	5	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	12	0	0	0
Conventional Hangar (Units)	2	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	20	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rushford - 55Y

Rushford Municipal Airport

Associated City: Rushford, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		950,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓		75,000	-	-
IM	Improvements					
	Apron Maintenance		✓	2,277	8,566	39,957
	Runway Maintenance		✓	10,126	41,966	145,311
	Taxiway Maintenance		✓	5,816	9,764	58,992
	Runway Extension/Expansion	✓	✓	2,065,000	313,814	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		285,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		10,000	-	-
	Snow Removal Equipment	✓		150,000	-	-
OB	Obstruction Removal		✓	-	135,850	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		350,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	118,190	-
	REILS		✓	-	32,604	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS	✓		100,000	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 4,103,220**	**$ 850,753**	**$ 344,260**

20 Year Total Estimated Cost: $ 5,298,233

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Rushford - 55Y

Rushford Municipal Airport

Associated City: Rushford, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

St. Cloud - STC

St. Cloud Regional Airport

Associated City: St. Cloud, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	13-31
Length (Feet)	7,000
Width (Feet)	150
Average *PCI Value	95
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	98

Crosswind Runway:

Designation	5-23
Length (Feet)	3,000
Width (Feet)	75
Average *PCI Value	42
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	69

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

St. Cloud - STC

St. Cloud Regional Airport

Associated City: St. Cloud, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***107***	***121***	***129***	***148***
Single Engine Piston	82	92	99	114
Multi-Engine Piston	5	6	6	7
Turboprop	0	0	0	0
Jet	8	9	9	10
Light Sport	0	0	0	0
Military	12	14	15	17
Other	0	0	0	0

*Aircraft Operations:				
Total:	***37,709***	***42,116***	***44,715***	***55,639***
	28,628	31,415	33,688	44,626
Multi-Engine Piston	1,836	1,968	2,106	2,395
Turboprop	0	0	0	0
Jet	4,369	6,005	6,356	6,315
Light Sport	0	0	0	0
Military	2,876	2,728	2,565	2,303
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	28,283	31,587	33,536	41,730
Itinerant:	9,426	10,529	11,179	13,909

*Aircraft Operation Purpose:				
Business:	11,313	12,635	13,414	16,692
Training:	7,542	8,423	8,943	11,128
Leisure:	18,854	21,058	22,358	27,819

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

St. Cloud - STC

St. Cloud Regional Airport

Associated City: St. Cloud, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	7,000	5,000 Feet	No Change
Runway Width (Feet)	150	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	100,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	19,500		
Tie Downs (Each)	50		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	Yes	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	74	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	21		No Change
Landside Facilities:			
Automobile Parking (Spaces)	525	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

St. Cloud - STC

St. Cloud Regional Airport

Associated City: St. Cloud, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	7,000	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	12,000	-	-	-
Transient Aircraft Apron (SY)	100,000	-	-	-
Based Aircraft Apron (SY)	19,500	-	-	-
Tie Downs (Each)	50	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	Yes	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	74	10	4	16
Conventional Hangar (Units)	21	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	525	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

St. Cloud - STC

St. Cloud Regional Airport

Associated City: St. Cloud, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		2,000,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	1,403,718	873,348	992,638
	Runway Maintenance		✓	926,600	26,698	966,218
	Taxiway Maintenance		✓	2,017,028	6,669	671,661
	Runway Extension/Expansion	✓		7,050,000	-	-
IN	Instrument Approach Aid					
	ILS	✓		500,000	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		1,395,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan	✓	✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		49,000	-	-
	Conventional Hangars	✓		6,451,195	-	-
	T-Hangars	✓	✓	260,000	202,589	810,357
	Hangar Site Preparation	✓	✓	2,300,000	66,572	266,286
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		60,000	-	-
OB	Obstruction Removal			-	-	-
PA	Parking	✓		650,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR	✓		775,000	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 26,307,541**	**$ 1,645,876**	**$ 4,177,159**

20 Year Total Estimated Cost: *$ 32,130,575*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

St. Cloud - STC

St. Cloud Regional Airport

Associated City: St. Cloud, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

St. James - JYG

St. James Municipal Airport

Associated City: St. James, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	4,000
Width (Feet)	75
Average *PCI Value	96
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	74

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

St. James - JYG

St. James Municipal Airport

Associated City: St. James, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***12***	***13***	***14***	***14***
Single Engine Piston	11	12	12	12
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	0	0	0	0
Total:	***4,800***	***5,167***	***5,360***	***6,393***
	4,494	4,683	4,749	5,648
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	306	484	611	745
Military	0	0	0	0
Other	0	0	0	0
Local:	3,840	4,133	4,288	5,114
Itinerant:	960	1,034	1,072	1,279
Business:	960	1,034	1,072	1,278
Training:	3,840	4,133	4,288	5,114
Leisure:	0	0	0	1

***Aircraft Operations:**

***Aircraft Operation Type:**

***Aircraft Operation Purpose:**

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

St. James - JYG

St. James Municipal Airport

Associated City: St. James, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,000	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	3,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	Yes		No Change
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	12	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	3		No Change

Landside Facilities:			
Automobile Parking (Spaces)	35	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

St. James - JYG

St. James Municipal Airport

Associated City: St. James, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,000	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	3,000	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	12	0	0	0
Conventional Hangar (Units)	3	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	35	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

St. James - JYG

St. James Municipal Airport

Associated City: St. James, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		900,000	-	-
FF	Fuel Farm Development	✓		25,000	-	-
IM	Improvements					
	Apron Maintenance		✓	24,832	49,218	197,257
	Runway Maintenance	✓	✓	40,000	63,908	271,755
	Taxiway Maintenance		✓	43,035	59,168	98,004
	Runway Extension/Expansion	✓		1,095,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars	✓		300,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		174,000	-	-
	Snow Removal Equipment	✓		300,000	-	-
OB	Obstruction Removal		✓	-	124,280	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓		50,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	108,124	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			$ 3,241,868	$ 404,698	$ 857,017

20 Year Total Estimated Cost: $ 4,503,583

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

St. James - JYG

St. James Municipal Airport

Associated City: St. James, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Holman Field - STP

St. Paul Downtown Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	6,491
Width (Feet)	150
Average *PCI Value	55
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	100

Crosswind Runway:

Designation	9-27
Length (Feet)	3,642
Width (Feet)	100
Average *PCI Value	90
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	85

Other Runways:

Alternate Runway #1	13-31
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Holman Field - STP

St. Paul Downtown Airport

Associated City: St. Paul, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***99***	***113***	***125***	***134***
Single Engine Piston	23	22	21	19
Multi-Engine Piston	8	7	7	7
Turboprop	9	9	9	9
Jet	52	65	77	88
Light Sport	1	2	2	2
Military	0	0	0	0
Other	6	8	9	9

*Aircraft Operations:				
Total:	***88,995***	***93,395***	***103,462***	***115,698***
	33,321	29,621	30,343	32,115
Multi-Engine Piston	16,238	12,508	12,740	14,388
Turboprop	5,974	5,868	5,768	5,730
Jet	15,635	23,612	30,552	38,865
Light Sport	79	87	96	117
Military	0	0	0	0
Other	17,748	21,699	23,963	24,483

*Aircraft Operation Type:				
Local:	58,031	60,900	67,465	75,444
Itinerant:	30,964	32,495	35,997	40,254

*Aircraft Operation Purpose:				
Business:	37,043	38,874	43,065	48,158
Training:	34,658	36,371	40,293	45,058
Leisure:	17,294	18,150	20,105	22,482

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Holman Field - STP

St. Paul Downtown Airport

Associated City: St. Paul, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	6,491	5,000 Feet	No Change
Runway Width (Feet)	150	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	-	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Tie Downs (Each)	32		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	149		No Change
Landside Facilities:			
Automobile Parking (Spaces)	250	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Holman Field - STP

St. Paul Downtown Airport

Associated City: St. Paul, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	6,491	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	-	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	32	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	149	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	250	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Holman Field - STP

St. Paul Downtown Airport

Associated City: St. Paul, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓		100,000	-	-
	Runway Maintenance	✓		1,600,000	-	-
	Taxiway Maintenance	✓		1,100,000	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		700,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		600,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs	✓		500,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other	✓		500,000	-	-
	TOTALS			**$ 5,250,000**	**$ 470,000**	**$ 470,000**

20 Year Total Estimated Cost: *$ 6,190,000*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Holman Field - STP

St. Paul Downtown Airport

Associated City: Minneapolis, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NA	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NA	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NA	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	NA	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

NA = Not Applicable

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Lake Elmo - 21D

Lake Elmo Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	14-32
Length (Feet)	2,850
Width (Feet)	75
Average *PCI Value	40
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	50

Crosswind Runway:

Designation	4-22
Length (Feet)	2,497
Width (Feet)	75
Average *PCI Value	60
Runway Lighting	None
Taxiway Type:	Full
Average *PCI Value:	60

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Lake Elmo - 21D

Lake Elmo Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***230***	***245***	***253***	***262***
Single Engine Piston	205	220	224	229
Multi-Engine Piston	11	11	12	13
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	9	9	11	14
Military	0	0	0	0
Other	5	5	6	6
***Aircraft Operations:**				
Total:	***34,374***	***37,184***	***39,890***	***44,701***
	32,034	34,699	37,018	41,264
Multi-Engine Piston	1,225	1,288	1,449	1,810
Turboprop	296	313	327	358
Jet	25	56	87	161
Light Sport	377	416	460	560
Military	0	0	0	0
Other	417	412	549	548
***Aircraft Operation Type:**				
Local:	13,389	14,483	15,537	17,411
Itinerant:	20,985	22,701	24,353	27,290
***Aircraft Operation Purpose:**				
Business:	14,308	15,477	16,604	18,606
Training:	13,387	14,481	15,535	17,408
Leisure:	6,680	7,226	7,751	8,687

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Lake Elmo - 21D

Lake Elmo Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,850	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	NP	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	NP		
Based Tie Downs (Each)	NP		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPI		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	102	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	154		No Change
Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Lake Elmo - 21D

Lake Elmo Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,850	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	NP	-	-	-
Based Apron (S.Y.)	NP	-	-	-
Tie Downs (Each)	NP	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPI	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	102	0	0	0
Conventional Hangar (Units)	154	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	20	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Lake Elmo - 21D

Lake Elmo Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		1,200,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓		300,000	-	-
	Runway Maintenance	✓		5,500,000	-	-
	Taxiway Maintenance	✓		900,000	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		2,800,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 10,990,000**	**$ -**	**$ 290,000**

20 Year Total Estimated Cost: $ 11,280,000

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Lake Elmo - 21D

Lake Elmo Airport

Associated City: Minneapolis, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NA	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NA	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NA	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	NA	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

NA = Not Applicable

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Sauk Centre - D39

Sauk Centre Municipal Airport

Associated City: Sauk Centre, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	3,300
Width (Feet)	60
Average *PCI Value	56
Runway Lighting	LIRLs
Taxiway Type:	Partial
Average *PCI Value:	-

Crosswind Runway:

Designation	8-26
Length (Feet)	2,270
Width (Feet)	140
Average *PCI Value	-
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Sauk Centre - D39

Sauk Centre Municipal Airport

Associated City: Sauk Centre, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***15***	***16***	***17***	***20***
Single Engine Piston	12	13	14	16
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	2	2	2	3

***Aircraft Operations:**

Total:	***5,893***	***6,488***	***6,922***	***8,793***
	4,953	5,420	5,759	7,499
Multi-Engine Piston	434	464	492	560
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	30	28	27	24
Other	476	576	644	710

***Aircraft Operation Type:**

Local:	4,420	4,866	5,191	6,594
Itinerant:	1,473	1,622	1,731	2,199

***Aircraft Operation Purpose:**

Business:	4,420	4,866	5,191	6,594
Training:	1,473	1,622	1,731	2,199
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Sauk Centre - D39

Sauk Centre Municipal Airport

Associated City: Sauk Centre, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,300	2,400 Feet	No Change
Runway Width (Feet)	60	75 Feet	Widen
Parallel Txy/Turnaround	Partial	Turnaround	No Change
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	3,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	22	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	1		No Change
Landside Facilities:			
Automobile Parking (Spaces)	22	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Sauk Centre - D39

Sauk Centre Municipal Airport

Associated City: Sauk Centre, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,300	-	-	-
Runway Widening (Feet)	60	15	-	-
Parallel Txy/Turnaround	Partial	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	3,000	1,000	-	-
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	2	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	22	0	0	0
Conventional Hangar (Units)	1	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	22	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Sauk Centre - D39

Sauk Centre Municipal Airport

Associated City: Sauk Centre, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	218,147	-
	Transient Aircraft Apron		✓	-	42,307	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		480,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	64,846	271,695	292,410
	Runway Maintenance	✓	✓	703,912	20,482	153,042
	Taxiway Maintenance		✓	52,875	139	9,654
	Runway Extension/Expansion	✓	✓	1,150,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		130,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	20,000	-	190,000
	Master Plan		✓	-	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		30,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓	✓	30,000	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		50,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓		20,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI	✓	✓	46,000	-	-
	REILS	✓	✓	24,000	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone	✓		6,000	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,807,633**	**$ 552,770**	**$ 745,106**

20 Year Total Estimated Cost: $ 4,105,509

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Sauk Centre - D39

Sauk Centre Municipal Airport

Associated City: Sauk Centre, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Silver Bay - BFW

Silver Bay Municipal Airport -Wayne Johnson

Associated City: Silver Bay, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	7-25
Length (Feet)	3,200
Width (Feet)	75
Average *PCI Value	70
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Silver Bay - BFW

Silver Bay Municipal Airport -Wayne Johnson

Associated City: Silver Bay, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***6***	***6***	***7***	***7***
Single Engine Piston	4	4	5	5
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	2	2	2	2

*Aircraft Operations:				
Total:	***3,300***	***3,555***	***3,775***	***4,647***
	2,562	2,696	2,827	3,602
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	738	859	948	1,045

*Aircraft Operation Type:				
Local:	1,650	1,778	1,888	2,324
Itinerant:	1,650	1,777	1,887	2,323

*Aircraft Operation Purpose:				
Business:	165	178	189	232
Training:	2,805	3,022	3,209	3,950
Leisure:	330	355	377	465

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Silver Bay - BFW

Silver Bay Municipal Airport -Wayne Johnson

Associated City: Silver Bay, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,200	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	None	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	6,864	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	11	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	0		No Change
Landside Facilities:			
Automobile Parking (Spaces)	10	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Silver Bay - BFW

Silver Bay Municipal Airport -Wayne Johnson

Associated City: Silver Bay, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,200	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	6,864	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	11	0	0	0
Conventional Hangar (Units)	0	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	10	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Silver Bay - BFW

Silver Bay Municipal Airport -Wayne Johnson

Associated City: Silver Bay, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)	✓		500,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓		200,000	-	-
IM	Improvements					
	Apron Maintenance		✓	179,862	365,185	113,993
	Runway Maintenance		✓	80,533	121,320	891,681
	Taxiway Maintenance		✓	119,530	7,710	69,614
	Runway Extension/Expansion	✓		430,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		120,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		50,000	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment	✓		25,000	-	-
	Snow Removal Equipment	✓		95,000	-	-
OB	Obstruction Removal		✓	-	137,280	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	500,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,589,925**	**$ 631,495**	**$ 1,365,288**

20 Year Total Estimated Cost: $ 4,586,709

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Silver Bay - BFW

Silver Bay Municipal Airport -Wayne Johnson

Associated City: Silver Bay, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Slayton - DVP

Slayton Municipal Airport

Associated City: , MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	17-35
Length (Feet)	3,005
Width (Feet)	60
Average *PCI Value	26
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Slayton - DVP

Slayton Municipal Airport

Associated City: Slayton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***5***	***5***	***5***	***5***
Single Engine Piston	4	4	4	4
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***2,400***	***2,562***	***2,600***	***3,029***
	2,098	2,210	2,227	2,617
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	302	352	373	412

*Aircraft Operation Type:				
Local:	1,416	1,512	1,534	1,787
Itinerant:	984	1,050	1,066	1,242

*Aircraft Operation Purpose:				
Business:	999	1,066	1,082	1,262
Training:	935	998	1,013	1,180
Leisure:	466	498	505	589

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Slayton - DVP

Slayton Municipal Airport

Associated City: Slayton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,005	2,400 Feet	No Change
Runway Width (Feet)	60	75 Feet	Widen
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	10,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Primary R/W Approach Type			
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	Yes		No Change
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	12	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	0		No Change

Landside Facilities:			
Automobile Parking (Spaces)	4	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Slayton - DVP

Slayton Municipal Airport

Associated City: Slayton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,005	-	-	-
Runway Widening (Feet)	60	15	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	10,000	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	12	0	0	0
Conventional Hangar (Units)	0	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	4	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Slayton - DVP

Slayton Municipal Airport

Associated City: Slayton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	36,321	479,283	39,000
	Runway Maintenance	✓	✓	1,138,587	11,566	131,951
	Taxiway Maintenance		✓	109,925	166	11,483
	Runway Extension/Expansion		✓	-	205,404	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓	✓	150,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars	✓		50,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,000	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	206,801	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	108,124	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,774,832**	**$ 1,141,343**	**$ 472,433**

20 Year Total Estimated Cost: $ 3,388,609

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Slayton - DVP

Slayton Municipal Airport

Associated City: , MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	NO	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Sleepy Eye - Y58

Sleepy Eye Municipal Airport

Associated City: Sleepy Eye, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	2,570
Width (Feet)	300
Average *PCI Value	No PCI exists
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	4-22
Length (Feet)	2,440
Width (Feet)	300
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Sleepy Eye - Y58

Sleepy Eye Municipal Airport

Associated City: Sleepy Eye, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***10***	***10***	***12***	***12***
Single Engine Piston	6	6	7	7
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	3	3	3	3

*Aircraft Operations:				
Total:	***1,720***	***2,419***	***2,564***	***2,950***
	1,217	1,262	1,295	1,574
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	152	239	305	372
Military	0	0	0	0
Other	351	402	434	479

*Aircraft Operation Type:				
Local:	1,298	1,428	1,513	1,741
Itinerant:	902	991	1,051	1,209

*Aircraft Operation Purpose:				
Business:	916	1,007	1,067	1,228
Training:	857	943	998	1,149
Leisure:	427	469	499	573

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Sleepy Eye - Y58

Sleepy Eye Municipal Airport

Associated City: Sleepy Eye, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,570	2,000 Feet	No Change
Runway Width (Feet)	300	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	LIRLs	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Aircraft Apron (SY)	930	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	1,170		
Tie Downs (Each)	3		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	95% of Single & Multi	No Change
Conventional Hangar (Units)	13		No Change
Landside Facilities:			
Automobile Parking (Spaces)	18	1 Stall per B.A.	No Change
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Sleepy Eye - Y58

Sleepy Eye Municipal Airport

Associated City: Sleepy Eye, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,570	-	-	-
Runway Widening (Feet)	300	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Aircraft Apron (SY)	930	1,500	1,000	-
Based Aircraft Apron (SY)	1,170	-	-	-
Tie Downs (Each)	3	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	13	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	18	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Sleepy Eye - Y58

Sleepy Eye Municipal Airport

Associated City: Sleepy Eye, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance	✓		85,200	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		270,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓		60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		224,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	206,801	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon		✓	-	39,770	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 639,200**	**$ 246,571**	**$ -**

20 Year Total Estimated Cost: $ *885,771*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Sleepy Eye - Y58

Sleepy Eye Municipal Airport

Associated City: Sleepy Eye, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

South St. Paul - SGS

South St. Paul Municipal Airport - Richard E. Fleming Field

Associated City: South St. Paul, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	16-34
Length (Feet)	4,001
Width (Feet)	100
Average *PCI Value	69
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	67

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

South St. Paul - SGS

South St. Paul Municipal Airport - Richard E. Fleming Field

Associated City: South St. Paul, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***248***	***275***	***303***	***365***
Single Engine Piston	217	241	264	316
Multi-Engine Piston	10	11	12	15
Turboprop	12	13	15	18
Jet	0	0	0	0
Light Sport	3	4	5	8
Military	0	0	0	0
Other	6	6	7	8

*Aircraft Operations:				
Total:	***61,999***	***67,603***	***74,257***	***97,806***
	51,432	55,579	60,814	83,660
Multi-Engine Piston	2,493	2,631	2,873	3,268
Turboprop	6,721	7,541	8,252	8,185
Jet	0	0	0	0
Light Sport	533	873	1,190	1,450
Military	0	0	0	0
Other	820	979	1,128	1,243

*Aircraft Operation Type:				
Local:	40,300	43,943	48,266	63,573
Itinerant:	21,699	23,660	25,991	34,233

*Aircraft Operation Purpose:				
Business:	23,560	25,690	28,217	37,166
Training:	34,100	37,182	40,841	53,793
Leisure:	4,339	4,731	5,199	6,847

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

South St. Paul - SGS

South St. Paul Municipal Airport - Richard E. Fleming Field

Associated City: South St. Paul, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,001	2,400 Feet	No Change
Runway Width (Feet)	100	75 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	2,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	12,090		
Tie Downs (Each)	31		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		No Change
Approach Lighting	No		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	70	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	126		No Change
Landside Facilities:			
Automobile Parking (Spaces)	253	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Full	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

South St. Paul - SGS

South St. Paul Municipal Airport - Richard E. Fleming Field

Associated City: South St. Paul, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,001	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Aircraft Apron (SY)	2,000	55,000	2,000	16,000
Based Aircraft Apron (SY)	12,090	-	-	-
Tie Downs (Each)	31	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	-	-	-
Approach Lighting	No	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	70	66	27	59
Conventional Hangar (Units)	126	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	253	92	35	77
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

South St. Paul - SGS

South St. Paul Municipal Airport - Richard E. Fleming Field

Associated City: South St. Paul, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓		790,000	-	-
	Runway Maintenance	✓		255,360	-	-
	Taxiway Maintenance	✓		926,040	-	-
	Runway Extension/Expansion	✓		1,315,790	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		540,000	-	-
	Hangar Site Preparation	✓		120,000	-	-
	Miscellaneous Equipment	✓		128,100	-	-
	Snow Removal Equipment	✓		224,438	-	-
OB	Obstruction Removal			-		-
PA	Parking			-		
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 4,399,728**	**$ 190,000**	**$ 100,000**

20 Year Total Estimated Cost: *$ 4,689,728*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

South St. Paul - SGS

South St. Paul Municipal Airport - Richard E. Fleming Field

Associated City: South St. Paul, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NA	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NA	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NA	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	NA	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

NA = Not Applicable

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Springfield - D42

Springfield Municipal Airport

Associated City: Springfield, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	3,400
Width (Feet)	75
Average *PCI Value	92
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Springfield - D42

Springfield Municipal Airport

Associated City: Springfield, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***4***	***4***	***5***	***5***
Single Engine Piston	3	3	3	3
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***2,420***	***2,787***	***3,034***	***3,665***
	1,936	2,021	2,062	2,480
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	484	766	972	1,185
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	484	557	607	733
Itinerant:	1,936	2,230	2,427	2,932

*Aircraft Operation Purpose:				
Business:	1,452	1,672	1,820	2,200
Training:	968	1,115	1,214	1,466
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Springfield - D42

Springfield Municipal Airport

Associated City: Springfield, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,400	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	5,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	3,510		
Based Tie Downs (Each)	9		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	6	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	1		No Change
Landside Facilities:			
Automobile Parking (Spaces)	14	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Springfield - D42

Springfield Municipal Airport

Associated City: Springfield, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,400	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	5,000	-	-	-
Based Aircraft Apron (SY)	3,510	-	-	-
Tie Downs (Each)	9	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	6	0	0	0
Conventional Hangar (Units)	1	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	14	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Springfield - D42

Springfield Municipal Airport

Associated City: Springfield, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		675,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	5,115	28,888	134,187
	Runway Maintenance		✓	9,180	63,154	256,304
	Taxiway Maintenance		✓	148	2,584	47,337
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		366,647	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		120,000	-	-
OB	Obstruction Removal		✓	-	124,280	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	206,801	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,466,089**	**$ 425,707**	**$ 727,828**

20 Year Total Estimated Cost: ***$ 2,619,624***

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Springfield - D42

Springfield Municipal Airport

Associated City: Springfield, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Staples - SAZ

Staples Municipal Airport

Associated City: Staples, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	3,304
Width (Feet)	75
Average *PCI Value	87
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Staples - SAZ

Staples Municipal Airport

Associated City: Staples, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***20***	***22***	***22***	***24***
Single Engine Piston	17	19	19	21
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	2	2	2	2

*Aircraft Operations:				
Total:	***9,600***	***10,288***	***10,730***	***13,255***
	8,498	9,061	9,419	11,790
Multi-Engine Piston	526	548	568	646
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	576	679	743	819

*Aircraft Operation Type:				
Local:	4,800	5,144	5,365	6,628
Itinerant:	4,800	5,144	5,365	6,627

*Aircraft Operation Purpose:				
Business:	1,920	2,058	2,146	2,651
Training:	6,720	7,201	7,511	9,279
Leisure:	960	1,029	1,073	1,325

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Staples - SAZ

Staples Municipal Airport

Associated City: Staples, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,304	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	None	Turnaround	Install
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	8,333	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	6,240		
Tie Downs (Each)	16		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	22	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	5		No Change
Landside Facilities:			
Automobile Parking (Spaces)	50	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Staples - SAZ

Staples Municipal Airport

Associated City: Staples, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,304	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	None	Turnaround	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	8,333	3,500	500	2,000
Based Aircraft Apron (SY)	6,240	-	-	-
Tie Downs (Each)	16	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	22	0	0	0
Conventional Hangar (Units)	5	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	50	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Staples - SAZ

Staples Municipal Airport

Associated City: Staples, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	169,229	84,614
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		400,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	400,000	448,960	74,588
	Runway Maintenance		✓	12,840	50,967	179,498
	Taxiway Maintenance	✓	✓	339,960	2,121	41,826
	Runway Extension/Expansion	✓		40,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars	✓		300,000	-	-
	T-Hangars	✓		180,000	-	-
	Hangar Site Preparation	✓		100,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking	✓		57,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	219,998	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,119,800**	**$ 891,275**	**$ 670,526**

20 Year Total Estimated Cost: *$ 3,681,600*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Staples - SAZ

Staples Municipal Airport

Associated City: Staples, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Starbuck - D32

Starbuck Municipal Airport

Associated City: Starbuck, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	2,512
Width (Feet)	198
Average *PCI Value	Turf
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Starbuck - D32

Starbuck Municipal Airport

Associated City: Starbuck, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***3***	***3***	***3***	***4***
Single Engine Piston	3	3	3	4
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***1,600***	***1,700***	***1,772***	***2,222***
	1,600	1,700	1,772	2,222
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	944	1,003	1,045	1,311
Itinerant:	656	697	727	911

*Aircraft Operation Purpose:				
Business:	666	708	737	925
Training:	623	662	690	865
Leisure:	311	330	345	432

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Starbuck - D32

Starbuck Municipal Airport

Associated City: Starbuck, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,512	2,000 Feet	No Change
Runway Width (Feet)	198	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	LIRLs	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Aircraft Apron (SY)	1,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	Yes		No Change
T-Hangar (Units)	3	95% of Single & Multi	No Change
Conventional Hangar (Units)	0		Construct
Landside Facilities:			
Automobile Parking (Spaces)	27	1 Stall per B.A.	No Change
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Starbuck - D32

Starbuck Municipal Airport

Associated City: Starbuck, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,512	-	-	-
Runway Widening (Feet)	198	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Aircraft Apron (SY)	1,500	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	3	0	0	0
Conventional Hangar (Units)	0	1	0	0
Landside Facilities:				
Automobile Parking (Spaces)	27	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Starbuck - D32

Starbuck Municipal Airport

Associated City: Starbuck, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		10,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars	✓	✓	50,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓	✓	10,000	-	-
	Miscellaneous Equipment	✓		25,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	20,000	197,834	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 175,000**	**$ 197,834**	**$ -**

20 Year Total Estimated Cost: ***$ 372,834***

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Starbuck - D32

Starbuck Municipal Airport

Associated City: Starbuck, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Stephen - D41

Stephen Municipal Airport

Associated City: Stephen, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	17-35
Length (Feet)	2,700
Width (Feet)	60
Average *PCI Value	83
Runway Lighting	LIRLs
Taxiway Type:	Full
Average *PCI Value:	86

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Stephen - D41

Stephen Municipal Airport

Associated City: Stephen, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***9***	***9***	***9***	***9***
Single Engine Piston	7	7	7	7
Multi-Engine Piston	0	0	0	0
Turboprop	1	1	1	1
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***5,279***	***5,515***	***5,511***	***6,089***
	3,718	3,826	3,810	4,362
Multi-Engine Piston	0	0	0	0
Turboprop	1,255	1,341	1,336	1,325
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	306	348	365	402

*Aircraft Operation Type:				
Local:	5,280	5,516	5,510	6,089
Itinerant:	-1	-1	1	0

*Aircraft Operation Purpose:				
Business:	5,280	5,516	5,510	6,089
Training:	0	0	0	0
Leisure:	0	0	1	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Stephen - D41

Stephen Municipal Airport

Associated City: Stephen, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,700	4,200 Feet	Extend
Runway Width (Feet)	60	75 Feet	Widen
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	LIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	None	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	1,860	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	8	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	5		No Change

Landside Facilities:			
Automobile Parking (Spaces)	-	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Stephen - D41

Stephen Municipal Airport

Associated City: Stephen, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,700	1,500	-	-
Runway Widening (Feet)	60	15	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Aircraft Apron (SY)	1,860	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	8	0	0	0
Conventional Hangar (Units)	5	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	-	12	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Stephen - D41

Stephen Municipal Airport

Associated City: Stephen, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	53,733	127,016	19,607
	Runway Maintenance	✓	✓	15,350	41,311	128,754
	Taxiway Maintenance	✓	✓	20,000	17,526	75,942
	Runway Extension/Expansion		✓	-	695,224	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway		✓	-	53,235	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		440,000	-	-
	Hangar Site Preparation	✓		220,000	-	-
	Miscellaneous Equipment	✓		45,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	126,750	-
PA	Parking		✓	-	52,475	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	210,912	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	110,273	-
	REILS		✓	-	30,420	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,084,083**	**$ 1,465,141**	**$ 514,303**

20 Year Total Estimated Cost: $ 3,063,527

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Stephen - D41

Stephen Municipal Airport

Associated City: Stephen, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Thief River Falls - TVF

Thief River Falls Regional Airport

Associated City: Thief River Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	Yes
Cargo Service:	Yes
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	13-31
Length (Feet)	6,503
Width (Feet)	150
Average *PCI Value	58
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	50

Crosswind Runway:

Designation	3-21
Length (Feet)	4,997
Width (Feet)	75
Average *PCI Value	89
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	89

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Thief River Falls - TVF

Thief River Falls Regional Airport

Associated City: Thief River Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***27***	***29***	***29***	***31***
Single Engine Piston	21	23	23	25
Multi-Engine Piston	1	1	1	1
Turboprop	1	1	1	1
Jet	3	3	3	3
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

*Aircraft Operations:				
Total:	***29,778***	***32,872***	***33,551***	***38,475***
	20,995	22,206	22,704	27,472
Multi-Engine Piston	1,052	1,086	1,108	1,261
Turboprop	2,363	2,595	2,653	2,631
Jet	4,692	6,216	6,272	6,232
Light Sport	0	0	0	0
Military	100	95	89	80
Other	576	674	725	799

*Aircraft Operation Type:				
Local:	10,124	11,176	11,407	13,082
Itinerant:	19,654	21,696	22,144	25,393

*Aircraft Operation Purpose:				
Business:	8,933	9,862	10,066	11,543
Training:	5,955	6,574	6,710	7,695
Leisure:	14,890	16,436	16,775	19,237

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Thief River Falls - TVF

Thief River Falls Regional Airport

Associated City: Thief River Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	6,503	5,000 Feet	No Change
Runway Width (Feet)	150	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	HIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	40,250	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	4,680		
Based Tie Downs (Each)	12		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	Yes	Commercial Terminal	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	18	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	5		Construct
Landside Facilities:			
Automobile Parking (Spaces)	88	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	Full	Full	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Thief River Falls - TVF

Thief River Falls Regional Airport

Associated City: Thief River Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	6,503	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	24,000	-	-	-
Transient Aircraft Apron (SY)	40,250	21,000	1,000	8,000
Based Aircraft Apron (SY)	4,680	-	-	-
Tie Downs (Each)	12	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	Yes	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	18	0	0	0
Conventional Hangar (Units)	5	5	0	2
Landside Facilities:				
Automobile Parking (Spaces)	88	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Thief River Falls - TVF

Thief River Falls Regional Airport

Associated City: Thief River Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	892,320	324,480
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		1,083,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	987,734	530,196	390,052
	Runway Maintenance	✓	✓	3,554,214	175,336	980,278
	Taxiway Maintenance	✓	✓	3,780,000	167,351	752,646
	Runway Extension/Expansion	✓		3,550,000	-	-
IN	Instrument Approach Aid					
	ILS	✓		5,600,000	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	320,000	320,000	320,000
	Master Plan	✓	✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars	✓	✓	430,000	62,741	125,483
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	10,647	21,294
	Miscellaneous Equipment	✓		400,000	-	-
	Snow Removal Equipment	✓		600,000	-	-
OB	Obstruction Removal			-	-	-
PA	Parking	✓		120,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs	✓		15,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓		15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 20,604,948**	**$ 2,308,591**	**$ 3,064,233**

20 Year Total Estimated Cost: $ 25,977,772

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Thief River Falls - TVF

Thief River Falls Regional Airport

Associated City: Thief River Falls, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tower - 12D

Tower Municipal Airport

Associated City: Tower, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	8-26
Length (Feet)	3,400
Width (Feet)	75
Average *PCI Value	53
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tower - 12D

Tower Municipal Airport

Associated City: Tower, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***46***	***48***	***49***	***50***
Single Engine Piston	38	40	40	41
Multi-Engine Piston	3	3	3	3
Turboprop	0	0	0	0
Jet	1	1	1	1
Light Sport	1	1	2	2
Military	0	0	0	0
Other	3	3	3	3

*Aircraft Operations:				
Total:	***7,500***	***7,748***	***7,886***	***9,248***
	6,305	6,389	6,454	7,658
Multi-Engine Piston	524	518	522	594
Turboprop	0	0	0	0
Jet	260	329	328	326
Light Sport	124	191	240	293
Military	0	0	0	0
Other	287	321	342	377

*Aircraft Operation Type:				
Local:	6,000	6,199	6,309	7,399
Itinerant:	1,500	1,549	1,577	1,849

*Aircraft Operation Purpose:				
Business:	375	387	395	462
Training:	6,975	7,207	7,334	8,601
Leisure:	150	154	157	185

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tower - 12D

Tower Municipal Airport

Associated City: Tower, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,400	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	6,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	100% of Jets & Turbos	No Change
Conventional Hangar (Units)	49	95% of Single & Multi	No Change
Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tower - 12D

Tower Municipal Airport

Associated City: Tower, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,400	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	1,000	-	-	-
Transient Apron (S.Y.)	6,000	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	None	Yes	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	49	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	20	45	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tower - 12D

Tower Municipal Airport

Associated City: Tower, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓		100,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	193,411	42,820	76,107
	Runway Maintenance	✓	✓	1,077,285	27,144	202,819
	Taxiway Maintenance	✓	✓	78,062	23,227	110,877
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other	✓		25,000	-	-
MS	Miscellaneous					
	Buildings	✓		300,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓		475,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal	✓	✓	250,000	137,280	-
PA	Parking		✓	-	213,127	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		100,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI	✓		90,000	-	-
	REILS		✓	-	32,947	-
	Rotating Beacon		✓	-	43,930	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,788,758**	**$ 710,475**	**$ 489,802**

20 Year Total Estimated Cost: ***$ 3,989,036***

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tower - 12D

Tower Municipal Airport

Associated City: Tower, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tracy - TKC

Tracy Municipal Airport

Associated City: Tracy, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	11-29
Length (Feet)	3,100
Width (Feet)	75
Average *PCI Value	76
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	6-24
Length (Feet)	2,590
Width (Feet)	200
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	17-35
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tracy - TKC

Tracy Municipal Airport

Associated City: Tracy, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***7***	***7***	***8***	***8***
Single Engine Piston	7	7	8	8
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***3,040***	***3,169***	***3,248***	***3,951***
	3,040	3,169	3,248	3,951
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,824	1,901	1,949	2,370
Itinerant:	1,216	1,268	1,299	1,581

*Aircraft Operation Purpose:				
Business:	1,216	1,268	1,299	1,581
Training:	1,520	1,584	1,624	1,975
Leisure:	304	317	325	395

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tracy - TKC

Tracy Municipal Airport

Associated City: Tracy, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,100	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	3,600	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	5,460		
Tie Downs (Each)	14		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	8	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	1		No Change
Landside Facilities:			
Automobile Parking (Spaces)	13	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tracy - TKC

Tracy Municipal Airport

Associated City: Tracy, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,100	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	3,600	-	-	-
Based Aircraft Apron (SY)	5,460	-	-	-
Tie Downs (Each)	14	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	8	0	0	0
Conventional Hangar (Units)	1	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	13	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tracy - TKC

Tracy Municipal Airport

Associated City: Tracy, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		4,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		120,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	131,400	21,637	78,542
	Runway Maintenance	✓	✓	650,000	80,646	232,220
	Taxiway Maintenance	✓	✓	11,160	13,230	97,366
	Runway Extension/Expansion	✓		80,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars	✓		40,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	124,280	-
PA	Parking	✓		100,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning		✓	15,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	108,124	-
	REILS		✓	-	29,827	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone	✓		7,000	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,448,560**	**$ 377,745**	**$ 698,127**

20 Year Total Estimated Cost: *$ 2,524,431*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tracy - TKC

Tracy Municipal Airport

Associated City: Tracy, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Two Harbors - TWM

Two Harbors - Richard B. Helegson Municipal Airport

Associated City: Two Harbors, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	6-24
Length (Feet)	4,400
Width (Feet)	75
Average *PCI Value	63
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	66

Crosswind Runway:

Designation	15-33
Length (Feet)	2,581
Width (Feet)	150
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Two Harbors - TWM

Two Harbors - Richard B. Helegson Municipal Airport

Associated City: Two Harbors, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***44***	***46***	***49***	***53***
Single Engine Piston	36	38	40	43
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	1	1	2	2
Military	0	0	0	0
Other	6	6	6	7

*Aircraft Operations:				
Total:	***8,800***	***9,302***	***9,750***	***11,993***
	7,678	7,975	8,266	10,310
Multi-Engine Piston	224	228	235	268
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	160	252	325	396
Military	0	0	0	0
Other	738	847	924	1,019

*Aircraft Operation Type:				
Local:	5,280	5,581	5,850	7,195
Itinerant:	3,520	3,721	3,900	4,798

*Aircraft Operation Purpose:				
Business:	880	930	976	1,200
Training:	6,160	6,511	6,825	8,394
Leisure:	1,760	1,861	1,949	2,399

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Two Harbors - TWM

Two Harbors - Richard B. Helegson Municipal Airport

Associated City: Two Harbors, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,400	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	Jet-A & 100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	150,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	9,360		
Tie Downs (Each)	24		
Navigational Systems:			
Primary R/W Approach Type	Enhanced NPI w/Vertical	Enhanced NPI w/Vertical	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	33	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	7		No Change
Landside Facilities:			
Automobile Parking (Spaces)	43	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Two Harbors - TWM

Two Harbors - Richard B. Helegson Municipal Airport

Associated City: Two Harbors, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,400	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	3,000	-	-	-
Transient Aircraft Apron (SY)	150,000	-	-	-
Based Aircraft Apron (SY)	9,360	-	-	-
Tie Downs (Each)	24	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Enhanced NPI w/Vertical	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	33	0	0	0
Conventional Hangar (Units)	7	14	0	0
Landside Facilities:				
Automobile Parking (Spaces)	43	20	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Two Harbors - TWM

Richard B. Helegson Municipal Airport

Associated City: Two Harbors, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	918,931	372,605	270,340
	Runway Maintenance		✓	172,632	1,031,443	134,540
	Taxiway Maintenance	✓	✓	335,000	409,861	112,914
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		250,000	-	-
	Conventional Hangars	✓	✓	775,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓	✓	285,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking	✓	✓	145,000	94,723	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS	✓		15,000	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,996,562**	**$ 2,098,632**	**$ 617,794**

20 Year Total Estimated Cost: $ 5,712,988

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Two Harbors - TWM

Two Harbors - Richard B. Helegson Municipal Airport

Associated City: Two Harbors, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tyler - 63Y

Tyler Municipal Airport

Associated City: Tyler, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	14-32
Length (Feet)	2,600
Width (Feet)	160
Average *PCI Value	No PCI exists
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

sswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tyler - 63Y

Tyler Municipal Airport

Associated City: Tyler, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***5***	***6***	***6***	***6***
Single Engine Piston	5	6	6	6
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***1,500***	***1,615***	***1,657***	***2,015***
	1,500	1,615	1,657	2,015
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,350	1,454	1,491	1,813
Itinerant:	150	161	166	202

*Aircraft Operation Purpose:				
Business:	750	808	829	1,008
Training:	750	807	828	1,007
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tyler - 63Y

Tyler Municipal Airport

Associated City: Tyler, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,600	2,000 Feet	No Change
Runway Width (Feet)	160	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	LIRLs	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Apron (S.Y.)	1,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	Yes		No Change
T-Hangar (Units)	3	95% of Single & Multi	No Change
Conventional Hangar (Units)	2		Construct
Landside Facilities:			
Automobile Parking (Spaces)	100	1 Stall per B.A.	No Change
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tyler - 63Y

Tyler Municipal Airport

Associated City: Tyler, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,600	-	-	-
Runway Widening (Feet)	160	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Apron (S.Y.)	1,500	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	3	0	0	0
Conventional Hangar (Units)	2	1	0	0
Landside Facilities:				
Automobile Parking (Spaces)	100	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tyler - 63Y

Tyler Municipal Airport

Associated City: Tyler, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion	✓		25,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		120,000	-	-
	Conventional Hangars		✓	-	61,519	-
	T-Hangars			-	-	-
	Hangar Site Preparation		✓	-	10,439	-
	Miscellaneous Equipment	✓		63,000	-	-
	Snow Removal Equipment	✓		39,000	-	-
OB	Obstruction Removal	✓		5,000	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	206,802	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 312,000**	**$ 278,760**	**$ -**

20 Year Total Estimated Cost: $ *590,760*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Tyler - 63Y

Tyler Municipal Airport

Associated City: Tyler, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wadena - ADC

Wadena Municipal Airport

Associated City: Wadena, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	4,005
Width (Feet)	75
Average *PCI Value	83
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	83

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wadena - ADC

Wadena Municipal Airport

Associated City: Wadena, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***9***	***10***	***10***	***11***
Single Engine Piston	9	10	10	11
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***5,400***	***5,698***	***5,891***	***7,303***
	5,394	5,692	5,886	7,298
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	6	6	5	5
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,403	1,480	1,531	1,897
Itinerant:	3,997	4,218	4,360	5,406

*Aircraft Operation Purpose:				
Business:	2,248	2,372	2,453	3,040
Training:	2,103	2,219	2,294	2,844
Leisure:	1,049	1,107	1,144	1,419

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wadena - ADC

Wadena Municipal Airport

Associated City: Wadena, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	4,005	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	4,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	8		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPI		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	8	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	4		No Change
Landside Facilities:			
Automobile Parking (Spaces)	11	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Full	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wadena - ADC

Wadena Municipal Airport

Associated City: Wadena, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	4,005	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	4,000	6,000	-	3,000
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	8	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPI	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	8	0	0	0
Conventional Hangar (Units)	4	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	11	-	-	-
Perimeter Fencing	Full	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wadena - ADC

Wadena Municipal Airport

Associated City: Wadena, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	253,843	126,922
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		100,000	-	-
FF	Fuel Farm Development	✓		40,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	477,600	62,528	375,724
	Runway Maintenance	✓	✓	500,000	57,186	211,825
	Taxiway Maintenance	✓	✓	180,000	28,972	146,511
	Runway Extension/Expansion	✓		380,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		300,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓		50,000	-	-
	Miscellaneous Equipment	✓		100,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	132,210	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		100,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other	✓		130,000	-	-
	TOTALS			**$ 2,457,600**	**$ 724,739**	**$ 960,982**

20 Year Total Estimated Cost: *$ 4,143,320*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wadena - ADC

Wadena Municipal Airport

Associated City: Wadena, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Walker - Y49

Walker Municipal Airport

Associated City: Walker, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	3,220
Width (Feet)	75
Average *PCI Value	86
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	99

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Walker - Y49

Walker Municipal Airport

Associated City: Walker, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***29***	***34***	***38***	***46***
Single Engine Piston	23	26	28	33
Multi-Engine Piston	2	2	3	3
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	4	6	7	10
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***9,310***	***10,864***	***12,138***	***15,795***
	7,619	8,442	9,091	12,146
Multi-Engine Piston	697	754	810	922
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	994	1,668	2,237	2,727
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	6,517	7,605	8,497	11,056
Itinerant:	2,793	3,259	3,641	4,739

*Aircraft Operation Purpose:				
Business:	1,862	2,173	2,428	3,159
Training:	7,448	8,691	9,710	12,636
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Walker - Y49

Walker Municipal Airport

Associated City: Walker, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,220	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Full	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	15,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	5,460		
Based Tie Downs (Each)	14		
Navigational Systems:			
Primary R/W Approach Type	Visual	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	27	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	0		No Change
Landside Facilities:			
Automobile Parking (Spaces)	22	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Walker - Y49

Walker Municipal Airport

Associated City: Walker, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,220	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	15,000	-	-	-
Based Aircraft Apron (SY)	5,460	-	-	-
Tie Downs (Each)	14	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	27	8	0	7
Conventional Hangar (Units)	0	0	2	0
Landside Facilities:				
Automobile Parking (Spaces)	22	26	-	10
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Walker - Y49

Walker Municipal Airport

Associated City: Walker, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance		✓	5,337	18,094	103,713
	Runway Maintenance		✓	17,038	57,196	187,185
	Taxiway Maintenance		✓	31	28,163	172,337
	Runway Extension/Expansion	✓		-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		170,000	-	-
	Conventional Hangars		✓	-	128,700	-
	T-Hangars	✓	✓	250,000	-	350,350
	Hangar Site Preparation	✓	✓	150,000	21,840	103,740
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		150,000	-	-
OB	Obstruction Removal	✓	✓	20,000	-	-
PA	Parking		✓	-	116,610	44,850
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	300,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,162,406**	**$ 370,603**	**$ 1,252,175**

20 Year Total Estimated Cost: *$ 2,785,183*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Walker - Y49

Walker Municipal Airport

Associated City: Walker, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Warren - D37

Warren Municipal Airport

Associated City: Warren, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	12-30
Length (Feet)	3,205
Width (Feet)	75
Average *PCI Value	42
Runway Lighting	HIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	4-22
Length (Feet)	2,606
Width (Feet)	200
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Warren - D37

Warren Municipal Airport

Associated City: Warren, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***8***	***8***	***8***	***8***
Single Engine Piston	6	6	6	6
Multi-Engine Piston	0	0	0	0
Turboprop	2	2	2	2
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***2,400***	***2,529***	***2,531***	***2,740***
	1,342	1,391	1,392	1,611
Multi-Engine Piston	0	0	0	0
Turboprop	1,058	1,138	1,139	1,129
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,416	1,492	1,493	1,617
Itinerant:	984	1,037	1,038	1,123

*Aircraft Operation Purpose:				
Business:	999	1,053	1,053	1,141
Training:	935	985	986	1,067
Leisure:	466	491	492	532

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Warren - D37

Warren Municipal Airport

Associated City: Warren, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,205	4,200 Feet	Extend
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	HIRLs	MIRLs or LIRLs	No Change
Weather Reporting	No	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	3,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	1,560		
Based Tie Downs (Each)	4		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	No		Install
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	6	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change

Landside Facilities:			
Automobile Parking (Spaces)	8	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Warren - D37

Warren Municipal Airport

Associated City: Warren, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,205	995	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	3,000	-	-	-
Based Aircraft Apron (SY)	1,560	-	-	-
Tie Downs (Each)	4	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	6	0	0	0
Conventional Hangar (Units)	2	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	8	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Warren - D37

Warren Municipal Airport

Associated City: Warren, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		600,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		700,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	271,289	146,371	49,580
	Runway Maintenance	✓	✓	1,537,878	15,622	178,224
	Taxiway Maintenance	✓	✓	48,470	36	4,684
	Runway Extension/Expansion		✓	-	336,310	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓	✓	120,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	-	190,000
	Master Plan		✓	-	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓		150,000	-	-
	Hangar Site Preparation	✓		143,000	-	-
	Miscellaneous Equipment	✓		40,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	126,750	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	110,273	-
	REILS		✓	-	30,420	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,610,637**	**$ 765,781**	**$ 522,488**

20 Year Total Estimated Cost: *$ 4,898,907*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Warren - D37

Warren Municipal Airport

Associated City: Warren, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Warroad - RRT

Warroad International Memorial Airport

Associated City: Warroad, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	5,400
Width (Feet)	100
Average *PCI Value	83
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	67

Crosswind Runway:

Designation	4-22
Length (Feet)	2,987
Width (Feet)	150
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Warroad - RRT

Warroad International Memorial Airport

Associated City: Warroad, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***22***	***23***	***23***	***26***
Single Engine Piston	16	17	17	19
Multi-Engine Piston	1	1	1	1
Turboprop	3	3	3	4
Jet	1	1	1	1
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1	1	1	1

***Aircraft Operations:**

Total:	***8,700***	***9,047***	***9,362***	***10,722***
	5,296	5,364	5,549	6,864
Multi-Engine Piston	348	344	356	404
Turboprop	2,347	2,468	2,553	2,532
Jet	518	657	671	666
Light Sport	0	0	0	0
Military	0	0	0	0
Other	191	214	233	256

***Aircraft Operation Type:**

Local:	6,090	6,332	6,552	7,506
Itinerant:	2,610	2,715	2,810	3,216

***Aircraft Operation Purpose:**

Business:	6,960	7,237	7,489	8,579
Training:	1,305	1,357	1,404	1,608
Leisure:	435	453	469	535

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Warroad - RRT

Warroad International Memorial Airport

Associated City: Warroad, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,400	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	43,750	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	3,120		
Tie Downs (Each)	8		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	10	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	15		No Change
Landside Facilities:			
Automobile Parking (Spaces)	42	1 Stall per B.A. Plus 50%	No Change
Perimeter Fencing	None	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Warroad - RRT

Warroad International Memorial Airport

Associated City: Warroad, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,400	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Aircraft Apron (SY)	43,750	-	-	-
Based Aircraft Apron (SY)	3,120	-	-	-
Tie Downs (Each)	8	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	Enhanced NPI w/Vertical*	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	10	0	0	0
Conventional Hangar (Units)	15	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	42	-	-	-
Perimeter Fencing	None	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided. *End opposite PI.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Warroad - RRT

Warroad International Memorial Airport

Associated City: Warroad, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	420,000	81,861	339,710
	Runway Maintenance	✓	✓	62,880	143,203	440,353
	Taxiway Maintenance	✓	✓	309,120	153,526	782,338
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		100,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		120,000	-	-
OB	Obstruction Removal		✓	-	760,500	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	400,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR	✓		1,000	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			$ 1,883,000	$ 1,609,091	$ 2,032,400

20 Year Total Estimated Cost: $ 5,524,491

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Warroad - RRT

Warroad International Memorial Airport

Associated City: Warroad, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Waseca - ACQ

Waseca Municipal Airport

Associated City: Waseca, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	15-33
Length (Feet)	3,398
Width (Feet)	75
Average *PCI Value	82
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	72

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Waseca - ACQ

Waseca Municipal Airport

Associated City: Waseca, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***23***	***25***	***26***	***28***
Single Engine Piston	23	25	26	28
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***5,800***	***6,031***	***6,299***	***7,938***
	5,800	6,031	6,299	7,938
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	4,640	4,825	5,039	6,351
Itinerant:	1,160	1,206	1,260	1,587

*Aircraft Operation Purpose:				
Business:	580	603	630	794
Training:	4,930	5,126	5,354	6,748
Leisure:	290	302	315	396

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Waseca - ACQ

Waseca Municipal Airport

Associated City: Waseca, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,398	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Partial	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Apron (S.Y.)	1,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	No		Install
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	20	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	2		Construct
Landside Facilities:			
Automobile Parking (Spaces)	16	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	Partial	Full Desirable	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Waseca - ACQ

Waseca Municipal Airport

Associated City: Waseca, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,398	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Partial	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	1,500	1,500	-	-
Based Apron (S.Y.)	-	1,000	-	-
Tie Downs (Each)	-	2	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	20	0	0	0
Conventional Hangar (Units)	2	6	0	0
Landside Facilities:				
Automobile Parking (Spaces)	16	20	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Waseca - ACQ

Waseca Municipal Airport

Associated City: Waseca, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	224,153	-
	Transient Aircraft Apron		✓	-	65,208	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	413,417	16,063	132,981
	Runway Maintenance		✓	25,585	65,994	204,220
	Taxiway Maintenance	✓	✓	72,115	5,324	40,049
	Runway Extension/Expansion	✓		1,595,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		250,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		250,000	-	-
	Conventional Hangars	✓	✓	600,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		300,000	-	-
OB	Obstruction Removal		✓	-	135,850	-
PA	Parking		✓	-	93,737	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	118,190	-
	REILS		✓	-	32,604	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,606,117**	**$ 947,122**	**$ 477,250**

20 Year Total Estimated Cost: $ 5,030,489

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Waseca - ACQ

Waseca Municipal Airport

Associated City: Waseca, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Waskish - VWU

Waskish Municipal Airport

Associated City: Waskish, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	02-20
Length (Feet)	3,700
Width (Feet)	150
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Waskish - VWU

Waskish Municipal Airport

Associated City: Waskish, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***1***	***1***	***1***	***1***
Single Engine Piston	1	1	1	1
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***200***	***219***	***234***	***306***
	200	219	234	306
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	130	142	152	199
Itinerant:	70	77	82	107

*Aircraft Operation Purpose:				
Business:	30	33	35	46
Training:	170	186	199	260
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Waskish - VWU

Waskish Municipal Airport

Associated City: Waskish, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,700	2,000 Feet	No Change
Runway Width (Feet)	150	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	None	LIRLs if Open 24/7	Install
Weather Reporting	Yes	No Requirement	No Change
Fuel	None	No Requirement	No Change
Transient Aircraft Apron (SY)	1,550	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	No		Install
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	No		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change
Landside Facilities:			
Automobile Parking (Spaces)	8	1 Stall per B.A.	No Change
Perimeter Fencing	None	Separate Auto from Air	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Waskish - VWU

Waskish Municipal Airport

Associated City: Waskish, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,700	-	-	-
Runway Widening (Feet)	150	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	None	LIRLs	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	0	-	-	-
Transient Aircraft Apron (SY)	1,550	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	No	Yes	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	No	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	2	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	8	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Waskish - VWU

Waskish Municipal Airport

Associated City: Waskish, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion	✓		225,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway		✓	-	48,100	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP	✓	✓	25,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars	✓		30,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation			-	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	216,320	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon		✓	-	41,600	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 280,000**	**$ 306,020**	**$ -**

20 Year Total Estimated Cost: *$ 586,020*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Waskish - VWU

Waskish Municipal Airport

Associated City: Waskish, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	YES	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wells - 68Y

Wells Municipal Airport

Associated City: Wells, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	17-35
Length (Feet)	2,912
Width (Feet)	198
Average *PCI Value	No PCI exists
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wells - 68Y

Wells Municipal Airport

Associated City: Wells, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***8***	***8***	***8***	***8***
Single Engine Piston	8	8	8	8
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0
Total:	***5,200***	***5,270***	***5,270***	***6,096***
	5,200	5,270	5,270	6,096
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operations:**

***Aircraft Operation Type:**

Local:	4,160	4,216	4,216	4,877
Itinerant:	1,040	1,054	1,054	1,219

***Aircraft Operation Purpose:**

Business:	4,160	4,216	4,216	4,877
Training:	780	790	790	914
Leisure:	260	264	264	305

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wells - 68Y

Wells Municipal Airport

Associated City: Wells, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	2,912	2,000 Feet	No Change
Runway Width (Feet)	198	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	LIRLs	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	100LL	No Requirement	No Change
Transient Apron (S.Y.)	2,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	390		
Based Tie Downs (Each)	1		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		No Change
REILs	No		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	0	95% of Single & Multi	No Change
Conventional Hangar (Units)	6		Construct
Landside Facilities:			
Automobile Parking (Spaces)	7	1 Stall per B.A.	No Change
Perimeter Fencing	Partial	Separate Auto from Air	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wells - 68Y

Wells Municipal Airport

Associated City: Wells, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	2,912	-	-	-
Runway Widening (Feet)	198	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	2,000	1,000	-	-
Based Apron (S.Y.)	390	-	-	-
Tie Downs (Each)	1	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	-	-	-
REILs	No	-	-	-
Approach Lighting	None	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	0	0	0	0
Conventional Hangar (Units)	6	2	0	0
Landside Facilities:				
Automobile Parking (Spaces)	7	-	-	-
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wells - 68Y

Wells Municipal Airport

Associated City: Wells, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
		CIP	SASP	Short Term 2012-2015	Mid Term 2016-2020	Long Term 2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	43,472	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance			-	-	-
	Taxiway Maintenance	✓		60,000	-	-
	Runway Extension/Expansion	✓		540,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		200,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	60,000	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars		✓	-	134,492	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓	✓	280,000	22,823	-
	Miscellaneous Equipment	✓		90,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal			-	-	-
PA	Parking			-	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing			-	-	-
SG	Signs	✓		5,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,235,000**	**$ 200,786**	**$ -**

20 Year Total Estimated Cost: $ 1,435,786

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wells - 68Y

Wells Municipal Airport

Associated City: Wells, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: No

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wheaton - ETH

Wheaton Municipal Airport

Associated City: Wheaton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	16-34
Length (Feet)	3,300
Width (Feet)	75
Average *PCI Value	86
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	4-22
Length (Feet)	1,953
Width (Feet)	175
Average *PCI Value	No PCI Exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wheaton - ETH

Wheaton Municipal Airport

Associated City: Wheaton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***4***	***4***	***4***	***4***
Single Engine Piston	4	4	4	4
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***1,800***	***1,811***	***1,838***	***2,192***
	1,800	1,811	1,838	2,192
Multi-Engine Piston	0	0	0	0
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	1,800	1,811	1,838	2,192
Itinerant:	0	0	0	0

*Aircraft Operation Purpose:				
Business:	1,800	1,811	1,838	2,192
Training:	0	0	0	0
Leisure:	0	0	0	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wheaton - ETH

Wheaton Municipal Airport

Associated City: Wheaton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,300	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	3,800	Unhangared Based Aircraft & Peak Hour Itinerant Ops	No Change
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	No		Install
Approach Lighting	None		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	6	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	2		No Change

Landside Facilities:			
Automobile Parking (Spaces)	15	1 Stall per B.A. Plus 25%	No Change
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wheaton - ETH

Wheaton Municipal Airport

Associated City: Wheaton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,300	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	3,800	-	-	-
Based Aircraft Apron (SY)	-	-	-	-
Tie Downs (Each)	-	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	No	Yes	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	6	0	0	0
Conventional Hangar (Units)	2	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	15	-	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wheaton - ETH

Wheaton Municipal Airport

Associated City: Wheaton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		150,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		300,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	180,000	45,258	182,788
	Runway Maintenance		✓	21,235	60,973	193,333
	Taxiway Maintenance		✓	510	2,085	8,439
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	-	190,000	-
	Master Plan		✓	100,000	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars	✓		500,000	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓		300,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	130,910	-
PA	Parking	✓		230,000	-	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	217,834	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS		✓	-	31,418	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 1,781,745**	**$ 678,479**	**$ 484,560**

20 Year Total Estimated Cost: $ 2,944,784

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.

Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Wheaton - ETH

Wheaton Municipal Airport

Associated City: Wheaton, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Willmar - BDH

Willmar Municipal Airport - John L. Rice Field

Associated City: Willmar, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	13-31
Length (Feet)	5,500
Width (Feet)	100
Average *PCI Value	86
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	86

Crosswind Runway:

Designation	3-21
Length (Feet)	2,980
Width (Feet)	250
Average *PCI Value	No PCI exists
Runway Lighting	None
Taxiway Type:	None
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Willmar - BDH

Willmar Municipal Airport - John L. Rice Field

Associated City: Willmar, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***44***	***48***	***51***	***57***
Single Engine Piston	40	44	46	52
Multi-Engine Piston	3	3	4	4
Turboprop	0	0	0	0
Jet	1	1	1	1
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

***Aircraft Operations:**

Total:	***17,850***	***19,205***	***20,214***	***25,461***
	15,921	17,014	17,924	22,993
Multi-Engine Piston	1,256	1,311	1,378	1,567
Turboprop	0	0	0	0
Jet	623	833	867	861
Light Sport	0	0	0	0
Military	50	47	45	40
Other	0	0	0	0

***Aircraft Operation Type:**

Local:	5,250	5,649	5,945	7,489
Itinerant:	12,600	13,556	14,269	17,972

***Aircraft Operation Purpose:**

Business:	7,430	7,994	8,413	10,598
Training:	6,952	7,480	7,872	9,916
Leisure:	3,468	3,731	3,929	4,947

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Willmar - BDH

Willmar Municipal Airport - John L. Rice Field

Associated City: Willmar, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,500	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Apron (S.Y.)	100,000	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	-		
Based Tie Downs (Each)	-		
Navigational Systems:			
Primary R/W Approach Type	ILS/Enhanced NPI w/Vertical	Enhanced NPI w/Vertical (Both Ends)	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	20	100% of Jets & Turbos 95% of Single & Multi	No Change
Conventional Hangar (Units)	38		No Change
Landside Facilities:			
Automobile Parking (Spaces)	50	1 Stall per B.A. Plus 50%	Construct
Perimeter Fencing	Partial	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Willmar - BDH

Willmar Municipal Airport - John L. Rice Field

Associated City: Willmar, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,500	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	24,000	-	-	-
Transient Apron (S.Y.)	100,000	-	-	-
Based Apron (S.Y.)	-	-	-	-
Tie Downs (Each)	-	4	-	-
Navigational Systems:				
Primary R/W Approach Type	ILS/Enhanced NPI w/Vertical	Enhanced NPI w/Vertical*	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	yes			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	20	0	0	0
Conventional Hangar (Units)	38	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	50	26	-	10
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Willmar - BDH

Willmar Municipal Airport - John L. Rice Field

Associated City: Willmar, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		300,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron			-	-	-
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	183,000	37,783	273,578
	Runway Maintenance	✓	✓	205,200	93,752	375,113
	Taxiway Maintenance	✓	✓	127,800	47,967	254,347
	Runway Extension/Expansion	✓		1,940,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway	✓		70,000	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan	✓	✓	85,000	120,000	120,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		1,045,000	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓		350,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	780,000	-
PA	Parking		✓	-	117,425	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	650,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR	✓	✓	180,000	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 5,456,000**	**$ 1,516,927**	**$ 1,343,038**

20 Year Total Estimated Cost: *$ 8,315,965*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Willmar - BDH

Willmar Municipal Airport - John L. Rice Field

Associated City: Willmar, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Windom - MWM

Windom Municipal Airport

Associated City: Windom, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	17-35
Length (Feet)	3,599
Width (Feet)	75
Average *PCI Value	92
Runway Lighting	MIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Windom - MWM

Windom Municipal Airport

Associated City: Windom, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***16***	***18***	***18***	***19***
Single Engine Piston	15	17	17	18
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***8,300***	***8,962***	***9,237***	***11,311***
	7,756	8,388	8,646	10,639
Multi-Engine Piston	544	574	591	672
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	4,150	4,481	4,619	5,655
Itinerant:	4,150	4,481	4,618	5,656

*Aircraft Operation Purpose:				
Business:	4,150	4,481	4,619	5,655
Training:	3,320	3,585	3,695	4,524
Leisure:	830	896	923	1,130

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Windom - MWM

Windom Municipal Airport

Associated City: Windom, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,599	2,400 Feet	No Change
Runway Width (Feet)	75	75 Feet	No Change
Parallel Txy/Turnaround	Turnaround	Turnaround	No Change
Runway Lighting	MIRLs	MIRLs or LIRLs	No Change
Weather Reporting	Yes	As Needed	No Change
Fuel	100LL	24/7 100LL Desirable	No Change
Transient Aircraft Apron (SY)	10,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	1,170		
Based Tie Downs (Each)	3		
Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPI, REIL	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	None		Install
REILs	Yes		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	18	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	0		No Change
Landside Facilities:			
Automobile Parking (Spaces)	13	1 Stall per B.A. Plus 25%	Construct
Perimeter Fencing	None	Full Desirable	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Windom - MWM

Windom Municipal Airport

Associated City: Windom, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,599	-	-	-
Runway Widening (Feet)	75	-	-	-
Parallel Txy/Turnaround	Turnaround	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Aircraft Apron (SY)	10,500	-	-	3,000
Based Aircraft Apron (SY)	1,170	-	-	-
Tie Downs (Each)	3	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	None	PAPIs	-	-
REILs	Yes	-	-	-
Approach Lighting	None	-	-	-
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	18	4	0	0
Conventional Hangar (Units)	0	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	13	10	-	-
Perimeter Fencing	None	Partial	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Windom - MWM

Windom Municipal Airport

Associated City: Windom, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	-	119,309
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway			-	-	-
FF	Fuel Farm Development	✓		150,000	-	-
IM	Improvements					
	Apron Maintenance		✓	13,243	38,353	173,151
	Runway Maintenance		✓	10,133	69,800	283,351
	Taxiway Maintenance		✓	730	10,464	190,040
	Runway Extension/Expansion	✓		1,310,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	190,000	-	190,000
	Master Plan		✓	-	-	100,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars	✓	✓	300,000	-	-
	Hangar Site Preparation	✓	✓	100,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	124,280	-
PA	Parking		✓	-	42,877	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	206,802	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	108,124	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 2,074,106**	**$ 600,698**	**$ 1,055,851**

20 Year Total Estimated Cost: *$ 3,730,655*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Windom - MWM

Windom Municipal Airport

Associated City: Windom, MN
MnDOT Classification: Intermediate Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	Has One Runway End with NPIA and Vertical Guidance
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 15 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=40

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Winona - ONA

Winona Municipal Airport

Associated City: Winona, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	Yes

Primary Runway:

Designation	12-30
Length (Feet)	5,199
Width (Feet)	98
Average *PCI Value	48
Runway Lighting	MIRLs
Taxiway Type:	Full
Average *PCI Value:	59

Crosswind Runway:

Designation	17-35
Length (Feet)	2,553
Width (Feet)	74
Average *PCI Value	55
Runway Lighting	None
Taxiway Type:	Full
Average *PCI Value:	58

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Winona - ONA

Winona Municipal Airport

Associated City: Winona, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***43***	***45***	***48***	***50***
Single Engine Piston	32	34	35	37
Multi-Engine Piston	5	5	6	6
Turboprop	1	1	1	1
Jet	2	2	2	2
Light Sport	1	1	2	2
Military	0	0	0	0
Other	2	2	2	2
***Aircraft Operations:**				
Total:	***10,478***	***11,181***	***11,524***	***13,508***
	7,491	7,775	7,966	9,677
Multi-Engine Piston	1,231	1,248	1,276	1,451
Turboprop	553	596	611	606
Jet	732	952	963	957
Light Sport	176	276	352	429
Military	25	24	22	20
Other	270	310	334	368
***Aircraft Operation Type:**				
Local:	8,383	8,945	9,219	10,806
Itinerant:	2,095	2,236	2,305	2,702
***Aircraft Operation Purpose:**				
Business:	6,287	6,709	6,914	8,105
Training:	2,096	2,236	2,305	2,702
Leisure:	2,095	2,236	2,305	2,701

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Winona - ONA

Winona Municipal Airport

Associated City: Winona, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,199	5,000 Feet	No Change
Runway Width (Feet)	98	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	MIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	1,550	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	-		
Based Tie Downs (Each)	-		

Navigational Systems:			
Primary R/W Approach Type	Visual/Basic NPI	PI/Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	VASIs		Install
REILs	Yes		No Change
Approach Lighting	Yes		No Change

Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	30	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	4		Construct

Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A. Plus 50%	Construct
Perimeter Fencing	Partial	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Winona - ONA

Winona Municipal Airport

Associated City: Winona, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,199	-	-	-
Runway Widening (Feet)	98	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	MIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	10,000	-	-	-
Transient Aircraft Apron (SY)	1,550	4,500	-	1,500
Based Aircraft Apron (SY)	-	1,000	-	-
Tie Downs (Each)	-	4	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual/Basic NPI	PI/Enhanced NPI w/Vertical	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	VASIs	PAPIs	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	30	9	0	0
Conventional Hangar (Units)	4	0	3	2
Landside Facilities:				
Automobile Parking (Spaces)	20	60	-	-
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Winona - ONA

Winona Municipal Airport

Associated City: Winona, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron		✓	-	224,153	-
	Transient Aircraft Apron		✓	-	195,624	65,208
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		3,712,500	-	-
FF	Fuel Farm Development	✓		62,000	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	545,647	641,637	345,787
	Runway Maintenance	✓	✓	3,462,387	41,713	483,164
	Taxiway Maintenance	✓	✓	1,201,271	26,454	210,013
	Runway Extension/Expansion	✓		8,662,500	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		3,825,000	-	-
	Conventional Hangars		✓	-	-	134,492
	T-Hangars		✓	-	565,554	-
	Hangar Site Preparation		✓	-	185,843	22,823
	Miscellaneous Equipment	✓		96,000	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	815,100	-
PA	Parking		✓	-	281,210	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing		✓	-	559,702	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓		45,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI		✓	-	118,190	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 22,082,306**	**$ 4,125,179**	**$ 1,731,485**

20 Year Total Estimated Cost: *$ 27,938,969*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Winona - ONA

Winona Municipal Airport

Associated City: Winona, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	NO	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Winsted - 10D

Winsted Municipal Airport

Associated City: Winsted, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	No
On-Demand Charter:	No

Primary Runway:

Designation	9-27
Length (Feet)	3,248
Width (Feet)	200
Average *PCI Value	No PCI exists
Runway Lighting	LIRLs
Taxiway Type:	None
Average *PCI Value:	-

Crosswind Runway:

Designation	-
Length (Feet)	-
Width (Feet)	-
Average *PCI Value	-
Runway Lighting	-
Taxiway Type:	-
Average *PCI Value:	-

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Winsted - 10D

Winsted Municipal Airport

Associated City: Winsted, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***45***	***49***	***53***	***60***
Single Engine Piston	32	35	38	44
Multi-Engine Piston	1	1	1	1
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	12	13	14	15

***Aircraft Operations:**

Total:	***11,001***	***12,063***	***13,067***	***16,689***
	8,807	9,490	10,181	13,495
Multi-Engine Piston	290	305	326	371
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	1,904	2,268	2,560	2,823

***Aircraft Operation Type:**

Local:	8,030	8,806	9,539	12,183
Itinerant:	2,971	3,257	3,528	4,506

***Aircraft Operation Purpose:**

Business:	1,100	1,206	1,307	1,669
Training:	7,700	8,444	9,147	11,682
Leisure:	2,201	2,413	2,613	3,338

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Winsted - 10D

Winsted Municipal Airport

Associated City: Winsted, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	3,248	2,000 Feet	No Change
Runway Width (Feet)	200	75 Feet	No Change
Parallel Txy/Turnaround	None	None	No Change
Runway Lighting	LIRLs	LIRLs if Open 24/7	No Change
Weather Reporting	No	No Requirement	No Change
Fuel	100LL	No Requirement	No Change
Transient Apron (S.Y.)	1,500	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Apron (S.Y.)	2,500		
Based Tie Downs (Each)	6		
Navigational Systems:			
Primary R/W Approach Type	Visual	Visual	No Change
Wind Cone	Yes	Wind Cone, Rotating Beacon if Open 24/7	No Change
Rotating Beacon	None		No Change
PAPIs / VASIs	No		No Change
REILs	None		No Change
Approach Lighting	None		No Change
Airport Buildings:			
Commercial Terminal	No	Restroom	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	7	95% of Single & Multi	No Change
Conventional Hangar (Units)	66		No Change
Landside Facilities:			
Automobile Parking (Spaces)	20	1 Stall per B.A.	Construct
Perimeter Fencing	Partial	Separate Auto from Air	No Change

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Winsted - 10D

Winsted Municipal Airport

Associated City: Winsted, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	3,248	-	-	-
Runway Widening (Feet)	200	-	-	-
Parallel Txy/Turnaround	None	-	-	-
Runway Lighting	LIRLs	-	-	-
Weather Reporting	No	-	-	-
Fuel Capacity (Gal.)	NP	-	-	-
Transient Apron (S.Y.)	1,500	5,000	-	8,000
Based Apron (S.Y.)	2,500	-	-	-
Tie Downs (Each)	6	-	-	-
Navigational Systems:				
Primary R/W Approach Type	Visual	-	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	None	-	-	-
PAPIs / VASIs	No	-	-	-
REILs	None	-	-	-
Approach Lighting	None			
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	7	0	0	0
Conventional Hangar (Units)	66	0	0	0
Landside Facilities:				
Automobile Parking (Spaces)	20	30	-	40
Perimeter Fencing	Partial	-	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Winsted - 10D

Winsted Municipal Airport

Associated City: Winsted, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)	✓		462,000	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	233,584	140,150
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		380,000	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance			-	-	-
	Runway Maintenance	✓		27,800	-	-
	Taxiway Maintenance			-	-	-
	Runway Extension/Expansion	✓		4,657,000	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP			-	-	-
	Master Plan			-	-	-
	Other			-	-	-
MS	Miscellaneous					
	Buildings			-	-	-
	Conventional Hangars			-	-	-
	T-Hangars			-	-	-
	Hangar Site Preparation	✓		80,000	-	-
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment	✓		213,000	-	-
OB	Obstruction Removal			-	-	-
PA	Parking		✓	-	151,100	50,367
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓		220,000	-	-
SG	Signs			-	-	-
SZ	Safety Zone (RPZ)					
	Zoning	✓		54,000	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 6,093,800**	**$ 384,684**	**$ 190,517**

20 Year Total Estimated Cost: *$ 6,669,001*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Winsted - 10D

Winsted Municipal Airport

Associated City: Winsted, MN
MnDOT Classification: Landing Strip Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	YES	No Target Specified in SASP
Adequate Proximity to Alternate Airport	YES	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	NO	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	YES	Has an ALP
Pavement Condition Index (PCI)	NA	No Target Specified in SASP

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Worthington - OTG

Worthington Airport

Associated City: Worthington, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Airport Data Sheet

Commercial Service:	No
Cargo Service:	No
Flight Training:	Yes
On-Demand Charter:	No

Primary Runway:

Designation	11-29
Length (Feet)	5,499
Width (Feet)	100
Average *PCI Value	78
Runway Lighting	HIRLs
Taxiway Type:	Full
Average *PCI Value:	79

Crosswind Runway:

Designation	17-35
Length (Feet)	4,198
Width (Feet)	75
Average *PCI Value	91
Runway Lighting	MIRLs
Taxiway Type:	Partial
Average *PCI Value:	87

Other Runways:

Alternate Runway #1	-
Alternate Runway #2	-

Notes: *Pavement Condition Index (PCI) is a value specific to airport pavements as measured by MnDOT. Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Worthington - OTG

Worthington Airport

Associated City: Worthington, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Forecast Summary

Based Aircraft:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Total:	***24***	***26***	***29***	***31***
Single Engine Piston	21	23	25	27
Multi-Engine Piston	3	3	4	4
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	0	0	0	0
Other	0	0	0	0

*Aircraft Operations:				
Total:	***10,040***	***10,804***	***11,241***	***13,877***
	8,286	9,000	9,409	11,902
Multi-Engine Piston	1,245	1,321	1,378	1,567
Turboprop	0	0	0	0
Jet	0	0	0	0
Light Sport	0	0	0	0
Military	509	483	454	408
Other	0	0	0	0

*Aircraft Operation Type:				
Local:	4,016	4,321	4,496	5,551
Itinerant:	6,024	6,483	6,745	8,326

*Aircraft Operation Purpose:				
Business:	5,020	5,402	5,620	6,939
Training:	5,020	5,402	5,620	6,938
Leisure:	0	0	1	0

Notes: *An aircraft operation is an arrival or departure. Touch and go's count as two operations.
Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Worthington - OTG

Worthington Airport

Associated City: Worthington, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs Summary

Airside Facilities:	Base Year	Minimum System Objectives	Recommended
Runway Length (Feet)	5,499	5,000 Feet	No Change
Runway Width (Feet)	100	100 Feet	No Change
Parallel Txy/Turnaround	Full	Full	No Change
Runway Lighting	HIRLs	MIRLs	No Change
Weather Reporting	Yes	AWOS/ASOS	No Change
Fuel	Jet-A & 100LL	24/7 100LL & Jet A	No Change
Transient Aircraft Apron (SY)	7,859	Unhangared Based Aircraft & Peak Hour Itinerant Ops	Construct
Based Aircraft Apron (SY)	1,950		
Based Tie Downs (Each)	5		
Navigational Systems:			
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	PI/Enhanced NPI w/Vertical	Change
Wind Cone	Yes	Wind Cone, Rotating Beacon, PAPIs, MALSR/ALSF/ODALs	No Change
Rotating Beacon	Yes		No Change
PAPIs / VASIs	PAPIs		No Change
REILs	Yes		No Change
Approach Lighting	Yes		No Change
Airport Buildings:			
Commercial Terminal	No	GA/Admin Building	No Change
GA/Administration	Yes		No Change
Restroom	Yes		No Change
T-Hangar (Units)	19	100% of Jets & Turbos 95% of Single & Multi	Construct
Conventional Hangar (Units)	2		Construct
Landside Facilities:			
Automobile Parking (Spaces)	25	1 Stall per B.A. Plus 50%	Construct
Perimeter Fencing	Partial	Full	Install

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
R/W = Runway, PI = Precision Instrument, NPI = Non-precision Instrument, B.A. = Based Aircraft, NP = Not Provided.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Worthington - OTG

Worthington Airport

Associated City: Worthington, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

State Aviation System Plan Facility Needs by Term

Airside Facilities:	Base Year 2010	Short Term 2012 - 2015	Mid-Term 2016 - 2020	Long Term 2021 - 2030
Runway Extension (Feet)	5,499	-	-	-
Runway Widening (Feet)	100	-	-	-
Parallel Txy/Turnaround	Full	-	-	-
Runway Lighting	HIRLs	-	-	-
Weather Reporting	Yes	-	-	-
Fuel Capacity (Gal.)	12,000	-	-	-
Transient Aircraft Apron (SY)	7,859	8,000	-	1,000
Based Aircraft Apron (SY)	1,950	-	-	-
Tie Downs (Each)	5	-	-	-
Navigational Systems:				
Primary R/W Approach Type	PI/Enhanced NPI w/Vertical	Enhanced NPI w/Vertical*	-	-
Wind Cone	Yes	-	-	-
Rotating Beacon	Yes	-	-	-
PAPIs / VASIs	PAPIs	-	-	-
REILs	Yes	-	-	-
Approach Lighting	Yes	-		
Airport Buildings:				
Commercial Terminal	No	-	-	-
GA/Administration	Yes	-	-	-
Restroom	Yes	-	-	-
T-Hangar (Units)	19	4	0	0
Conventional Hangar (Units)	2	0	3	2
Landside Facilities:				
Automobile Parking (Spaces)	25	22	-	-
Perimeter Fencing	Partial	Full	-	-

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.

R/W = Runway, NP = Not Provided. *End opposite PI.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Worthington - OTG

Worthington Airport

Associated City: Worthington, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Project Needs Summary

Code	Project Type	Recommended By		COSTS		
				Short Term	Mid Term	Long Term
		CIP	SASP	2012-2015	2016-2020	2021-2030
CO	Construction					
	Apron (CIP)			-	-	-
	Based Aircraft Apron			-	-	-
	Transient Aircraft Apron		✓	-	318,157	39,757
DV	Development Land			-	-	-
EX	Extension/Expansion					
	Taxiway	✓		1,240,385	-	-
FF	Fuel Farm Development			-	-	-
IM	Improvements					
	Apron Maintenance	✓	✓	789,302	820,714	192,536
	Runway Maintenance		✓	319,920	250,578	807,861
	Taxiway Maintenance	✓	✓	184,680	135,573	646,388
	Runway Extension/Expansion			-	-	-
IN	Instrument Approach Aid					
	ILS			-	-	-
	FAA ILS Monitoring			-	-	-
LI	Lighting					
	Runway			-	-	-
	Taxiway			-	-	-
MA	Master Plan					
	ALP		✓	320,000	320,000	320,000
	Master Plan		✓	150,000	150,000	150,000
	Other			-	-	-
MS	Miscellaneous					
	Buildings	✓		134,000	-	-
	Conventional Hangars		✓	-	-	123,037
	T-Hangars		✓	-	301,809	-
	Hangar Site Preparation		✓	-	99,176	20,879
	Miscellaneous Equipment			-	-	-
	Snow Removal Equipment			-	-	-
OB	Obstruction Removal		✓	-	745,680	-
PA	Parking		✓	-	94,329	-
RF	ARFF Vehicle			-	-	-
SE	Security Improvements					
	Fencing	✓	✓	23,000	489,034	-
SG	Signs	✓		18,000	-	-
SZ	Safety Zone (RPZ)					
	Zoning			-	-	-
VI	Visual Approach Aids					
	MALSR			-	-	-
	ODALS			-	-	-
	PAPI			-	-	-
	REILS			-	-	-
	Rotating Beacon			-	-	-
WX	Weather Reporting					
	AWOS			-	-	-
	Wind Cone			-	-	-
NW	New Key Airport			-	-	-
O	Other			-	-	-
	TOTALS			**$ 3,179,287**	**$ 3,725,049**	**$ 2,300,458**

20 Year Total Estimated Cost: *$ 9,204,794*

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
Project with "✓" in SASP and CIP column identified as need from CIP and system plan. Cost based on higher planned value.
Projects with "✓" in CIP column are not system plan recommendation but are identified as short term need from airport's 2012-2017 CIP from which cost was obtained.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.

Worthington - OTG

Worthington Airport

Associated City: Worthington, MN
MnDOT Classification: Key Airport
NPIAS Airport: Yes

2012 State Aviation System Plan Airport Report Card

Performance Measure	Meets Target	Target
Adequate Approaches to Airport	NO	PI Approach to one Runway End and NPIA with Vertical Guidance on Opposite End
Adequate Proximity to Alternate Airport	NO	Airport is within 50 NM of IFR Alternate Airport
Adequate Proximity to Weather Reporting	YES	Airport is within 30 NM of AWOS/ASOS
Airport Surfaces Clear of Obstructions*	-	Has No FAR Part 77 Primary or Approach Surface Obstructions
Up-to-Date Navigational Systems*	-	Has Up-to-Date Navagation Aids for its Classification
Adequate Safety Zoning	YES	Has Adoped an Adequate State Safety Zoning Ordinance
Up-To-Date Planning Documents	NO	ALP and Master Plan Updated/Revisited Every 7 Years
Pavement Condition Index (PCI)	YES	Primary Runway Pavement Condition (PCI) >=56

Legend

YES = Airport Meets System Plan Target

NO = Airport Does Not Meet System Plan Target

\- = Sufficient Data Does Not Exist At This Time

Notes: Data provided is for system planning purposes and shall not be used to justify individual improvement projects.
*Data does not exist for all airports. MnDOT has established programs to collect missing data unavailable during the preparation of this plan.
PI = Precision Instrument, NPIA = Non Precision Instrument Approach, IFR = Instrument Flight Rules
NM = Nautical Miles, AWOS/ASOS = Automated Weather Observation Systems, ALP = Airport Layout Plan.

Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis.