Draft

Selecting a Search Area for a New Major Airport

Part 3: Recommended Search Area

Aug. 16, 1991

The third in a series of reports to the Twin Cities Area

NOT FOR RELEASE UNTIL: 9:15 A.M. AUGUST 16, 1991

Metropolitan Council Members

Mary E. Anderson, chair

Liz Anderson
Susan Anderson
Dirk deVries
Bonnie D. Featherstone
David F. Fisher
Jim Krautkremer
Carol Kummer
Kenneth Kunzman
E. Craig Morris
Esther Newcome
Donald B. Riley
James W. (Jim) Senden
Margaret Schreiner
Sondra R. Simonson
Dede Wolfson

New-Airport Search Area Advisory Task Force

Liz Anderson
Richard Beens, cochair
Keith Boleen
Vernon Boettcher
Beverly Boyd
Wayne Burggraaff
Steve Cramer
Jan DelCalzo
Marilyn Deneen
James Dommel
Steve Empey
Ted Furber
Kathleen Gaylord
Benjamin Griggs
Edward Gutzmann
Chilton Hagan
Larry Hamre
William T. Harper, Sr.
Joseph Harris
Beverly Hauschild
James Hearon, III
Phyllis Hiller
Gene Hollenstein
James Jensen
Mark Karnowski
John Labosky
David Lawrence
Kay Louis
Tom Morin
E. Craig Morris
Josephine Nunn, cochair
Roberta Opheim
John Pidgeon
Gloria Pinke
Mike Podawiltz
Larry Sawyer
Hugh Schilling
John Tschida
Ray Waldron
Marcy Waritz
Robert Worthington

Draft

Selecting a Search Area for a New Major Airport

Part 3: Recommended Search Area

Aug. 16, 1991

The third in a series of reports to the Twin Cities Area

Metropolitan Council
Mears Park Centre, 230 E. Fifth St.
St. Paul, MN 55101
612 291-6359 TDD 291-0904
Data Center 612 291-8140

Publication No. 559-91-108

This report was written by Metropolitan Council staff and consultants and presented to the Council's New-Airport Search Area Advisory Task Force on Aug. 16, 1991.

The preparation of this document was financed in part through a planning grant from the Federal Aviation Administration (FAA) as provided under section 505 of the Airport and Airway Improvement Act of 1982. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of this report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein nor does it indicate that the proposed development is environmentally acceptable in accordance with appropriate public laws.

Apogee Research, Inc., and Turner Collie & Braden, Inc., consultants to the Council, assisted in the preparation of this report.

CONTENTS

About This Report 1

EXECUTIVE SUMMARY 2

NEED FOR "DUAL-TRACK" STRATEGY 7

- Why Is the Search for a New Airport Location Under Way? 7
- What Is the "Dual-Track" Process? 7
- What Might the Result Be? 8
- It's a Six-Year Process 8
- Timetable for the Remainder of 1991 8

THE PLANNING PROCESS/PUBLIC PROCESS 10

- Creating a Task Force 10
- Setting Search Area Selection Criteria 10
- Applying the Criteria 11
- Public Review Process 11
- Need for More Detailed Data 12
- Search Area Selection Methodology 12
- Other Public Outreach 12

RECOMMENDED SEARCH AREA 13

- Profile and Comparison: Dakota Search Area 13
- Next Steps: Issues Identified For Airport Siting 19

RECOMMENDATIONS 26

- New Major Airport Search Area 26
- Associated Recommendations 26
  - Dual-Track Major Airport Planning Strategy 26
  - New Major Airport Siting 26
  - Land Use Compatibility 27
  - Financial and Technical Assistance 27
  - Assistance for Home Owners and Land Owners 27
  - Land banking 27

APPENDIX 28

- Part I: Summary of Task Force Search Area Selection Methodology 28
- Part II: Technical Description of Dakota Search Area 39

About This Report

This draft report has been prepared by Metropolitan Council staff and consultants for consideration by the Council's New-Airport Search Area Advisory Task Force. The report is also being circulated widely to people in the greater Twin Cities Metropolitan Area community for their consideration.

The report recommends designating the Dakota Search Area, a 115-square-mile area in east-central Dakota County, as the general location for a possible replacement airport for Minneapolis-St. Paul International Airport. The report represents the results of a sizable research effort and nearly a two-year community process to find a search area location within an area that originally included the 14 counties in and around the Twin Cities Area.

It addition to recommending the Dakota Search Area, the report explains the reasons for the selection. The report also has information on the background and need for the "dual-track" planning process; coordination activities and public participation; a statistical and technical profile of the Dakota Search Area; and a description of the methodology that was used to compare and evaluate three possible search areas that were identified earlier this year. An appendix contains the evaluation methodology and results in a matrix format.

This report is part of a series of documents prepared under the alternative review process approved by the Minnesota Environmental Quality Board MEQB) in lieu of an Environmental Impact Statement. The MEQB found the alternative review process as comprehensive or more comprehensive than an EIS.

EXECUTIVE SUMMARY

This report represents a significant step forward in the region's efforts to provide for adequate long-term airport capacity. After nearly two years of analysis, debate, and public meetings, the New-Major Search Area Advisory Task Force finds that the **Dakota Search Area** is the most promising area in which to locate a possible replacement airport for Minneapolis-St. Paul International Airport among the three search areas identified in early 1991 (see Figures 1 and 2).

Six major criteria and over three dozen specific measures for these criteria were used. The task force established priority rankings for the criteria as an integral part of their evaluation and judgments of the technical data (see Figure 3). Throughout the task force discussion, three elements emerged to shape the Task Force's recommendation (Figure 4):

- Maximize accessibility to the metropolitan region;
- Minimize environmental conflicts; and
- Address concerns about the impacts on people and existing land uses.

In addition, airspace, general land requirements, and a variety of policy issues were considered. All three search areas were found to have potential locations for a major airport. On balance the Dakota Search Area meets the criteria best and offers the most flexibility in siting (see Figure 4).

The Dakota Search Area provides the best overall time and distance access to the entire metropolitan area. The Dakota Search Area also has the advantage of relatively short distances to the developed urban core. On balance, Dakota-Scott is further removed both in terms of time and distance and would require additional expenditures. The Anoka-Isanti-Chisago area is significantly removed, with 40 to 50 percent of the metropolitan area's population, residential areas and employment more than one hour away.

Environmental considerations are important for ecological concerns and as cost factors. This importance is underscored by strict state and federal laws. The Dakota Search Area has the fewest environmental constraints in terms of wetlands, floodplains, organic soils (peat) and sensitive plant and animal habitats.

General search area characteristics or social and economic impacts, which reflect population and housing densities and current land uses that may be disrupted by a new major airport, show relatively little difference among the three Search Areas. Minimizing disruptions, with special particular attention to possible noise impacts, is a concern in selecting a search area. All three search areas have similar overall population and development densities. While disruption will occur, the two southern search areas are farmed more intensively -- a land use that is relatively compatible with aircraft overflights and airport development.

The task force has engaged the greater Twin Cities community and the search areas in the planning and public process. This level of active participation has added greatly to the technical aspects of the process and has provided an understanding of the issues and concerns that need to be addressed over the next four years as the dual-track strategy unfolds. As a result, the task

Figure 1

THE THREE SEARCH AREAS

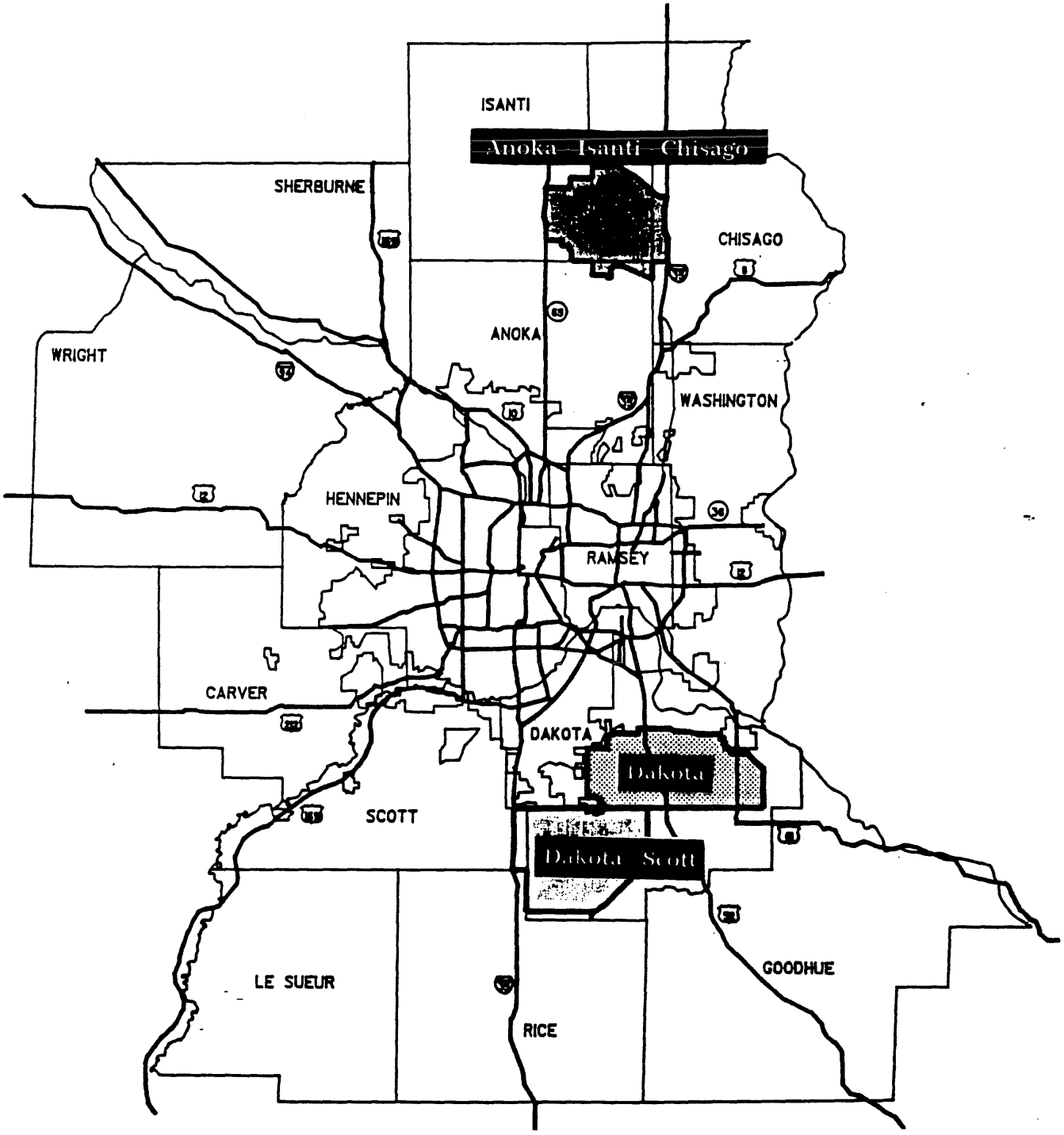
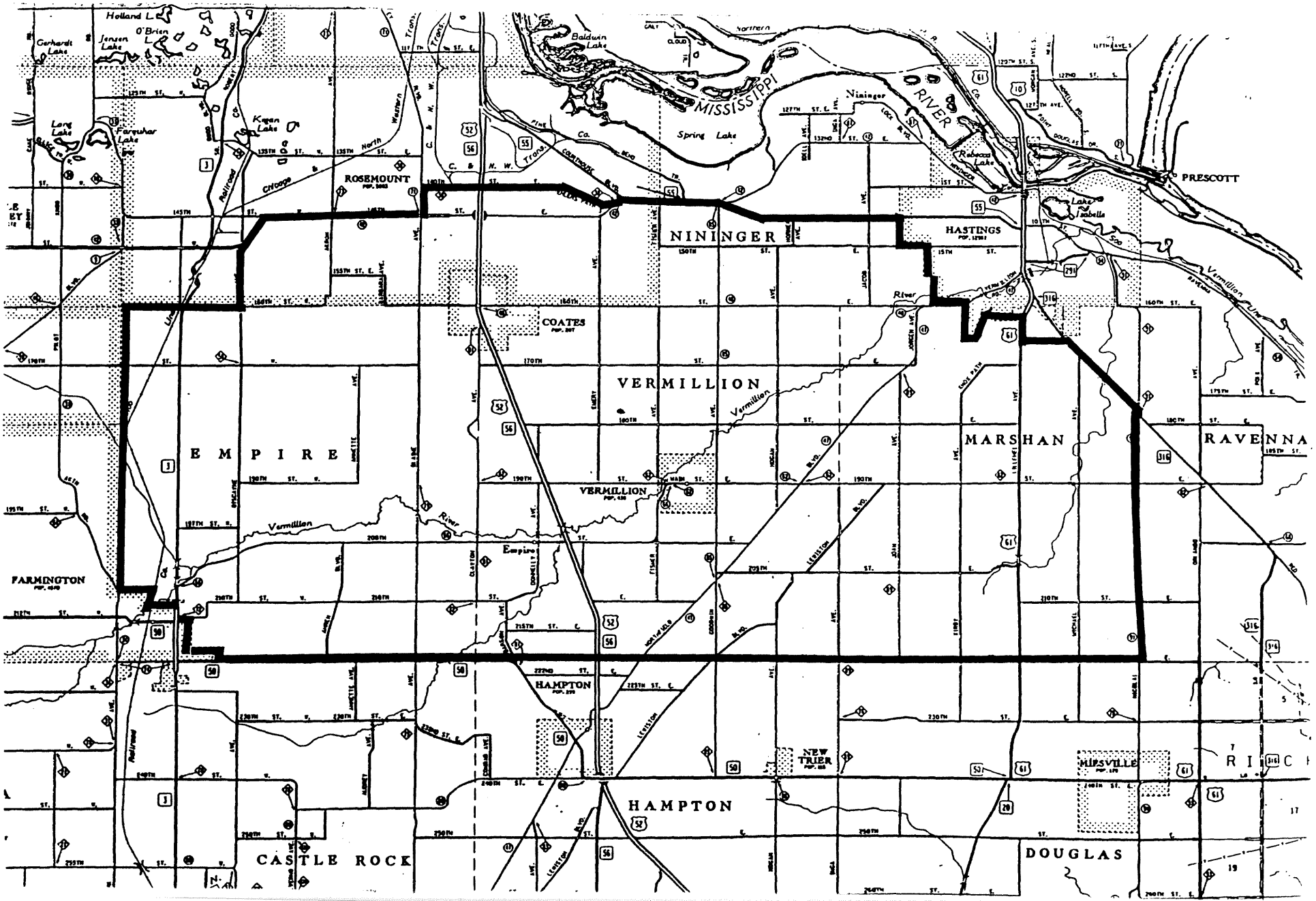


Figure 2

DAKOTA SEARCH AREA



force is making several recommendations for related work by the Metropolitan Council and Metropolitan Airports Commission. The recommendations relate to:

- Expedite and shorten the dual-track decision process;
- Establish an interactive planning process with the affected communities;
- Assure effectiveness of land use controls for compatible development around a potential new airport;
- Provide financial and technical assistance to affected communities;
- Provide a purchase guarantee program for homeowners facing hardships in selling their property in the search area; and
- Establish a comprehensive proposal for land banking for use if needed.

Figure 3

CRITERIA RANKING: SEARCH AREA EVALUATION

CRITERIA	CRITERIA RANK
• *Metropolitan Access*	*31*
• *Environmental Impacts*	*25*
• *General Search Area Characteristics (Social and Economic Impacts)*	*17*
• *General Land Requirements*	*11*
• *Airspace Considerations*	*10*
• *Policy Considerations*	*6*
Total	100 %

Figure 4

Summary Comparative Assessment of Most Important Criteria and Factors By Search Area

CRITERIA AND FACTORS	ANOKA-ISANTI-CHISAGO	DAKOTA	DAKOTA-SCOTT
METROPOLITAN ACCESS			
Travel Times	●	○	◉
Travel Distances	●	○	◉
Population	●	○	◉
Housing	●	○	◉
Employees	●	○	◉
ENVIRONMENTAL IMPACTS			
PHYSICAL FACTORS			
Wetlands	●	○	◉
Floodplains	●	○	◉
Organic Soils (Peat)	●	○	○
BIOLOGICAL FACTORS			
Rare, Endangered, Threatened Species	●	◉	◉
GENERAL SEARCH AREA CHARACTERISTICS			
Housing Unit Densities	◉	◉	◉
Total Population	●	◉	◉
Land Use Compatibility (Aircraft Noise/Overflight)	○	○	○

● Significant Constraint ◉ Moderate Constraint ○ Minor Constraint

NEED FOR "DUAL-TRACK" STRATEGY

Why Is the Search for a New Airport Location Under Way?

The Twin Cities region is going to need major additional airport capacity to meet its air transportation needs in the 21st century. The current airport may not be adequate to meet the region's and the state's needs. Studies the Metropolitan Council conducted in 1987 and 1988 concluded that there is a high probability that demand for aircraft operations will exceed Minneapolis-St. Paul International Airport's (MSP) current capacity within 10 years. During the decade of the 1980s, flights (operations) at MSP grew from 282,000 annually to 380,000. The number of passengers grew from 8.7 million to 19 million. Council forecasts for the year 2020 are 577,000 flights and 37 million passengers.

Nationally, the Federal Aviation Administration (FAA) sees the number of airline passengers doubling by the year 2000, then tripling in the next century.

The existing airport is 3,100 acres in size. It is surrounded by well-established commercial and residential areas and by the Fort Snelling historical area, the National Cemetery and the Minnesota River Valley. These conditions limit the airport's expansion capabilities. The search for a new airport is based, in part, on those limitations. However, the sizable existing investments at MSP and the airport's convenient central location in the region warrant undertaking a thorough examination of the expansion possibilities of MSP.

Economic concerns and, to a much less extent, noise concerns are behind the planning. Airport capacity is crucial to the economic vitality of the region and a much larger multistate area. Inadequate capacity could stifle economic growth and cost the region economic opportunities. It could also put the state's businesses in a disadvantageous position in the national and world economy. Adding capacity may, therefore, be born of necessity, not simply the desire for more economic development.

What Is the "Dual-Track" Process?

Under the Metropolitan Airport Planning Act of 1989, the Metropolitan Council has been charged to identify a search area for the location of a potential new major airport to serve the Twin Cities Metropolitan Area and the State of Minnesota.

Planning for a new major airport is part of a comprehensive process called the dual-track strategy. This strategy is designed to preserve the region's airport options for the future and to decide how best to meet airport capacity needs.

One track focuses on a new airport option. The first phase of this track--the selection of a search area--is the subject of this report. The Metropolitan Council and its task force have been doing the search-area work. Once a final search area has been designated, the Metropolitan Airports Commission (MAC) will do detailed site planning and determine the precise location within the

search area where the airport would be located. The MAC will then conduct an environmental evaluation and prepare a detailed airport development plan for the facility.

The second track focuses on possible ways to improve the capacity of MSP. The MAC is conducting this planning, and is focusing on meeting aviation needs projected to the year 2020.

The studies and recommendations concerning both tracks will converge in 1996 in a report to the legislature by the Council and the MAC on how best to address the long-term airport needs of the region.

What Might the Result Be?

Any of a number of outcomes might result from the dual-track approach. One might be a decision to build a new airport and to close MSP. A second, related one would be to acquire land (landbank) and delay a "go, no go" decision on construction until a later date. A third decision could be made to stay at MSP and to add capacity there (more runways, terminal expansions or relocations) so the airport can meet future needs. Of course, doing nothing is another course of action.

The Council, the MAC and the Contingency Planning Committee are monitoring trends during the six-year planning period and beyond. The contingency group was created for this purpose. The trends include data on such factors as the growth in airport passenger and freight travel, the economy of the region and changes in the airline industry. The annual monitoring will give the region the best and most current information on which to base its decisions on implementing one track or the other, or to wait and see.

It's a Six-Year Process

The six-year planning period began in 1989. The Council will designate a search area from among three contending search area locations by the end of 1991. The MAC has identified several terminal and runway options, and is to select its preferred options by the end of this year.

Next year, the MAC will start the necessary planning to identify a specific site within the search area and complete design, engineering and environmental review work. Under the current schedule, the tasks are to be completed by the end of 1995. Also next year, the Council will begin a study of the reuse of the current airport site. In 1996, both agencies are to make recommendations to the Minnesota Legislature. The legislature will then be in a position to choose among the options because, for the first time, there will be comparable cost, environmental impact and economic impact information for both the MSP and the new airport options.

Timetable for the Remainder of 1991

Search Area Planning Track

- Aug. 16--Task force receives report recommending one search area.
- Sept. 5 and 6--Task force public meetings on recommended search area.
- Sept. 20--Task force expected to recommend single search area to Council.
- Oct. 30--Council holds public hearing on task force recommendations.
- Dec. 19--Council expected to select one search area

MSP Planning Track

- Sept. 10--MAC public meetings on draft MSP comprehensive plan in Eagan.
- Sept. 12--MAC public meetings on draft MSP comprehensive plan in Bloomington.
- Sept. 17--MAC public meetings on draft MSP comprehensive plan in Mendota Heights.
- Sept. 23--MAC public meetings on draft MSP comprehensive plan in Minneapolis.
- Sept. 25--MAC public meetings on draft MSP comprehensive plan in Richfield.
- Sept. 26--MAC public meetings on draft MSP comprehensive plan in Burnsville.
- Additional meetings to be scheduled.

THE PLANNING PROCESS/PUBLIC PROCESS

Creating a Task Force

In September 1989, the Council created a 37-member New-Airport Search Area Advisory Task Force to guide the search area designation process. The task force's membership reflects the diverse interests and viewpoints identified at a public forum that was held in August, 1989 -- major air transport users, airlines, local officials, community groups, environmentalists, business community and economic development interests in the Twin Cities Metropolitan Area and in Greater Minnesota. The task force was subsequently enlarged by seven members, who represent the three search areas under consideration.

Setting Search Area Selection Criteria

The task force drafted and reviewed its search area selection criteria throughout the first half of 1990. The criteria, adopted by the Council in May upon the recommendation of the task force, are as follows:

- Metropolitan Access--Ground transportation access by residents and businesses is a primary concern. Accessibility is being measured by the availability of major thoroughfares, by travel times and by physical distance.

- Environmental Impacts--The environment is one of the most complex issues that has to be addressed in the siting and development of an airport. Federal and state guidelines, policies and processes have been developed to address the impacts of large-scale projects and airport development. Environmental factors that must be addressed include physical features such as wetlands, floodplains and rivers, biological features such as plant and animal habitat, and airport development/operation factors such as noise and air quality. Noise and air quality impacts will be considered in greater detail at the final search area designation and site selection stages.

- General Land Requirements--One of the fundamental factors in selecting an airport search area is the size and design of the potential airport. The MAC has developed a new airport conceptual design and the task force and Council are using the largest of several alternative conceptual designs in the designation of a final search area.

- Airspace Considerations--A new major airport would be the primary airport for the region and have priority for this portion of the national airspace system. The current airport would close if a new airport is built. The airspace relationship to other existing airports would need to be reexamined. There are also specific impacts that will be important at the site selection stage, such as the location of tall towers and power lines.

- Search Area Characteristics--The criterion includes social and economic impacts of an airport on people and existing land uses. In addition, the criterion involves looking at topography and density of development primarily because of their impact on the cost of acquisition and development. This factor is even more important at the site selection stage.

- Policy Considerations--Few policy limits have been placed on the search area process. One is governed by federal and state policies for environmental reviews. The second is a state law that says that at least one major or primary metropolitan airport must be as nearly equidistant as possible from the city halls of Minneapolis and St. Paul. This law, however, has not been viewed as an eliminating factor in the search area process. If the best search area does not meet exactly the requirement, the Council and the task force will consider recommending a change in the law.

The task force decided not to base site selection on economic concerns or on balancing metropolitan growth. Instead, the emphasis has been on selecting the best potential locations, wherever they could be found in the 14-county study area.

Applying the Criteria

The criteria were applied to the information developed as part of report to the legislature in 1990 (*Report on the General Land Availability for a New Major Airport to Serve the Twin Cities Metropolitan Area*). Eight geographic sectors were screened to ensure consistent and full examination of all the areas in a broad band of land on the north and south sides of the urbanized area. The task force then held seven small-group work sessions with the staff and consultants to review each sector in detail and determine its advantages and disadvantages. The three search areas were selected from this process in January 1991. The task force and the Council's January report, *Selecting a Search Area for a New Major Airport: Part One, Three Candidate Areas*, describes the three search areas and the summarizes how they best met the access, environmental protection and other criteria.

Public Review Process

The task force and the Council chose to have an open, public process. Throughout the process, the task force has involved the community in getting the facts and in ascertaining the community's collective sentiment. The task force hopes it has reflected that sentiment in its evaluation of the search areas and in its collection and analysis of technical information.

The task force's public judgment in recommending the Dakota Search Area reflects objective information and value judgments about how much weight and priority the different criteria should have in the decision.

The task force took the *Part One* report out to the community in a series of public meetings in the search areas. The purpose of the meetings was to inform people about the status of the search areas, to provide as much information as possible about the significance of the search area designation, to ask people for more specific data about the search areas and to get public reaction to the idea of having a search area in their general area. In all, eight meetings were held, and 1,500 people participated. A Council report, *Selecting a Search Area for a New Major Airport: Summary of Eight Public Meetings*, summarizes what people said at the meetings.

To encourage ongoing communications with search area residents, the task force asked meeting participants to choose "community contacts" who would stay in close touch with the task force. Some 58 were selected. Community contacts weren't meant to replace communications with local

officials, but to supplement them. A newsletter for local governments and people who attended the meetings was also prepared.

The "Associated Recommendations" section of this report is in part based on suggestions made at the meetings.

Need for More Detailed Data

The data that was collected to screen the 14-county area needed to be more detailed to compare the three search areas. As a result, staff and consultants developed more specific small-area data, which was published in the next phase of the study. The second report in the process, *Selecting a Search Area for a New Major Airport: Part Two, Draft Data Analysis* and its *Appendices*, was published in June. The report was the subject matter at seven public meetings held in May and June, 1991. The task force asked attendees to critique the information about the three search areas for accuracy, completeness and interpretation. The step was added into the process at the request of several local governments, who were concerned that the process was moving too fast. About 200 people participated in the meetings. This report contains the results of this step in the process. The matrix in the "Appendix" section has the summary data for each search area. Task force members also toured the three search areas by bus.

Search Area Selection Methodology

Following review of the draft data analysis reports, the task force met in small groups of 4 to 11 members. The purpose of the small group meetings was to rank the criteria based on their importance in selecting a search area. This ranking was done for the six major criteria and for individual factors for each of the major criteria. Each member made preliminary rankings of both the criteria and factors prior to the meeting. The rankings were discussed at the meeting and changes made as desired, then the rankings were averaged for the small group. Next, the weights were applied to objective data that had been collected for each factor by search area. This resulted in an individual task force member evaluation score. The individual scores were then averaged for the small group. Finally, the scores of all the groups were averaged to yield an overall task force score and evaluation. Staff and consultants subsequently prepared this report.

Other Public Outreach

In addition to the public meetings, since January Council staff held 18 meetings with representatives of governmental units about the three search areas. Task force members had 28 speaking engagements with community and civic groups. Also, there were several radio and television programs with task force members discussing the new airport search area process.

RECOMMENDED SEARCH AREA

Profile and Comparison: Dakota Search Area

After nearly two years of data collection, analysis, review, and debate that considered six major criteria and some three dozen factors that provide the technical detail to evaluate these criteria, the **Dakota Search Area** is found as the most promising area within which to locate a possible new replacement airport for MSP.[1]

Of the three search areas, the Dakota Search Area provides the best overall access, the fewest environmental conflicts, and the best general search-area characteristics profile, the three criteria considered most important by the task force in the selection process. Of the remaining three criteria (general land requirements, airspace considerations, and policy considerations), the Dakota Search Area ranked high (see Figure 2A in the appendix). Based on these findings, the task force recommends the Dakota Search Area.

The **Dakota Search Area** is located in Dakota County and is approximately 17 miles in length east and west, and 8 miles in width north and south. It covers approximately 115 square miles or 74,590 acres. The search area comprises major parts of the City of Rosemount and the Townships of Nininger, and Marshan and all of the Cities of Coates and Vermillion and the Townships of Empire and Vermillion. If the Metropolitan Council accepts the recommendation, the **Dakota Search Area** will be used by the Metropolitan Airports Commission to select a site for a potential new major airport and to develop an airport development plan and required environmental analysis.

Of the six major selection criteria, the three most significant in the task force's consideration were:

- Metropolitan access (the ease of reaching the search area from the Twin Cities metropolitan region);
- Potential environmental impacts (the environmental concerns within each search area);
- General search area characteristics (the social and economic nature of each area that will be affected by a possible new airport); and

Other criteria evaluated include general land requirements, airspace considerations, and policy considerations.

---

[1]This section provides a brief profile/comparison of each search area. a detailed description can be found in *Selecting a Search Area for a New Major Airport, Part Two, Draft Data Analysis* report and appendices issued in June 1991.

Metropolitan Access

Several specific measures were used to evaluate each criteria. For metropolitan access, these included travel times, travel distances, population and employment, and cost.

The Dakota Search Area was the most attractive search area for travel times, travel distances, and population and housing (see Appendix Part II and Figure 5), followed by Dakota-Scott and Anoka-Isanti-Chisago Search Areas. The estimated cost to improve access lowest for the Anoka-Isanti-Chisago Search Area followed by the Dakota and Dakota-Scott Search Areas.

For example, as many as 29 of the 30 locations that were selected across the Metropolitan Region to examine access to the three search areas were accessible within 60 minutes from the Dakota Search Area, followed by 26 and 18 for Dakota-Scott and Anoka-Isanti-Chisago, respectively. The Dakota Search Area could serve up to 27 locations within 40 miles, compared to 21 for Dakota-Scott and 9 for Anoka-Isanti-Chisago. Dakota also provides the best accessibility to the region's population and employees. It could serve up to 92 percent of the region's population and 96 percent of the region's employees compared to 78 and 88 percent for Dakota-Scott and 59 and 62 percent for Anoka-Isanti-Chisago. The percent of housing units within 60 minutes of the three search areas corresponds closely to the population figures -- with 93 percent of the housing units within 60-minutes from Dakota versus 81 percent for Dakota-Scott and 60 percent for Anoka-Isanti-Chisago.

Environmental Impacts

Environmental considerations are important for ecological concerns and can also affect cost. This importance is underscored by strict federal and state laws. The environmental assessment of the search areas focused on three key categories:

- **Physical Environmental Factors:** wetlands, rivers, lakes, and streams, floodplains, groundwater/surficial geology, agricultural and forest land coverage, parks and open space, pipelines, hazardous/solid waste sites, and organic soil;

- **Biological Environmental Factors:** Animal and plant biotic communities (including endangered, threatened, and special-concern animals and plants);

- **Airport Development/Operations Environmental Factors:** Waste generation, air quality, and water quality.

In general, the northern search area (Anoka-Isanti-Chisago) was the most sensitive area environmentally, followed by Dakota-Scott and Dakota, (see Appendix Part II and Figure 6).

A major limiting factor in siting an airport is the extent of environmental constraints, primarily wetlands. Of the three search areas, Anoka-Isanti-Chisago has extensive wetland coverage -- 25 percent of all land -- far more than Dakota or Dakota-Scott (3 percent and 11 percent, respectively). A related feature to wetlands, floodplains also pose constraints that could limit the siting options for a new airport. The northern search area (Anoka-Isanti-Chisago) has significant floodplains dispersed throughout the area -- approximately 35 percent of the southern half and 20-25 percent of the northern half of the search area is general floodplain. In contrast, the

Figure 5

Comparative Assessment of Metropolitan Access By Search Area

METROPOLITAN ACCESS FACTOR	ANOKA-ISANTI-CHISAGO	DAKOTA	DAKOTA-SCOTT
TRAVEL TIMES	●	○	◉
TRAVEL DISTANCES	●	○	◉
POPULATION	●	○	◉
HIGH INCOME HOUSEHOLDS	●	○	◉
HOUSING	●	○	◉
EMPLOYEES	●	○	◉
COST	○	◉	●

● Significant Constraint ◉ Moderate Constraint ○ Minor Constraint

Figure 6

Comparative Assessment of Environmental Impacts By Search Area

ENVIRONMENTAL FACTOR	ANOKA-ISANTI-CHISAGO	DAKOTA	DAKOTA-SCOTT
PHYSICAL FACTORS			
Wetlands	●	○	◍
Rivers, Lakes, Streams	●	◍	◍
Floodplains	●	○	◍
Groundwater/Surficial Geology	◍	◍	◍
Land Coverage: Forested Land	◍	○	○
Land Coverage: Agricultural*	○	◍	●
Parks, Open Space	○	○	○
Pipelines	○	●	◍
Hazardous/Solid Waste Sites	○	◍	◍
Organic Soils (Peat)	●	○	○
BIOLOGICAL FACTORS			
Rare, Endangered, Threatened Species	●	◍	◍
DEVELOPMENT-RELATED FACTORS			
Solid/Hazardous Waste Generation	○	○	○
Air Quality	○	○	○
Water Quality	○	○	○

● Significant Constraint ◍ Moderate Constraint ○ Minor Constraint

* Based on Crop Equivalency Rating (CER).

Figure 7

Comparative Assessment of General Search Area Characteristics (Social and Economic Impacts) By Search Area

GENERAL SEARCH AREA CHARACTERISTICS FACTOR	ANOKA-ISANTI-CHISAGO	DAKOTA	DAKOTA-SCOTT
LAND USE CHARACTERISTICS	○	○	○
HOUSING UNIT DENSITIES	◍	◍	◍
TOTAL POPULATION	●	◍	◍
TOTAL HOUSING UNITS	●	◍	◍
LAND USE COMPATIBILITY (AIRCRAFT NOISE/OVERFLIGHT)	○	○	○
AGRICULTURAL LANDS (CER RATINGS)	◍	●	●

● Significant Constraint ◍ Moderate Constraint ○ Minor Constraint

Dakota Search Area would pose the least floodplain constraints for the siting and construction of a new airport. Floodplains would, however, pose a moderate constraint in the Dakota-Scott Search Area, where floodplains account for 30-35 percent of the total acreage in the southern sectors of the area.

High organic soils, such as peat, are considered unstable as a foundation for major construction. Removal of these soils could involve considerable expense. The northern search area has by far the highest percentage of high-organic soils (approximately one-third of the area is covered in peat, and it is distributed throughout the area) -- whereas the Dakota area is relatively free of high-organic soils. The Dakota-Scott Search Area has some large areas of organic soils, but they are widely dispersed.

Federal and state regulations protecting endangered species are significant, and will be critical to decisions for siting a new airport. The Anoka-Isanti-Chisago Search Area contains a large number of biotic communities -- both animal and plant. A majority of the biotic communities are located in the south-central portion of the search area, but a large number of endangered, threatened, or special-concern species can be found throughout the area. Both southern search areas have few documented biotic communities (a Minnesota County Biological Survey has not been made in Dakota or Scott counties) -- the Carleton College State Game Refuge is, however, located just to the south of the Dakota-Scott area.

General Search Area Characteristics (Social and Economic Impacts)

Analysis of the search area characteristics was based on land use, household densities, and agricultural land types. Figure 7 summarizes some of the quantitative measures of these characteristics. The primary land use for each of the search areas is agricultural, and the household densities, which are generally low, reflect that fact. For example, less than 4 percent of each search area is designated for residential use, and less than 1 percent for industrial use and parks and recreation use. Crop productivity of agricultural land in the three search areas were evaluated based on the Crop Equivalency Rating (CER),[2] with a higher number reflecting a higher agricultural productivity level (see Figure 8). Within the three areas, Dakota-Scott was the most productive, Dakota the second, and Anoka-Isanti-Chisago the third.

Figure 8
Summary of Crop Equivalency Ratings

Search Area	Percent of Land In Agriculture	Percent of Land in Residential	Weighted Average Crop Equivalency Rating (CER)
Anoka-Isanti-Chisago	62 %	3 %	48.1
Dakota	89 %	1 %	66.5
Dakota-Scott	84 %	3 %	81.2

[2]Rust, R. H., Hanson, L. D.; Crop Equivalent Rating Guide for Soils of Minnesota. Agricultural Experiment Station, University of Minnesota. Miscellaneous Report 132-1975.

Other Major Criteria

The Search Area process has considered three additional criteria: general land requirements, airspace considerations, and policy considerations.

General land requirements include the amount of land and flexibility for siting a potential new major airport in that area. Based on a review of the land requirements identified in the conceptual design phase of the search area study, each of the areas has adequate land for that purpose. However, among the search areas, the Anoka-Isanti-Chisago Search Area would be the least flexible due to the environmental constraints identified above.

Airspace considerations, including obstructions, navigational aids, terminal control areas, and low- and high-altitude airways are minor issues in all three search areas. The only moderate constraint to location would be the airspace of existing general aviation airports.

Policy considerations generally contemplate legal and jurisdictional issues. These include federal and state environmental review processes, State law on location (requiring that a major airport be equidistant to the downtowns of Minneapolis and St. Paul), and other local requirements, and local policy and jurisdictional issues. The first two are not issues: all federal and state environmental requirements have been met and all search areas can accommodate sites that are roughly equidistant. Therefore, the only potential limitation is with respect to jurisdiction, since the Anoka-Isanti-Chisago search area is outside of the jurisdiction of the Metropolitan Council and of the Metropolitan Airports Commission.

Next Steps: Issues Identified For Airport Siting

As part of the search area designation, the Council is to identify issues for further analysis in the site selection process. While the MAC is the lead agency, both the Council and MAC have responsibilities for various parts of the site selection and new-airport master planning process. During the search area study, citizens, communities, business organizations, environmental groups, and public agencies provided information and identified issues for attention during the site selection process. These issues are summarized in Figure 9.

This report and the issues identified herein will become part of the scoping for the new-major airport siting process when the MAC begins the siting process in January 1992. The siting process is to be completed within four years. Once the new-airport studies are completed, comparisons of the advantages/disadvantages and costs/benefits between expanding Minneapolis-St. Paul International Airport and building a new major replacement airport will be made.

Figure 9

ISSUES TO BE ADDRESSED DURING NEW MAJOR AIRPORT SITE SELECTION PROCESS

AIRPORT OPERATION ISSUES

New Airport Siting Process
• **Airport Design Requirements** • update long-term air carrier forecasts and annually assess major assumptions and results (annual contingency planning assessment). • update facility requirements for 2020 and beyond for a new replacement airport; determine facility needs for potential date of opening (including number and orientation of runways, number and type of gates, terminal space requirements, parking facilities, on-site support facilities). • determine development phasing of new airport and define airport transition plan (including impacts on regional systems and investments). • compare capabilities of new airport and MSP. • assess role and impact of alternative transportation modes on airport facility design and facility requirements.
• **Airspace System** • define new terminal control area, airspace gate structure, navigational way points/fixes and air traffic procedures. • assess specific impacts on existing land use, adjacent airports, navigational aids, airways for each alternative site. • preliminary airspace reviews (alternative sites and final airport layout plan) with the FAA.
• **Land Use Compatibility (See also "Infrastructure Investment Issues")** • apply provisions of new major airport search area protection law. • develop/implement procedures for airport safety zone regulations and new major airport development area law.

ENVIRONMENTAL ISSUES

New Airport Siting Analysis
• **Natural Habitat and Wildlife** • conduct biological survey comparable to a Minnesota County Biological Survey for the search area and environs to establish specific locations of critical plant and animal habitat. • determine boundaries of critical plant and animal habitat. • assess impacts of airport development and operation. • identify mitigation measures and general cost of mitigation.
• **Surface Water and Groundwater** • define location of protected rivers, lakes and streams. • assess impacts of airport development (land coverage of runways, terminal buildings, associated airport buildings, road access) and operation. • Minnesota Pollution Control Agency and U. S. Environmental Protection Agency require compliance with federal Clean Water Act. MAC is required to apply for a national pollutant discharge elimination system permit and a state disposal system permit; which regulates runoff to protect surface and groundwater. • assess geologic sensitivity to surface-derived contaminants (surface spills, etc.). • assess geologic sensitivity to subsurface-derived contaminants (petroleum storage tanks, leaking pipelines). • assess impact of abandoned (unsealed) wells and existing wells (including Wellhead Protection Area). • assess use of and impact on aquifers for water supply needs of airport operation. • assess impact of proximity to potential sources of contamination (old open dumps, landfills, etc.) • assess depth to water table. • assess relationship to regional and local groundwater flow regimes (vertical and horizontal gradients). • assess impact of any groundwater appropriation permits.

- **Wetlands**

  - define location of wetlands including use of field checks.
  - evaluate type and classification of wetlands.
  - assess impacts of airport development and operation.
  - comply with requirements of state and federal law regarding avoidance of wetlands, wetland replacement, and mitigation measures.

- **Agricultural Land**

  - identify prime agricultural land.
  - assess impacts of airport development and operation on prime agricultural land (including potential use of airport development area law and land use controls to protect or continue agricultural uses).
  - assess impact on Metropolitan Agricultural Preserves Program.

- **Noise Impacts**

  - federal and state noise analysis required to ensure airport development plan and operation meets federal and state criteria for noise impact and future land use compatibility (including FAR PART 150 Implementation Program).
  - LdN 75 to be on airport site and LdN 65 on or within airport land use control area (airport development area law provides for noise-related regulations).
  - assess land use regulations of the airport development area law and noise impact area determined for final airport site.
  - assess application of Metropolitan Council land use compatibility guidelines.

- **Rural Development Impacts**

  - identify population, households and housing units within new airport site.
  - assess land use changes (employment and economic activity).
  - assess relocation costs and impacts.
  - assess impacts on cemeteries.
  - assess development impacts of airport development on local infrastructure (including roads).

- **Airport User Impacts**

  - assess air travel distances (including cost of delay and airport efficiency)
  - assess travel time and distance for population and employment to new airport site.
  - assess travel time and distance for airport employees to new airport site.
  - assess travel time and distance for airport-dependent businesses (air cargo, etc.)

- **Air Quality**

  - assess air quality impacts of airport road system (parking, terminal area access), boiler plant and aircraft operation; indirect-source permit required.
  - assess compliance with state and federal air quality regulations.

- **Solid Waste/Hazardous Disposal**

  - assess impacts of waste disposal facilities on airport site .
  - assess cost of mitigation measures (including relocation of facilities or the reimbursement for remaining economic life).

- **Historic, Architectural, Archaeological, Cultural Resources**

  - assess impact on properties included or eligible for the National Register of Historic Places and cost of mitigation of impacts on properties covered by National Historic Preservation Act.
  - survey to identify and evaluate cultural resources including consultation with Office of the State Archaeologist and Minnesota Indian Affairs Council.

- **Fossil Fuels**

  - assess fuel consumption for ground transportation (automobile and transit alternatives) to serve new airport site and compare with MSP.
  - assess difference in fuel consumption for aircraft between major city pairs and MSP/ new airport site.

ECONOMIC DEVELOPMENT AND AIRPORT FINANCE ISSUES

New Airport Siting Process
• **Long-Range Metropolitan Growth** • assess impact of new airport site and MSP on the long-range growth and on the orderly and economic development of the Metropolitan Area including potential impact on *Metropolitan Development and Investment Framework* policies. • annually assess changes in airline industry (examine such factors as: aircraft operations; airline passengers and air cargo; technology--aircraft, navigational aids/landing systems, alternative transportation modes (modes competitive with air travel; modes used to provide airport ground access); fuels (availability and price); finance; airline structure; national/regional economy to ascertain need for and/or timing of major airport development.
• **Land Use and Economic Development** • assess potential impact on regional development policy (*Metropolitan Development and Investment Framework).* • assess impact of airport development on property tax valuation and taxes. • determine method to capture for public uses a portion of the revenue from development around the new airport. • determine reuse policies for MSP; examine airport-related development in airport environs--commercial, industrial and residential. • update airport development area law to ensure adequate zoning and land use controls to protect the new airport from incompatible development.
• **Spin-off Development** • estimate timing, amount and type of spin-off development and impact on *Metropolitan Development and Investment Framework* policies. • determine method to capture for public uses a portion of the revenue from development around the new airport. • determine reuse policies for MSP; examine airport-related development in airport environs--commercial, industrial and residential.

- **Airport Finance**

- determine process, policies and controls needed and a financial plan to implement a land bank for a potential new airport.
- determine financial plan for airport development (new airport and MSP) including sources of funds (fees, leases charges, federal grants, sale of MSP airport assets).
- determine reuse policies for MSP.
- compare financing options for new airport site development and MSP expansion.
- annually assess changes in airline industry (operations; technology--aircraft, navigational aids/landing systems, alternative modes; finance; airline structure; national/regional economy).

INFRASTRUCTURE INVESTMENT ISSUES

New Airport Siting Process

- **Onsite Airport Infrastructure Investment**

- determine how to provide on-site airport public services (sanitary and storm sewer systems, water, fire, police) consistent with regional development policy, specifically the *Metropolitan Development and Investment Framework.*

- **Offsite Airport Infrastructure Investment**

- assess impact of ground transportation (highway and transit) corridors and investment requirements including regional highway network and minor arterial network.
- assess impacts of on-site and off-site investment needs (regional and local community/county) and develop implementation schedule.
- conduct a study to determine jurisdictional roles and responsibilities for infrastructure improvements to serve the new airport and related off-site development.
- assess social and economic impacts of airport development on airport environs (residential, commercial, industrial, agriculture and public services including schools.

RECOMMENDATIONS

New Major Airport Search Area

Based on the evaluation and data analyses of the search areas the task force recommends:

- That the **Dakota Search Area** be designated by the Metropolitan Council as the search area for the location of a potential new major replacement airport to serve the scheduled air service needs of the Twin Cities Metropolitan Area.

  The **Dakota Search Area** is located in Dakota County and is approximately 17 miles in length east and west, and 8 miles in width north and south. It covers approximately 115 square miles or 74,590 acres. The search area comprises major parts of the City of Rosemount and the Townships of Nininger and Marshan, and all of the Cities of Coates and Vermillion and the Townships of Empire and Vermillion.

Associated Recommendations

In response to the public comments heard by the task force during the search area designation process, the following recommendations are made:

- Dual-Track Major Airport Planning Strategy

  That the Metropolitan Council and Metropolitan Airports Commission should:

  (1) propose ways to the 1992 legislature to shorten and expedite the planning process required for the new major airport site selection, airport development planning and environmental analysis, and

  (2) develop a detailed planning time line for the siting process (1992-1996 or shortened period) for use by the affected units of government, public agencies and general public.

  The Metropolitan Council's Contingency Planning Advisory Committee should assist the agencies in these activities. A report and recommendations should be presented to the Minnesota Advisory Council on Metropolitan Airport Planning.

- New Major Airport Siting

  That the Metropolitan Airports Commission should establish an interactive planning process with the affected communities, Dakota County and regional and state agencies to assist in the new-airport studies.
  The Metropolitan Airports Commission and the Metropolitan Council should address the issues identified in Figure 9 in the planning for a potential new major airport in the Dakota Search Area.

A report on the above two items should be prepared for public information and the report should be presented to the Minnesota Advisory Council on Metropolitan Airport Planning.

- Land Use Compatibility

  That the Metropolitan Council should evaluate and propose changes to the airport development area law to ensure adequate zoning and land use controls in the protection area defined around a potential new airport. A unified approach with a central authority with the ability to review, approve and enforce land uses in the defined airport control should be established. The report and recommendations should be presented to the Minnesota Advisory Council on Metropolitan Airport Planning.

- Financial and Technical Assistance

  That communities in the search area should be provided financial or technical assistance for their participation in the site selection and new airport planning process. The Metropolitan Council should work with the communities, Dakota County and MAC to develop technical and financial assistance proposals for legislative consideration for the 1992 legislative session. The report and recommendations should be presented to the Minnesota Advisory Council on Metropolitan Airport Planning.

- Assistance for Home Owners and Land Owners

  That the Metropolitan Council, in consultation with the search area communities, Dakota County and MAC, prepare a purchase guarantee program proposal and funding source to assist owners of individual homes and/or small acreage who are facing a hardship situation in selling their properties at fair prices in the search area. The report and recommendations should be presented to the Minnesota Advisory Council on Metropolitan Airport Planning in 1992.

- Land banking

  That the Metropolitan Council, in conjunction with the Metropolitan Airports Commission, develop a land banking proposal for a potential new major airport that would preserve a designated new airport site for the long-term needs of the Metropolitan Area. The proposal should address land acquisition procedures, cost and finance issues (e.g., lease-back options for interim use, in lieu property tax payments to taxing jurisdictions, a financing mechanism), land use controls and regulations, and impacts on affected communities and adjacent communities. In addition, the study should examine right-of-way reservation for ground access for a new airport including highway and transit. The report and recommendations should be presented to the Minnesota Advisory Council on Metropolitan Airport Planning in 1993.

APPENDIX

PART I: SUMMARY OF TASK FORCE SEARCH AREA SELECTION METHODOLOGY

Over the last several months, the New Major Airport Search Area Advisory Task Force has examined increasingly detailed data on the characteristics of each search area.

In order to facilitate interaction and communication, at the end of July the task force met in five small groups to review the data and to discuss the relative importance of each measure. The small- group process is an approach that the task force used successfully in selecting the three search areas late last year and builds on a similar process used to help select the search area for the new Denver airport. The following steps (Figure 1A) were used in the evaluation process:

- Assess the six screening criteria identified by the task force in May 1990;
- Develop preliminary rankings for each criteria factor;
- Review technical scores that describe differences among the search areas;
- Multiply factor rankings times the technical scores; and
- Combine criteria and factor rankings to obtain a summary score for each search area.

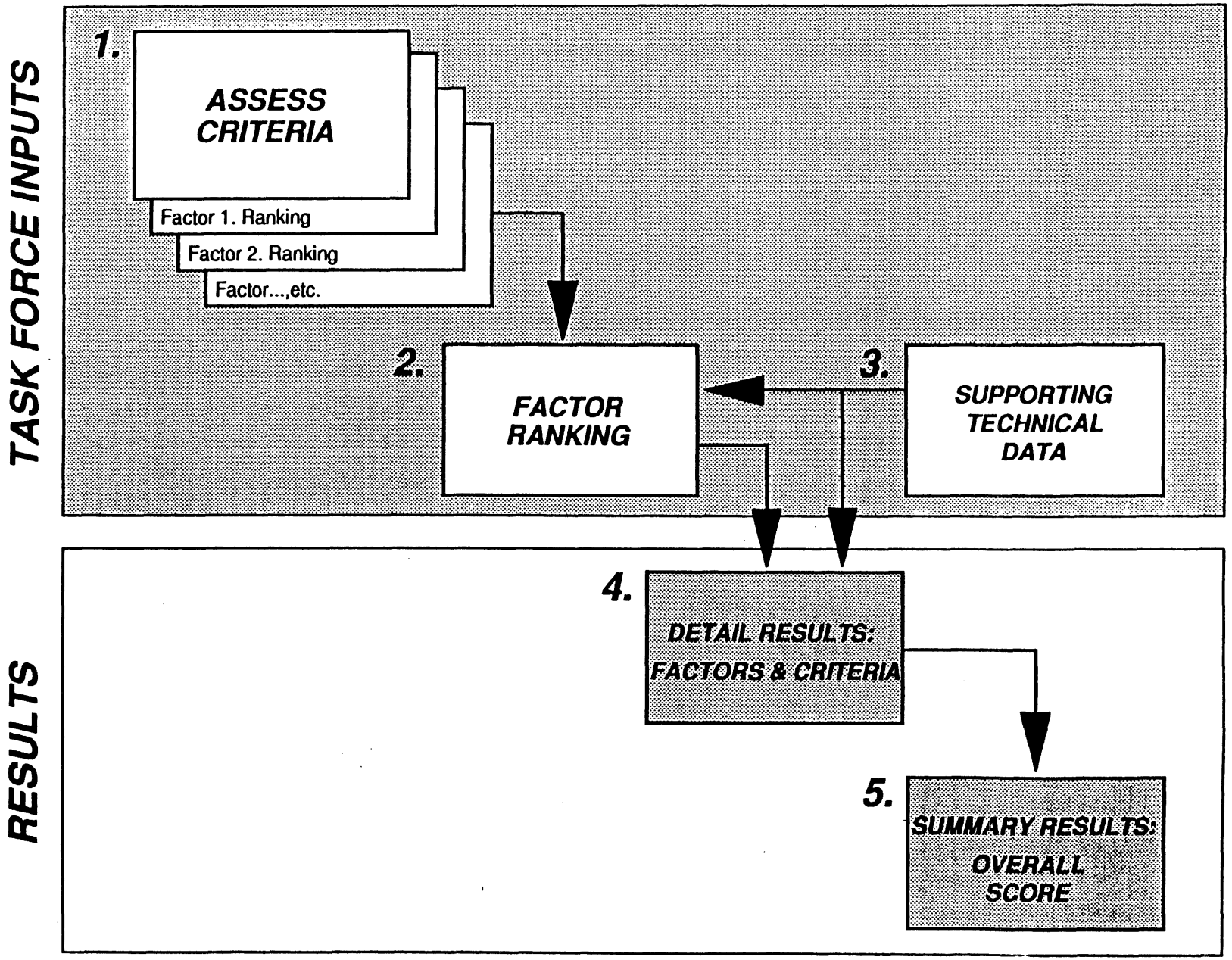
The first three steps require active involvement by the task force; the last two involved mathematical calculations using a computer spreadsheet program. To facilitate the task force debate and to help organize the large amount of data assembled for the study, a simple computer model was developed. This model allowed the task force to calculate scores of the relative attractiveness of each search area based on the data collected for the study, but weighted by the relative importance assigned by the task force to each of the six criteria and each individual measure.

Assess Relative Importance of the Criteria

Prior to the small-group sessions, each task force member was asked to assess the relative importance of the six major search area criteria (metropolitan access, environmental impacts, general land requirements, airspace considerations, general search area characteristics, and policy considerations). These rankings indicate the relative importance among the evaluation criteria as determined by the members of the Task Force. Each criterion was rated on a scale of zero to 100 with the total for all six criteria equaling 100 (see Figure 2A). As in previous debates, metropolitan access and environmental concerns were most important, with scores of 31 and 25, respectively. General search area characteristics -- a proxy for the social and economic nature of each area -- ranked third with a score of 17. Followed by general land requirements, airspace considerations, and policy considerations with scores of 11, 10, and 6, respectively.

Figure 1A

SEARCH AREA EVALUATION PROCESS



Develop Preliminary Ranking for Each Criteria Factor

The six major criteria can be described or measured in several ways. Overall, the task force considered some three dozen separate measures or factors. Based on the data analysis report prepared in June 1991, a list of proposed factors was prepared and reviewed by the task force at its July meeting. At this meeting, task force members determined if the proposed factors were satisfactory, if they should be changed, if some should be deleted, or if additional factors should be added.

Task force members were also asked to rate each factor on a scale of 1 to 5 reflecting the factor's relative importance. A score of "1" indicated a factor of minor significance and a "5" represented a factor of major significance. The higher the number, the greater the role that this measure should have in selecting among the three search areas. Task Force members' factor rankings were collected and an composite score for each factor was calculated. Table 2A summarizes the results of this process.

Review Technical Scores

Prior to finalizing factor rankings, task force members reviewed and discussed the technical data, including data such as acreage, number of points served, and percentages of total area for land uses. Where numbers were not appropriate or unavailable, assessments were based on the interpretation of maps and qualitative assessments. A complete listing is shown in Figure 2A.

The search area process has collected large amounts of data that describe different aspects of each of the six criteria. These data have been presented to the task force at meetings from March to June 1991 and are described in some detail in the report published in June 1991 along with several technical appendices.[3] For purposes of developing summary scores, the basic data for each search area were summarized on a five-point scale with a 1 or 2 representing a significant problem or drawback and a 4 or 5 representing a minor problem. In other words, the higher the score, the more attractive (or less unattractive) the search area.

The technical matrix shown in Figure 2A contains two sets of information for each of the three search areas as determined by the task force:

- Quantitative data taken from the information collected during the search analysis; and
- Scores using a scale from 1 to 5 that summarize the **relative** attractiveness of each search area.

These summary scores provide a standard *technical data index* for each factor. Because the raw data vary widely in their actual magnitude, they can not be used directly. As with the values

---

[3]See *Selecting a Search Area for a New Major Airport, Part Two: Draft Data Analysis*, Metropolitan Council, (June 1991).

assigned by the task force members for each factor, high numbers are good -- a relative lack of problems -- while low numbers indicate possible concerns. A scale of 1 to 5 is used where:

- A **significant** problem is indicated by a "1" or "2";
- A **moderate** problem by a "3"; and
- A **minor** problem by a "4"or "5".

In some cases, the information is summarized on maps, requiring interpretation. In most cases, however, the actual data provide enough detail to form a basis for the scores.

Multiply Factor Rankings Times Technical Scores

Following the review and discussion of technical data, Task Force members were afforded the opportunity to change their factor rankings. Changes were entered into the spreadsheet and revised scores were calculated. The average ranking for each factor was then multiplied by the technical data index (see Figure 2A) to arrive at a weighted value for each factor and search area. These weighted values by factor were then summed and divided by the sum of the factor ranks, resulting in an average value by criteria for each of the three search areas.

Combine Criteria and Factor Rankings to Obtain Overall Evaluation

The composite criteria rank for each of the six major criteria was then combined with the average value by criteria for the three search areas resulting in an overall evaluation score for each search area. The Dakota Search Area rated as the most attractive (or least unattractive) area with a score of 382 followed by the Dakota-Scott and Anoka-Isanti-Chisago Search Areas with scores of 331 and 249, respectively.

Figure 2A

SEARCH AREA EVALUATION PROCESS: SUMMARY BY CRITERIA

CRITERIA	CRITERIA RANK	ANOKA-ISANTI-CHISAGO	DAKOTA	DAKOTA-SCOTT
Metropolitan Access	31	1.5	3.9	2.8
Environmental Impacts	25	2.6	3.6	3.2
General Land Requirements	11	2.0	4.0	4.0
Airspace Considerations	10	3.7	3.7	3.6
General Search Area Characteristics	17	3.2	3.5	3.3
Policy Considerations	6	4.2	4.8	4.8
Total	***100***	***17.2***	***23.6***	***21.7***
Average		***2.9***	***3.9***	***3.6***
Overall Score (Weighted Average)		***249***	***382***	***331***

SEARCH AREA EVALUATION PROCESS:
FACTOR RANKING SUMMARY & TECHNICAL DATA

METROPOLITAN ACCESS

FACTOR	RANK	ANOKA-ISANTI-CHISAGO			DAKOTA			DAKOTA-SCOTT		
		Data	Index	Weighted	Data	Index	Weighted	Data	Index	Weighted
Travel Times										
Points served (60 minutes)	4.0	15-17-18	3	12.0	26-28-29	5	20.0	25-25-26	5	20.0
Points served (45 minutes)	3.7	5-6-6	1	3.7	12-18-22	3	11.0	10-11-12	2	7.4
Travel Distances										
Points served (40 miles)	3.6	6-7-9	1	3.6	23-26-27	5	17.9	18-20-21	4	14.4
Points served (30 miles)	3.4	1-3-3	1	3.4	8-17-20	3	10.1	7-8-8	1	3.4
Population										
Percent within 60 minutes	3.8	51-56-59%	1	3.8	75-88-92%	4	15.3	71-78-78%	3	11.5
Percent within 45 minutes	3.6	15-20-22%	2	7.2	40-54-61%	3	10.9	34-34-35%	2	7.2
High Income Households										
Percent within 60 minutes	2.9	40-47-48%	1	2.9	80-91-95%	5	14.7	77-82-83%	4	11.8
Percent within 45 minutes	2.7	13-16-18%	1	2.7	39-57-65%	3	8.2	36-39-41%	2	5.5
Housing										
Percent within 60 minutes	3.4	50-57-60%	1	3.4	77-90-93%	5	17.2	73-80-81%	4	13.8
Percent within 45 minutes	3.2	14-18-20%	1	3.2	41-57-64%	3	9.6	34-34-36%	2	6.4
Employees										
Percent within 60 minutes	3.6	49-59-62%	1	3.6	86-94-96%	5	17.8	82-88-88%	4	14.2
Percent within 45 minutes	3.1	9-14-14%	1	3.1	39-61-74%	4	12.4	35-36-37%	2	6.2
Congestion Points										
Cost	3.6	$140-295m	4	14.4	$215-395m	3	10.8	$320-575m	1	3.6
Average	3.4		1.5	1.5		3.9	3.9		2.8	2.8

SEARCH AREA EVALUATION PROCESS:
FACTOR RANKING SUMMARY & TECHNICAL DATA

ENVIRONMENTAL IMPACTS

FACTOR	RANK	ANOKA-ISANTI-CHISAGO			DAKOTA			DAKOTA-SCOTT		
		Data	Index	Weighted	Data	Index	Weighted	Data	Index	Weighted
PHYSICAL										
Wetlands										
Acreage	3.6	15,261(25%)	1	3.6	2,595(3%)	5	18.1	7,903(11%)	4	14.5
Geographic Coverage	3.3	significant	1	3.3	minor	5	16.5	moderate	3	9.9
Rivers, Lakes, and Streams										
Sensitivity	3.9	significant	2	7.8	moderate	3	11.7	significant	2	7.8
Geographic Coverage	3.4	significant	1	3.4	minor	4	13.4	moderate	3	10.1
Floodplains										
Acreage/ Sensitivity	3.4	significant	2	6.8	minor	4	13.6	moderate	3	10.2
Geographic Coverage	3.0	significant	1	3.0	minor	4	12.1	moderate	3	9.1
Groundwater/Surficial Geology										
Aquifer Sensitivity	3.9	significant	1	3.9	significant	2	7.8	moderate	3	11.6
Surface Bedrock	3.1	minor	5	15.6	minor	4	12.5	significant	2	6.2
Land Coverage: Agricultural										
Productivity	3.0	48.1 CER	3	8.9	66.5 CER	2	5.9	81.2 CER	1	3.0
Acreage (Top Agricultural Soils)	3.0	0%	5	14.9	11%	4	11.9	72%	1	3.0
Land Coverage: Forests										
Acreage	2.9	9,856 (16%)	3	8.6	1,998 (3%)	5	14.3	4,341 (6%)	4	11.4
Geographic Coverage	2.6	significant	2	5.2	minor	5	13.1	moderate	3	7.9
Parks and Open Space										
Sensitivity	3.1	minor	4	12.2	minor	4	12.2	minor	4	12.2
Geographic Coverage	2.6	minor	4	10.2	minor	4	10.2	minor	4	10.2
Within 5 miles	2.5	significant	1	2.5	significant	2	4.9	moderate	3	7.4
Pipelines										
Geographic Coverage	2.2	minor	4	8.7	significant	2	4.4	moderate	3	6.5
Hazardous / Solid Waste Sites										
Geographic Coverage	2.4	minor	4	9.5	moderate	3	7.1	moderate	3	7.1
Sensitivity	2.6	minor	4	10.4	moderate	3	7.8	moderate	3	7.8
Organic Soil										
Acreage	2.8	significant	2	5.6	minor	5	13.9	minor	4	11.2
Geographic Coverage	2.6	significant	2	5.2	minor	5	13.0	minor	4	10.4

SEARCH AREA EVALUATION PROCESS:
FACTOR RANKING SUMMARY & TECHNICAL DATA

BIOLOGICAL										
Biotic Communities : Animal										
Endangered	3.5	0	5	17.6	0	5	17.6	0	5	17.6
Threatened	3.2	11	1	3.2	4	3	9.6	1	4	12.8
Special Concern	2.8	0	5	14.1	0	5	14.1	0	5	14.1
Within 5 miles (all types)	2.5	significant	2	5.0	moderate	3	7.5	minor	4	10.0
Biotic Communities : Plant										
Endangered	3.5	1	3	10.4	1	3	10.4	1	3	10.4
Threatened	3.0	2	4	12.1	0	5	15.1	0	5	15.1
Special Concern	2.7	20	1	2.7	1	4	10.8	1	4	10.8
Within 5 miles (all types)	2.4	significant	2	4.9	moderate	3	7.3	minor	4	9.8
AIRPORT DEVELOPMENT/ OPERATION										
Waste Generation										
Sensitivity	3.0	minor	2	6.0	minor	2	6.0	minor	2	6.0
Air Quality										
Sensitivity	3.4	minor	2	6.8	minor	2	6.8	minor	2	6.8
Water Quality										
Sensitivity	3.6	minor	2	7.2	minor	2	7.2	minor	2	7.2
Average	3.0		2.6	2.6		3.6	3.6		3.2	3.2

SEARCH AREA EVALUATION PROCESS:
FACTOR RANKING SUMMARY & TECHNICAL DATA

GENERAL LAND REQUIREMENTS

FACTOR	RANK	ANOKA-ISANTI-CHISAGO			DAKOTA			DAKOTA-SCOTT		
		Data	Index	Weighted	Data	Index	Weighted	Data	Index	Weighted
Conceptual Design										
Flexibility for siting	3.6	significant	2	7.2	minor	4	14.4	minor	4	14.4
Average	3.6		2.0	2.0		4.0	4.0		4.0	4.0

AIRSPACE CONSIDERATIONS

FACTOR	RANK	ANOKA-ISANTI-CHISAGO			DAKOTA			DAKOTA-SCOTT		
		Data	Index	Weighted	Data	Index	Weighted	Data	Index	Weighted
Obstructions										
> 1,000 feet	3.6	minor	4	14.5	minor	4	14.5	minor	4	14.5
< 1,000 feet	3.0	minor	4	11.9	moderate	3	8.9	minor	4	11.9
Airspace										
Airports	3.1	moderate	3	9.3	moderate	3	9.3	moderate	3	9.3
Airspace										
Navigational Aids	3.0	moderate	3	9.0	minor	4	12.0	moderate	3	9.0
Airspace Structure										
Terminal Control Area	3.0	minor	4	12.1	minor	4	12.1	minor	4	12.1
Low Altitude Airways	3.2	moderate	3	9.6	minor	4	12.8	moderate	3	9.6
High Altitude Airways	2.9	minor	5	14.7	minor	4	11.8	minor	4	11.8
Average	3.1		3.7	3.7		3.7	3.7		3.6	3.6

SEARCH AREA EVALUATION PROCESS:
FACTOR RANKING SUMMARY & TECHNICAL DATA

GENERAL SEARCH AREA CHARACTERISTICS (SOCIAL AND ECONOMIC IMPACTS)

FACTOR	RANK	ANOKA-ISANTI-CHISAGO			DAKOTA			DAKOTA-SCOTT		
		Data	Index	Weighted	Data	Index	Weighted	Data	Index	Weighted
Land Use Characteristics										
Residential Acreage	3.8	1,642 (3%)	4	15.1	1,026 (1%)	5	18.8	2,554 (3%)	4	15.1
Commercial/ Industrial Acreage	2.6	62 (<1%)	5	13.2	347 (<1%)	5	13.2	451 (1%)	5	13.2
Parks & Rec. Acreage	2.8	210 (<1%)	5	13.8	426 (1%)	5	13.8	172 (1%)	5	13.8
Public Acreage	2.5	50 (<1%)	5	12.4	8,064 (11%)	3	7.4	385 (1%)	5	12.4
Cemeteries	3.0	8	1	3.0	5	3	9.1	9	1	3.0
Housing Unit Densities										
Geographic Coverage: 50 units per sq. mile	3.9	moderate	3	11.8	moderate	3	11.8	moderate	3	11.8
Geographic Coverage:20-49 units per sq. mile	3.3	moderate	3	10.0	moderate	3	10.0	moderate	3	10.0
Total Population	3.7	5,153 (8.3)	1	3.7	4,442 (6.0)	3	11.1	3,951 (5.3)	3	11.1
Total Housing Units	3.6	1,757 (2.8)	1	3.6	1,432 (1.9)	3	10.9	1,217 (1.6)	3	10.9
Land Use Compatibility (Aircraft Noise/Overflight)										
Within Search Area (Population/Housing)	3.9	5,153/1,757	4	15.6	4,442/1,432	4	15.6	3,951/1,217	4	15.6
Adjacent 3-5 miles (Population/Housing)	3.5	26,781/9,740	5	17.6	71,234/23,466	3	10.6	52,969/17,074	3	10.6
Agricultural Lands										
CER Ratings	3.0	48.1	3	9.1	66.5	2	6.1	81.2	1	3.0
Average	3.3		3.3	3.2		3.5	3.5		3.3	3.3

POLICY CONSIDERATIONS

FACTOR	RANK	ANOKA-ISANTI-CHISAGO			DAKOTA			DAKOTA-SCOTT		
		Data	Index	Weighted	Data	Index	Weighted	Data	Index	Weighted
Equidistant										
Mpls/ St Paul	2.3	minor	4	9.3	minor	4	9.3	minor	4	9.3
Metro. Dev. & Investment Framework										
MUSA	2.5	minor	5	12.4	minor	5	12.4	minor	5	12.4
Jurisdiction of Met. Council & MAC	2.6	significant	1	2.6	minor	5	13.1	minor	5	13.1
Single Airport	3.9	minor	5	19.4	minor	5	19.4	minor	5	19.4
Federal/ State Environmental Processes	3.8	minor	5	19.1	minor	5	19.1	minor	5	19.1
Average	3.0		4.0	4.2		4.8	4.8		4.8	4.8

PART II: TECHNICAL DESCRIPTION OF DAKOTA SEARCH AREA

All land within an area with boundaries described as follows: beginning at a point located at the northwest corner of Section 6, Township 114N, Range 19W, Dakota County, said point also being a common point of the corporate limits of Apple Valley, Rosemount, and Lakeville; thence easterly along the southern corporate limit of Rosemount to the centerline of Biscayne Avenue; thence northerly along said centerline to the centerline of County Road 42; thence easterly along said centerline to the centerline of Blaine Avenue; thence northerly along said centerline to the centerline of County Road 38; thence easterly along said centerline to the centerline of County Road 42; thence northeasterly along said centerline to the centerline of State Highway 55; thence easterly along said centerline to the corporate limits of Hastings; thence southerly and easterly along said corporate limits to the centerline of Highway 316; thence southeasterly along said centerline to the centerline of County Road 91; thence southerly along said centerline to the centerline of 220th Street East; thence westerly along said centerline and its extension to the corporate limits of Farmington; thence northerly and westerly to the point of beginning; all roads, streets, highways, and political jurisdiction boundaries as they exist as of December 21, 1990; all being in the County of Dakota, Minnesota.

PLEASE INSERT IN PLACE OF PAGE 2

EXECUTIVE SUMMARY

This report represents a step in the region's efforts to provide for adequate long-term airport capacity. After nearly two years of analysis, debate, and public meetings, the New-Major Search Area Advisory Task Force finds that the **Dakota Search Area** is the most promising area in which to locate a possible replacement airport for Minneapolis-St. Paul International Airport among the three search areas identified in early 1991 (see Figures 1 and 2).
Six major criteria and over three dozen specific measures for these criteria were used. The task force established priority rankings for the criteria as an integral part of their evaluation and judgments of the technical data (see Figure 3). Throughout the task force discussion, three elements emerged to shape the Task Force's recommendation (Figure 4):

- Maximize accessibility to the metropolitan region;
- Minimize environmental conflicts; and
- Address concerns about the impacts on people and existing land uses.

In addition, airspace, general land requirements, and a variety of policy issues were considered. All three search areas were found to have potential locations for a major airport. On balance the Dakota Search Area meets the criteria best and offers the most flexibility in siting (see Figure 4).

The Dakota Search Area provides the best overall time and distance access to the entire metropolitan area. The Dakota Search Area also has the advantage of relatively short distances to the developed urban core. On balance, Dakota-Scott is further removed both in terms of time and distance and would require additional expenditures. The Anoka-Isanti-Chisago area is significantly removed, with 40 to 50 percent of the metropolitan area's population, residential areas and employment more than one hour away.

Environmental considerations are important for ecological concerns and as cost factors. This importance is underscored by strict state and federal laws. The Dakota Search Area has the fewest environmental constraints in terms of wetlands, floodplains, organic soils (peat) and sensitive plant and animal habitats.

General search area characteristics or social and economic impacts, which reflect population and housing densities and current land uses that may be disrupted by a new major airport, show relatively little difference among the three Search Areas. Minimizing disruptions, with special particular attention to possible noise impacts, is a concern in selecting a search area. All three search areas have similar overall population and development densities. While disruption will occur, the two southern search areas are farmed more intensively -- a land use that is relatively compatible with aircraft overflights and airport development.

The task force has attempted to engage the greater Twin Cities community and the search areas in the planning and public process. This level of active participation has added greatly to the technical aspects of the process and has provided an understanding of the issues and concerns that need to be addressed over the next four years as the dual-track strategy unfolds. As a result, the task