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2030 TRANSPORTATION Policy Plan

Final November 2010

Appendices

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Metropolitan Council

Appendix A: Land Transportation Glossary

"A" minor arterials	Minor arterial ro	badways within the metropolitan area that are more regionally significant than other
	minor arterials.	These roadways are classified into the following groups:
	Relievers	Minor arterials that provide direct relief for traffic on major metropolitan highways. These roads include the closest routes parallel to the principal arterials within the core, urban reserve and urban staging areas. These roadways are proposed to accommodate medium-length trips (less than eight miles) as well as providing relief to congested principal arterials. Approximately 400 miles of relievers have been identified. Improvements focus on providing additional capacity for through traffic.
	Expanders	Routes that provide a way to make connections between developing areas outside the interstate ring or beltway. These roadways are proposed to serve medium-to-long suburb-to-suburb trips. Approximately 650 miles of expanders have been identified.
	Connectors	This category of "A" minor arterials are roads that would provide good, safe connections among town centers in the urban reserve, urban staging and rural areas within and near the seven counties. Approximately 680 miles of connectors have been identified. Improvements focus on safety and load-bearing ability.
	Augmentors	The fourth group of "A" minor arterials are those roads that augment principal arterials within the interstate ring or beltway. The principal arterial network in this area is in place. However, the network of principal arterials serving the area is not in all cases sufficient relative to the density of development that the network serves. In these situations, these key minor arterials serve many long-range trips. Approximately 200 miles of augmentors have been identified. Improvements focus on providing additional capacity of through traffic.
Access to opportunities	Generally, the early and destination	ease with which an area can be reached. Technically, it is the distance between origin expressed in terms of time.
Accessible	A facility that pr	ovides access to people with disabilities using design requirements of the ADA.

Active Traffic Management (ATM)	A group of existing and future infrastructure technologies used to monitor and respond to freeway traf- fic in real time. Includes existing equipment such as cameras, ramp meters, loop detectors, and vari- able message signs, as well as more state-of-the-art technology such as queue detection and warning systems, speed harmonization, and dynamic re-routing systems.
Alternatives Analysis (AA)	A study of a corridor or travel shed to determine viable transit alternatives, which is required in order to potentially receive federal funding for project construction. These studies examine potential alignments and modes, including enhanced bus service. All alternative analyses include both bus and rail options. Bus options include improvements to highways and roads that would provide transit advantages, such as bus-only shoulders, signal priority or preemption, dynamic shoulder lanes, dynamic parking lanes, ramp meter bypass lanes, HOV or HOT lanes, or other advantages. Land use and zoning needs are also evaluated.
Americans with Disabilities Act (ADA)	Civil rights legislation passed in 1990 and effective July 1992. The ADA sets design guidelines for accessibility to public facilities, including sidewalks, trails, and public transit vehicles by individuals with disabilities.
Arterial routes	Transit routes on major local streets. These routes typically have higher frequencies of bus service.
Auto occupancy	The number of persons per automobile, including the driver.
Automatic vehicle location (AVL)	A system that determines the location of vehicles carrying special electronic equipment that com- municates a signal back to a central control facility. AVLs are used for detecting irregularity in service and are often combined with a computer-aided dispatch system to improve on-time performance and provide real time information for customers.
Bike lane	A portion of a roadway or shoulder designed for exclusive or preferential use by persons using bicy- cles. Bicycle lanes are distinguished from the portion of the roadway or shoulder used for motor vehi- cle traffic by physical barrier, striping, marking, or other similar device.
Bike-walk streets (or "bicycle boulevards")	A shared roadway, typically a local residential street, which has been optimized for bicycle traffic. Bike/walk streets accommodate auto travel but literally give priority to cyclists and pedestrians. These streets use traffic calming techniques, signage, lighting, and other amenities to provide a safe, quiet, and direct route for bicyclists and pedestrians.
Bio-fuel	Fuel derived at least in part from renewable materials, like ethanol.
Branded vehicle	A transit vehicle with a unique design or logo that helps identify it with a specific route.
Bus lanes	Lanes designated solely for buses. These lanes are typically in downtowns and allow buses to travel with reduced impacts from automobiles.
Bus-only shoulders	A system of highway shoulder lanes that Mn/DOT has identified and signed as being available for bus use to avoid congestion. Speeds are limited to 35mph for safety.

Bus rapid transit (BRT)	A transitway mode that uses bus vehicles but incorporates characteristics of light rail or commuter rail to improve bus speed, reliability, and identity. These characteristics can include specialized vehicles, unique and improved stations, signal preemption or priority, off-board fare collection, improved signage and other features that allow vehicles to operate faster and more reliably than local or express buses. BRT can be run on a dedicated right-of-way or in mixed traffic. Typically, service frequencies are every fifteen minutes or better on the core portions of the line.
Busways	A special roadway designed for exclusive use by buses. It may be constructed at, above, or below grade and may be located in separate rights-of-way or within roadways. Variations include grade-separated, at-grade, and median busways.
Carbon monoxide maintenance area	Most of the Twin Cities area is part of an EPA designated maintenance area for carbon monoxide emissions from transportation sources. This designation and area affected is based on national air quality standards. A portion of this area extends into eastern Wright County.
Carpool	When two or more persons share a private vehicle. At times, vehicle sharing is facilitated by govern- ment.
Center	A place of sufficient scale, density and mix of uses, where there is convenient access to housing, jobs, daily services, shopping and recreation. (See transit-oriented development.)
Circulator system	A means of movement provided within a major activity center (such as a regional business concen- tration or community) for going from place to place within the center; such a system may be entirely pedestrian or may use transit.
Collector streets	The streets that connect neighborhoods and connect neighborhoods to regional business concentra- tions (see Appendix D for functional classification criteria and characteristics).
Commuter rail	A passenger railroad that carries riders within a metropolitan areas, typically between urban areas and their suburbs. They typically operate on freight rails or dedicated tracks. Propulsion is provided either by diesel locomotives or by self-propelled Diesel Multiple Units. Typically there are a small number of stations and multiple departure times primarily in mornings and evenings. Stops are typically five miles or more apart and route lengths extend more than 20 miles. In some areas it is called regional rail.
Conformity	The agreement of transportation plans and programs with the assumptions and commitments designed to attain federal and state air quality standards. As it refers to the State Implementation Plan for Air Quality, it means conformity to the plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality and standards, in the frequency or severity of an existing violation, or delay in timely attainment of any standard or interim milestone. Further, transportation plans and programs can be found to conform only if (1) emissions resulting from such plans and programs are consistent with emissions projections and reductions assigned to those transportation plans and programs in the State Implementation Plan, and (2) the plans and programs provide for timely implementation of the State Implementation Plan's Transportation Control Measures.
Congestion	Overloading of roadway with vehicles (see Level of Service).

Congestion management	A systematic process for evaluating and developing transportation strategies and plans for addressing existing and future traffic congestion.
Congestion Management and Safety Plan (CMSP)	A study of potential roadway project solutions under development by Mn/DOT that will address con- gestion and/or safety hot spots through lower-cost / high-benefit improvements.
Congestion mitigation and air quality improvement program (CMAQ)	CMAQ is a categorical funding program created under SAFETEA-LU. It directs funding to projects that contribute to meeting national air quality standards and further reducing transportation-related air pol- lution.
Congestion pricing	User fees that are charged to manage traffic and reduce congestion, also called "value pricing." Typi- cally higher prices reduce the use of priced lanes. This technique can be used to ensure free-flow conditions in priced lanes.
Context sensitive design	Roadway standards and development practices that are flexible and sensitive to community values, balancing economic, social, aesthetic and environmental objectives.
Contraflow lane	A lane that travels the opposite direction of other traffic lanes. For example, on 4th Street in downtown Minneapolis, three lanes of traffic are designated one-way for automobiles while a fourth lane travels the opposite direction and is designated solely for buses. Also highway lanes can be designated as contraflow lanes, which change direction depending on the time of day. For example, a lane can flow into a downtown in the morning, then have its direction changed and flow out of a downtown in the afternoon to add capacity.
Corridor studies (highway)	Typically, highway corridor studies focus on a segment of a particular travel corridor or travel shed. Land use, access issues, capacity, level of service, geometrics and safety concerns are studied; alter- natives analyzed and recommendations made. Corridor studies are usually prepared with the partici- pation and cooperation of the affected communities and governmental agencies. Recommendations for improvements are often incorporated into the local comprehensive plans of the participating cities and continue to be used by implementing agencies as improvements in the corridor are made.
Corridor studies (transit)	Focus on transit alternatives within a travel corridor or travel shed. Studies typically examine all poten- tial alignments and modes (light rail, commuter rail, bus rapid transit, express bus or other alterna- tives). Studies examine these alternatives against a set of criteria, typically (but not restricted to) fac- tors such as mobility improvements, operating efficiency and effectiveness, environmental impacts, economic development impacts, readiness and cost-effectiveness. Corridor studies include alterna- tives analyses, which are done to meet federal New Starts criteria.
Cost-sharing	A contractual arrangement whereby a local unit of government or other governmental body enters into an agreement to pay for part of a physical facility or a service; includes subscription transit service.

Counties Transit Improvement Board (CTIB)	The joint powers board created to oversee the distribution of the ¼ cent sales tax imposed by certain counties in the region for transit.
Crosswalk	That portion of a roadway ordinarily included with the prolongation or connection of the lateral lines of sidewalks at intersections or any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings on the surface.
Deadhead	The portion of trip that does not carry passengers. This can be the portion of a trip when a transit vehi- cle travels between the garage and the start or end point of a route or when a vehicle travels between routes.
Demand-responsive service	see Dial-a-Ride.
Developed Communities	Cities where more than 85% of the land is developed, infrastructure is well established and community development efforts are focused on maintenance, preservation and redevelopment. These communities have the greatest opportunities to adapt or replace obsolete buildings, improve community amenities, and remodel or replace infrastructure to increase their economic competitiveness and enhance their quality of life. Developed Communities are expected to accommodate approximately 30 percent of new households and about half of new jobs through 2030.
Developing Communities	Cities where the most substantial amount of new growth—about 60 percent of new households and 40 percent of new jobs—will occur. Community development activities are focused on initial infrastructure investment and development staging to accommodate growth at appropriate densities; three to five units plus per acre overall in developing communities for areas outside the current staged development and higher density in locations (nodes and centers) with convenient access to transportation corridors and with adequate sewer capacity.
Dial-a-ride (also demand-response)	A public transit service using passenger cars, vans or small buses operating in response to calls from passengers or their agents to the transit operator, who then dispatches a vehicle to pick up the passengers and transport them to their destinations. Typically, the vehicle may be dispatched to pick up several passengers at different pick-up points before taking them to their respective destinations and may even be interrupted en route to these destinations to pick up other passengers. These vehicles do not operate on a fixed schedule or route.
DMU or Diesel Multiple Unit	Self-propelled passenger rail cars that operate on railroad track. Typically used to provide commuter rail passenger service.
Dynamic parking lane	A parking lane on a street that is used for regular traffic during peak periods. In non-peak periods, it reverts back to a parking lane.
Dynamic shoulder lanes	Highway shoulder lanes used for vehicle traffic during peak periods. In non-peak periods, lanes are not available for travel but are used for break-downs; dynamic shoulder lanes can be priced at a flat fee, dynamically priced based on real-time congestion, or toll free.

Environmental Impact Statement (EIS) and Draft Environmental Impact Statement (DEIS)	A document that must be filed with the Federal Government when a "major Federal action significantly affecting the quality of the human environment" is taken. These studies typically include a statement of the purpose and need for the project, a description of the affected environment, a range of alternatives to the proposed action and an analysis of the environmental impacts of each of the possible alternatives. The law requiring this is the National Environmental Policy Act. (NEPA) Major highway and transit projects are required to develop these studies and follow these processes.
Expansion (of highway capacity)	Adding a multi-use or managed lane of a mile or more in length is defined as expansion in this plan and for air quality conformity purposes. Construction of two or more consecutive interchanges is also capacity expansion.
Fare	The amount paid for a transit trip. Fares vary by the type of trip and service.
Fixed-route transit	Services provided on a repetitive, fixed schedule basis along a specific route with vehicles stopping to pickup and deliver passengers to specific locations; each fixed route trip serves the same origins and destinations. Both rail and buses can provide fixed-route transit. Also regular route transit.
Functional classification	Classification of roadways according to their primary function— mobility for through trips or access to adjacent lands. A four-class system (described in Appendix D) is used to designate roads (principal arterials, minor arterials, collectors and local streets) in the Twin Cities. The major arterials are classified as either "A" minor arterials or "B" / other minor arterials.
GPS or Global Positioning System	A device that lets the location of a vehicle be tracked in real-time. For example a GPS device is placed on a bus and then information is relayed to a central information depository about the location of bus. This information can than be shared with customers through real-time information systems and also be used by controllers to monitor the performance of the bus.
Grade separation	Separation of traffic at different levels with crossing structures like underpasses or overpasses; inter- changes.
High-occupancy toll (HOT) lanes	Lanes that allow high-occupancy vehicles and public transit vehicles to travel free and allows single- occupant vehicles to use these lanes through paying a toll. Tolls can be fixed or dynamically based on real-time traffic congestion.
High-occupancy vehicle (HOV) lanes	Highway lanes reserved for vehicles carrying more than one person. These lanes are officially denoted with a diamond marking and are sometimes called "diamond lanes." Public transit is also allowed to use these lanes, providing it a time advantage over congested conditions.
High speed passenger rail	A type of intercity passenger rail that operates at speeds significantly faster than current passenger rail. Speeds are in excess of 90 mph in the United States and in excess of 125 mph by the European Union.
Hybrid electric bus	A bus that operates at times on electrical power and at times on diesel fuel. Typically the electrical engine is powered by the energy created through braking or from power generated from the diesel engine.

In-Service Hour	The time from when the transit vehicle begins its first trip at the first time point to the time the tran- sit vehicle completes its last trip at the last time point excluding recovery time and any double-back between trips.		
Infrastructure	Fixed facilities, such as roadways or railroad tracks; permanent structures or improvements.		
	The development or application of technology (electronics, communications, or information process- ing) to improve the efficiency and safety of surface transportation systems. ITS is divided into five categories that reflect the major emphasis of application:		
Intelligent Transportation	Advanced Traffic Management Systems		
System (ITS)	Advance Traveler Information Systems		
(113)	Advanced Public Transportation Systems		
	Automatic Vehicle Control Systems		
	Commercial Vehicle Operations		
Intermodal (freight)	"Seamless" delivery of freight from one mode to another. Modes may include truck, rail, air or barge.		
Intermodal (transit)	A location where different transportation modes come together, typically locations where persons can transfer among light rail, commuter rail, buses and/or automobiles.		
Lane capacity	The Twin Cities regional travel demand model assumes the following lane capacities representing level of service "D": Un-metered freeway = 1,750 vehicles per hour Metered freeway = 1,950 vehicles per hour Concurrent flow high-occupancy vehicle facility = 1,400 vehicles per hour Divided arterial = 700 to 1,000 vehicles per hour Undivided arterial = 600 to 900 vehicles per hour Collector = 400 to 600 vehicles per hour		
Level of service	As related to highways, the different operating conditions that occur on a lane or roadway when accommodating various traffic volumes. It is a qualitative measure of the effect of traffic flow factors, such as speed and travel time, interruption, freedom to maneuver, driver comfort and convenience, and indirectly, safety and operating costs. It is expressed as levels of service "A" through "F." Level "A" is a condition of free traffic flow where there is little or no restriction in speed or maneuverability caused by presence of other vehicles. Level "F" is forced-flow operation at low speed with many stoppages, with the highway acting as a storage area. Level "F" is considered to be fully congested.		
Light rail transit (LRT)	Electrically powered trains typically operating primarily in an exclusive right-of-way, with stops approxi- mately one mile apart.		
Linear right-of-way	A narrow, well-defined corridor of contiguous land dedicated to or preserved for transportation pur- poses.		

Livable Communities Act (LCA)	The Minnesota Legislature created the Livable Communities Act (LCA) in 1995. The LCA is a volun- tary, incentive-based approach to help the metropolitan area address affordable and lifecycle housing needs while providing funds to communities to assist them in carrying out their development plans. The Council awards LCA grants to participating communities in the seven-county area to help them: (1) to clean up polluted land for redevelopment, new jobs and affordable housing; (2) to create devel- opment or redevelopment that demonstrates efficient use of land and infrastructure through connected development patterns; and (3) to create affordable housing opportunities.
Local streets	The streets that provide land access (see Appendix D for functional classification criteria and charac- teristics).
Managed lanes	Lanes where any physical or operational technique or tool is employed to affect lane-specific traffic through managing vehicle speeds, vehicle occupancy, and/or user-based pricing. High-occupancy vehicle lanes, HOT lanes, and bus-only shoulders are all types of managed lanes.
Meters	Signals on freeway ramps that smooth traffic flow to increase road capacity and safety. Many metered ramps within the region have bypasses for buses and carpools.
Metro Commuter Services	A service of the Metropolitan Council that administers travel demand management programs and pro- motes alternatives to travel in single-occupant vehicles.
Metro Mobility	A service of the Metropolitan Council that provides door-to-door transit service for persons with dis- abilities that prevent them from using the fixed route bus and rail system.
Metro Transit	A service of the Metropolitan Council that provides rail transit and the largest amount of regular route bus service in the region.
Metropass	A program where employers provide discounted transit passes to employees. Employers get tax breaks for participating in the program.
Metropolitan Highway System	The system of highways intended to serve the region. Only principal arterials, which include interstate freeways, are part of the Metropolitan Highway System. The plan defines the Metropolitan Highway System to include the interstate freeways and other, non-freeway principal arterials.
Metropolitan Highway System Investment Strategy (MHSIS)	A major study of the Metropolitan Highway System that explored ways to best address the long range regional transportation needs with reasonable forecasts of available state and federal funding sources.
Metropolitan Land Planning Act (MPLA)	The sections of Minnesota Statutes directing the Council to adopt long-range, comprehensive policy plans for transportation, airports, wastewater services, and parks and open space. It authorizes the Council to review the comprehensive plans of local governments which they are to review and update at least once every 10 years.
Metropolitan transit system	The system of all public transit services available to the general public.

Metropolitan Urban Service Area (MUSA)	The area in which the Metropolitan Council ensures that regional services and facilities under its juris- diction are provided.
Minor Arterials	see "A" Minor Arterials
Mixed use	A single building containing more than one type of land use or a single development of more than one building and use, where the different land uses are in close proximity, planned as a unified, complementary whole, and functionally integrated with transit, pedestrian access and parking areas.
Mobility	The ability of a person or people to travel from one place to another.
Motor Vehicle Sales Tax (MVST)	MVST is the 6.5 percent sales tax applied to the sale of new and used motor vehicles. Under a consti- tutional amendment passed in 2006, MVST revenues must be dedicated exclusively to highway and transit purposes.
Multi-use paths	A bikeway that is physically separated by a roadway or shoulder by the use of an open space buffer or physical barrier. A shared-use path can also be used by a variety of non-motorized users such as pedestrians, joggers, skaters and wheelchair users.
Multimodal link	The connection between two or more passenger transportation methods (such as bicycle, walking, automobile and transit).
National Highway System (NHS)	A transportation system consisting of approximately 155,000 miles of highway that provide an intercon- nected system of principal arterial routes serving major population centers, major transportation facili- ties, major travel destinations, interstate and interregional travel and meeting national defense require- ments.
New or restructured transit service	Significant change in service, including establishment of a new mass transportation service, addition of new route or routes to mass transportation system, a significant increase or decrease in service on or realignment of an existing route, or a change in the type or mode of service provided on specific, regularly scheduled route.
New Starts	A federal transit funding program for major projects, typically commuter rail, light rail or dedicated bus- ways. The program pays up to 50% of a project cost.
Off-board fare collection	Collection of transit fares before a rider gets on a transit vehicle, generally by paying the fare to a ticket agent or fare validator. Off-board fare collection speeds trips.
Off-peak period	Time of day outside the peak period (see peak period).
Operational improvement	A capital improvement consisting of installation of traffic surveillance and control equipment, computer- ized signal systems, motorist information systems, integrated traffic control systems, incident manage- ment programs, and transportation demand and system management facilities, strategies and pro- grams.
Opt-out System	See Suburban Transit Providers

	Transit service that provides generally more flexible service than regular-route transit, using a variety of vehicles, such as large and small buses, vans, cars and taxis. Paratransit can serve a particular population, such as people with disabilities, or can be assigned to serve the general population. Paratransit is frequently provided in less densely populated areas, and used at times and in areas where trip demands are less concentrated, such as during weekends and evenings in suburban settings. Paratransit services are of several types:		
Paratransit services	Ridesharing - Car and van pooling intended primarily to serve the work trip.		
	Demand-Response - This is any type of public transportation involving flexibly scheduled service that is deployed upon a person's request for a trip. There are two types of demand response:		
	Dial-a-ride service s - The most common type of paratransit, involving advance request pickup and drop-off at desired or designated destinations. Dial-a-ride may deploy vans, small buses or shared-ride taxis.		
	Flexible fixed-route or deviation services - Either point deviation or route deviation where vehicles stop at spe- cific locations on a regular schedule but do not have to follow a set route between the stops. They can deviate from the route to pick up or drop off passengers upon request.		
Park-and-ride	A place where passengers park their cars and board some form of transit. There may be a transit sta- tion or transit center attached to a park-and-ride.		
Peak hour	The hour during the peak period when travel demand is highest. Generally, peak hours are found to be from 7 to 8 a.m. and from 4:30 to 5:30 p.m.		
Peak period	The time between 6:30 and 9 a.m. and between 3 and 6 p.m. on a weekday, when traffic is usually the heaviest.		
Person throughput	The number of persons that pass a point on a roadway in a specified period of time. Person through- put includes all passengers in vehicles and is a key performance measure for the managed highway system.		
Platform hour	The time from when the transit vehicle pulls out (leaves from the vehicle storage facility) to the time the transit vehicle pulls in (returns to the vehicle storage facility) (i.e. in-service plus recovery plus deadhead).		
Preservation	Preservation activities are directed toward the elimination of deficiencies and major cost replacement of existing facilities. Preservation is not meant to include work that will increase the Level of Service by the addition of traffic lanes.		
Principal arterials	The high-capacity highways that make up the Metropolitan Highway System (See Appendix D for func- tional classification criteria and characteristics.)		
Project	A group of tasks or methods designed to accomplish a specific purpose.		
Queue jump (also queue jump lane)	A lane on a street that lets transit vehicles bypass a congested intersection.		
Ramp metering	The electronically regulated flow of vehicles to increase capacity of through lanes and improve safety.		

Ramp Meter Bypass	A lane at ramp meter.	eters that let certain vehicles like transit vehicles or high-occupancy vehicles bypass
Real-time information	Transit service information of the service information of the service web.	ormation that reflects actual operating conditions and is provided as actual time as scheduled time. Often, on-time arrival information available at bus stops or via the
2030 Regional Development Framework	The Metropolitan metropolitan area are needed to sup	Council plan that sets the general direction for future development patterns in the and establishes guidelines for making decisions about major regional facilities that port the commercial, industrial and residential development of the area.
Regional Guaranteed Ride Home program	A program that pro underwriting the c	ovides an "insurance policy" for those who commute by bus, pool, bike or walking by ost of taxi rides homes in emergencies.
Regional Highway System	All highways servi	ng the region, including principal arterials and "A".
Regional Railroad Authority	Each county in the way if rail lines are regional railroad a	e region has a regional railroad authority to preserve rail corridors, preserve right-of- e abandoned and develop rail transportation options. The county board sits as the authority.
Regional Traffic Management Center (RTMC)	Mn/DOT's freeway cameras, loop det ramp meters in re	y management center fully-equipped with electronic surveillance technology such as ectors, and freeway ramp meters used to monitor current traffic congestions, adjust al time, and dispatch incident response vehicles to crash or vehicle breakdown sites.
Regular-route transit service	A transit service the usually classified	nat operates on a predetermined, fixed route and schedule. Regular-route service is as four types:
	Local service	Buses make frequent pickups and drop-offs, stopping at almost every street corner.
	Urban locals	Buses operate primarily in central cities and first-ring suburbs and include regular-route radial service (routes serve one or both of the two major downtowns); crosstown (usually providing connecting links between radial routes); and limited stop (buses make limited stops as a supplement to local service along a route or "skip stops," achieving faster service to selected destinations).
	Suburban locals	Buses operate in suburban environments, beyond first-ring suburbs, many times as suburban circu- lators, and regular-route suburb-to-suburb crosstowns (often as feeder routes to radial services) and in some cases may include specially designed paratransit services.
	Express	Buses operate nonstop on highways or dedicated transitways for at least four miles and include peak only and all-day express. Express routes provide travel times competitive with driving in an auto- mobile. Most express routes operate longer distances (8-25 miles) and during peak times, and are destined to and from one of the two major downtowns.
Rehabilitation	Roadway improve the cross section. dering and wideni roadway.	ments intended to correct conditions identified as deficient without major changes to These projects consist of removal and replacement of base and pavement, shoul- ng and drainage correction as needed without changing the basic boundaries of the

Revenue Hour	The time from when the transit vehicle begins its route at the first time point to the time the transit vehicle completes its route at the last time point including the time the transit vehicle is in recovery (laying over).
Reverse-commute	Transit service from the core cities to an employment location in suburban locations, typically in a direction opposite to the heaviest flow of traffic.
Ridesharing	A paratransit service with two or more persons in the vehicle consisting usually a prearranged car pool, van pool or subscription bus.
Right-of-Way Acquisition Loan Fund (RALF)	This program grants interest-free loans to communities within officially mapped highway corridors to purchase property threatened by development. The loan is repaid when the property is purchased by the highway construction authority. The Minnesota Legislature established the RALF program in 1982. It is funded by a property tax levied by the Metropolitan Council and funds are loaned out on a revolving basis.
Route deviation	A transit service operating on a fixed route from which vehicles may deviate to pick up or drop off pas- sengers. Requests for route deviation may come by phone via radio contact with the driver or may be requested by a passenger upon boarding. Generally, this strategy utilizes a small vehicle.
Routine maintenance	Roadway maintenance consisting of snow and ice control, mowing, sweeping, periodic applications of bituminous overlays, seal treatments, milling, crack routing and filling and base repair. These treatments are intended to help ensure the roadway can be used to the end of its design life.
Rural area	The rural area is divided into four specific geographic planning areas: Rural Centers/Rural Growth Centers, the Diversified Rural Communities, the Rural Residential Areas and the Agricultural Areas.
SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users)	A six-year federal funding bill for transportation projects.
Shoulder	The part of a highway that is contiguous to the regularly traveled portion of the highway and is on the same level as the highway, generally reserved for breakdowns and emergency vehicles. Some shoulders in the Twin Cities are designated for bus utilization called "bus-only shoulders."
Sidewalk	That portion of a street between the curb lines or the lateral lines of a roadway and the adjacent prop- erty lines, intended for the use of pedestrians.
Signal preemption	A technology that triggers the green go-ahead on meters or traffic lights to allow transit vehicles to more quickly move through freeway ramp entrances or intersections.
Small Starts	A federal program for funding transit infrastructure. This program funds smaller projects than the "New Starts" program.
SOV	Single-occupant vehicle

Special transportation services	Transit services provided on a regular basis to elderly and disabled persons who are unable to use regular means of transportation. Rides are provided through a variety of public and private entities, including social services and transit agencies, using lift-equipped vans, taxis, buses and volunteer drivers.			
Suburban Transit Providers	Provide regular-route and dial-a-ride service in twelve suburban communities. These providers are: Minnesota Valley Transit Authority, Southwest Transit Authority, and the Cities of Maple Grove, Plym- outh, Shakopee, and Prior Lake. Minnetonka has also opted-out but has chosen to leave its service with the Metropolitan Council instead of starting its own service.			
Surface Transportation Program (STP)	One of the five core federal highway funding programs. STP provides flexible funding that may be used by States and localities for projects on any Federal-aid highway, including the national highway system, bridge projects on any public road, transit capital projects, and intra-city and intercity bus terminals and facilities.			
System statement	The system statement informs each community how it is affected by the Metropolitan Council's policy plans for four regional systems - transportation, aviation, water resources (including wastewater collection and treatment), and regional parks and open space. System statements include forecasts of population, households and employment.			
Telecommuting	The elimination or reduction in commuter trips by routinely working part or full-time at home or at a satellite work station closer to home.			
Throughput	The number of vehicles/persons that pass a point on a roadway over a specified period of time. Per- son throughput includes passengers of vehicles while vehicle throughput only includes vehicles.			
Timed-transfer station	Point where several transit lines converge in a synchronized manner, facilitating passenger transfers.			
Tolls	A fee collected for the use of a road.			
Traffic Calming	Techniques such as speed bumps, narrow lanes and traffic circles used to slow traffic in primarily residential neighborhoods.			
Traffic signal control systems	The degree of traffic management of an arterial is grouped and defined as follows:			
	Fixed time	The traffic signals on an arterial are controlled locally through a time clock system. In general, the progression of a through band (the amount of green time available along an arterial at a given speed) along the arterial in the peak direction is determined by past experience and is not a function of immediate traffic demand.		
	Semi-actuated	The traffic signals along the arterial are designed to maximize the green time on the major route in the major direction. Timing and through band are based upon historical records. Use of green time on the minor leg depends on real-time demand and maximized based upon total intersection delay.		

Interconnection		A traffic signal system in which data collected at individual signals is shared with a central processor or controller. Adjustments in traffic signal control can be made based upon incoming data as opposed to historical data.		
Optimization		The process in which a traffic signal or system is modified to maximize the amount of vehicles passing through the intersection for all approaches or on the major road in the peak direction.		
Real-time adaptive control		An advanced traffic control system that incorporates current technologies in com- munications, data analysis, and traffic monitoring to provide real-time traffic control of arterials, corridors or roadway networks.		
Transit advantages	Facility improve include bus-onl bypasses, signa	ements that offer travel-time benefits to multi-occupant and transit vehicles. Examples y shoulders, bus lanes, HOV/HOT lanes, priced dynamic shoulders, ramp meter al preemption, transit centers, transit stations, and major park-and-ride lots.		
Transit Centers	A transit stop or station at the meeting point of several routes or lines or of different modes of trans- portation. It is located on or off the street and is designed to handle the movement of transit units (vehicles or trains) and the boarding, alighting, and transferring of passengers between routes or lines (in which case it is also known as a transfer center) or different modes (also known as a modal inter- change center, intermodal transfer facility or an hub).			
Transit Market Area	The Twin Cities have been divided into five areas depending on their land use characteristics. These characteristics determine the types of transit service that are appropriate. See Appendix G for a full description of the Twin Cities market areas.			
Transit-oriented development	The concentration of jobs and housing around transit hubs and daily conveniences. TOD is moderate to higher-density development located within easy walking distance of a major transit stop, generally with a mix of residential, employment and shopping opportunities designed for pedestrians without excluding the auto. (Additional information about transit-oriented development can be found in the online handbook Guide for Transit Oriented Development)			
Transit Redesign	A 1996 Metropolitan Council comprehensive review of the regional transit system and resultant action plan to build a stronger, more effective transit system. "Redesign" also may refer to restructuring of transit services in an effort to better meet local needs.			
Transit stations	Facilities provid suburban bus t	led at light rail, commuter rail and bus rapid transit stops and in some cases for major ransit centers that serve as the central transit facility within a community.		
Transit Taxing District	The portion of t defined in Minn nesota State St	he Twin Cities metropolitan area where property is taxed to support transit services as esota State Statute 473.446 or who have joined the Transit Taxing District under Min- atute 473.4461.		
Transit trip	A person trip as	a passenger of a public transit vehicle.		
Transitways	Travel corridors light rail or com	that offer transit service using express buses with transit advantages, bus rapid transit, muter rail.		

Transportation Advisory Board	The Transportation Advisory Board, established in accordance with State Statutes, section 473.146, is part of the Metropolitan Council and is a forum for deliberation on transportation-related issues among state, regional and local officials and private citizens. The TAB advises the Council in preparing transportation plans and provides coordination and direction to the agencies responsible for implementing the plans.
Transportation Improvement Program (TIP)	A three-year multimodal program of highway, transit, biking, walking and transportation enhancement projects and programs proposed for federal funding in the seven-county Twin Cities metropolitan area. The TIP must include capital and non-capital transportation projects proposed for funding under Title 23 United States Code (USC) (highways) and Title 49 USC (transit). The TIP must also contain all regionally significant transportation projects that require an action by the Federal Highway Administration (FHWA) or the Federal Transit Authority (FTA).
Transportation Management Organization (TMO) or Association (TMA)	Nonprofit organizations formed in highly congested areas to deal with common transportation con- cerns, particularly alleviating congestion, improving employee commutes and increasing access to customers.
Transportation Policy Plan	This document which is one chapter of the Metropolitan Council's Metropolitan Development Guide, as provided for in Minn. Stat. 473, Sec. 145 and 146. Section 145 states: "The Metropolitan Council shall prepare and adopta comprehensive development guide for the metropolitan area." This chapter deals with the transportation needs of the seven county area.
Transportation System Plan (TSP)	Mn/DOT's 20-year district a plan that identifies regional investment priority categories for the highway system.
Travel Behavior Inventory (TBI)	A set of surveys identifying travel patterns and characteristics of people and vehicles within the met- ropolitan area. In the Twin Cities, the first study was done in 1949 and has been repeated every ten years since.
Travel Demand Management (TDM)	Consists of programmatic strategies to reduce drive-alone vehicle trips and vehicle miles traveled dur- ing peak congestion times, special events, and for construction project areas. TDM strategies provide incentives for people to reduce overall demand for roadway capacity by using alternative travel modes such as transit, biking, and walking. TDM strategies also include flexible employment arrangements that do not require peak-period travel (flexible schedules) or would allow employees to avoid the com- mute altogether by working from home (telecommuting). Travel demand management is also referred to as transportation demand management.
Trunk Highway	A highway under jurisdiction of Mn/DOT
UPA or Urban Partnership Agreement	A program by the federal government to explore the use of priced lanes on highways. The Twin Cities received a UPA grant and is completing a set of improvements on I-35W, Cedar Avenue and in down-town Minneapolis to implement a priced lane and improve transit.

Urban Area	The area consisting of two Regional Development Framework-defined planning areas— Developed Communities and Developing Communities—occupying about 50% of the region's land area.			
Vanpool	A paratransit service provided by a publicly or privately provided van on a scheduled or unscheduled basis with at least five persons as occupants.			
Vehicle trip	A one-way journey made by an auto, truck or bus to convey people or goods.			
VMT	Vehicle miles traveled			
Volume-to-capacity ratio	The number of vehicles expected to use a roadway in the busiest hour, divided by the number of mov- ing vehicles the roadway can accommodate in an hour.			

Appendix B: 2011-2014 Transportation Improvement Program

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Transportation Improvement Program for the Twin Cities Metropolitan Area

The Transportation Improvement Program is updated each year by the Transportation Advisory Board and the Metropolitan Council. The federal transportation bill, SAFETEA-LU, requires that all federallyfunded transportation projects within the seven-county metropolitan area be included in the four-year Transportation Improvement Program (TIP). The TIP is prepared by the Metropolitan Council with assistance from the Minnesota Department of Transportation. It represents a fiscally-constrained four-year program of project delivery.

> The full 2011-2014 Transportation Improvement Program is available online at: <u>http://www.metrocouncil.org/planning/transportation/tip.htm</u>

Appendix C: Public Participation Plan

Introduction

The Metropolitan Council ("Council") is the designated Metropolitan Planning Organization ("MPO") for the seven-county metropolitan area and is responsible for certain regional transportation planning activities. This *Public Participation Plan* ("PPP") was adopted to help ensure the Council's transportation planning processes include a proactive public involvement process and comply with federal public participation plan requirements. This PPP identifies strategies and tools to help ensure effective public participation in the Council's transportation planning activities. This PPP replaces the *Citizen Participation Plan* contained in Appendix D of the Council's *2030 Transportation Policy Plan* (adopted December 15, 2004).

Policy Statement

The Council's agency-wide Customer Relations and Outreach Policy states: "The Metropolitan Council recognizes the importance of stakeholders in its decision-making processes, including other units of government, other metropolitan area agencies, customers and the public. Sound policy and service delivery decisions need to reflect community sentiment and public opinion from broad outreach. These public outreach strategies must be designed to offer the customer effective access to information and efficient, convenient methods of participating in the Council's public process."

Background and Reasons for Plan

The PPP is intended to help ensure the public participation activities of the Council's transportation planning processes:

1. Comply with the proactive public involvement requirements of title 23 Code of Federal Regulations section 450.316, the public participation plan requirements of the federal Safe, Accessible, Efficient Transportation Act—A Legacy for Users (SAFETEA-LU) (title 23 United States Code section 134(i)(5)), and other applicable federal regulations and guidelines on transportation planning and program access.

- 2. Efficiently use resources devoted to public participation.
- 3. Contribute to sound transportation planning decisions that benefit the region.

The PPP reinforces the Council's long-standing commitment to public involvement in its planning efforts, and continues its tradition of incorporating best practices. The PPP offers a range of practices to engage people with diverse backgrounds and life experiences. It incorporates a summary of regulations and continues Council activities that comply with Federal Highway Administration (FHWA) and other applicable standards for collecting and addressing public comments. The Council will use its data collection and

analysis processes to guide participation efforts and help ensure meaningful access to its public participation opportunities.

Excluded Activities

- The PPP does not apply to **normal course-of business** or **administrative activities** that do not significantly affect the general public or alter public policy.

- Meetings of the Metropolitan Council and its standing committees are governed by the Council's bylaws and Minnesota's Open Meeting Law and are therefore outside the scope of the PPP.

- Alternate approaches may be considered following consultation with the Council's Legal, Public Affairs and Diversity Departments. Scope

The PPP applies to transportation planning activities for which public participation is a required component.

When the Council is lead agency for regional activities undertaken with other government agencies, and a public participation process is involved, the PPP applies to joint participation activities. When another unit of government is the lead agency, the PPP applies only if the Council conducts its own public participation activities for decisions that do not involve its partners.

Implementation

Project staff and members of the Council's Public Affairs Department should consult the PPP to identify appropriate levels of involvement, tools and regulatory requirements when preparing public participation plans for specific planning processes or activities.

The Council's Data Resources Department, Office of Diversity, and Public Affairs Department provide expert advice and resources to help identify and involve members of the general public and other stake-holders throughout the region, including people who belong to traditionally underserved or underrepresented groups.

Roles and Responsibilities

1. **Metropolitan Council**: The Council sets policy direction, fosters and participates in public involvement initiatives, and considers the outcomes of public participation when making key decisions.

2. Metropolitan Council staff should encourage public participation by:

- a. Providing easily accessible information
- b. Identifying parties likely to be affected by or interested in a Council activity
- c. Informing affected or interested parties about ways they may participate
- d. Identifying opportunities to increase public participation.
- 3. The Public Affairs Department should cooperate with Division staff to:
 - a. Provide direction about public participation strategies
 - b. Maintain staff resources, including the online Public Participation Plan
 - c. Execute, or assist with planning and implementing, specific participation activities.

Administration

The Council's Director of Public Affairs (651-602-1518) will respond to inquiries regarding Council public involvement activities and implementation of this PPP. The Council's Regional Administrator will review any issues that remain if cooperative efforts between the Director of Public Affairs and program staff responsible for the subject participation processes have not resolved the issues.

Public Participation Overview

Public participation activities obtain information and identify public sentiment. They help the Council build public support and trust in the region. Although the goal is always better decisions, the level of public influence on a decision and the tools used to inform and involve the public may vary.

For some Council initiatives, appropriate participation may be limited to public information. Other initiatives and key decisions may require much more involvement, incorporating techniques commonly associated with social science and marketing research, facilitation and mediation, organizational development, and/or consensus building.

Recognize that People "Have a Stake" in Council Decisions:

Public participation is designed to involve "stakeholders" with meaningful public access to key decisions. Stakeholders may be people, groups or organizations who care about or might be affected by a Council action. Because the Council recognizes that stakeholder participation improves its decisions, it provides resources and guidance to encourage public comments and involvement.

Federal transportation planning statutes and regulations require stakeholder participation in key decisionmaking activities. Staff are encouraged to consult with the Council's Legal, Diversity and Public Affairs staffs to better identify appropriate stakeholders and target audience(s) for their public participation efforts.

The metropolitan transportation planning process must be a proactive public involvement process that provides public access to key decisions. The public involvement process should provide timely information about transportation issues and processes to citizens, affected agencies, representatives of transportation agency employees, private providers of transportation, other interested parties and segments of the community affected by transportation plans, program and projects, including central city and other local jurisdiction concerns.

As appropriate, the metropolitan transportation planning process should include: traffic, ridesharing, parking, transportation safety and enforcement agencies; commuter rail operators; airport and port authorities; toll authorities; appropriate private transportation providers; and city officials.

Make Participation Meaningful:

Public participation opportunities are most meaningful when agencies ask questions that matter to the participants. As part of its efforts to assure appropriate and meaningful opportunities, the Council should structure participation opportunities to fit their audiences. Examples of subjects appropriate to a stake-holder group include:

- · Technical committees: expert advice
- · Local governments: impacts related to local projects
- · Jurisdictional agencies: relation to plans for other regions
- · General public: priority rankings, neighborhood character

The Council will also structure its events to include **visualization techniques** when appropriate to help members of the general public understand potential outcomes of complex projects or plans.

Develop, Maintain and Update Key Contact Lists:

The Council's Public Affairs Office, operating divisions and individual departments develop and maintain stakeholder, media and marketing databases. Project staff should regularly update these lists to reflect current data and a broad range of stakeholders.

Stakeholders are often specific to a particular initiative. Contact lists should expand throughout the project as people, organizations and agencies become involved and offer their opinions. To establish new key contacts, the Council may provide or request:

- · "Opt-in" registration on its website or via email
- Announcements of advisory body and focus group opportunities, which may be online, in Council newsletters, through news releases, or read at meetings
- Existing stakeholders to suggest potential participants
- Professional, civic and community organizations to provide representatives, suggest participants, or encourage participation.

Identify Participants Through Geographic Analysis:

The Council carefully analyzes the relationship between the region's populations and its regional investments, plans and programs. Geographic analysis may help the Council:

Identify and target stakeholders likely to be affected by or interested in the outcome of key Council decisions.

- of Diver-
- Periodically assess the locations of persons or populations, in consultation with the Office of Diversity, related to the delivery of Council services and participation opportunities.
- Identify threshold concentrations that require outreach specific to a target population.
- Prepare maps illustrating the correspondence between affected persons or populations, and mailing list ZIP codes to help the Council evaluate its effectiveness in providing equal access notification and public participation opportunities.

Efforts may be geographically targeted:

As a regional agency, the Council provides plans, policies, programs and services that cross jurisdictional boundaries. Where this is true, the Council considers everyone served by the various jurisdictions and governments to be stakeholders. In the case of more localized issues, the public may be defined by the affected geographic areas.

Promoting Inclusion

Recruit Representatives of Underrepresented Groups:

The Council may recruit representatives of groups traditionally underrepresented in regional policy making and provide enhanced participation opportunities to encourage people who belong to under-represented groups to share their unique perspectives, comments and suggestions.

The Public Affairs Department and Office of Diversity monitor emerging practices and techniques, and provide consultation to project staff to support effective participation methods. Council members or employees may:

- · Participate in community organizations/events to build relationships
- Prepare culturally-sensitive outreach materials and meeting plans, such as:
 - Use appropriate language (for example, say "people with disabilities" instead of "the disabled")
 - Consider colors and graphics that appeal to target groups
 - Incorporate photos and art that depict people of diverse cultures, age, abilities and economic status
 - Demonstrate respect for cultural sensitivities and prohibitions

Accommodate People With Disabilities:

To ensure compliance with the Americans with Disabilities Act (ADA), the Council's Public Meeting Notices and comment opportunities include TTY information and provide multiple input methods. Public meetings are held at ADA-accessible locations, and notices and information are published on the Council's ADA-compliant website. Extended public hearing notices in the Council's Metro Meetings bulletins and on its Meetings and Events webpage provide needed planning time for people who rely on public transit, Metro Mobility or special arrangements to get to Council events.

The Council may use one or more of the following tools to reasonably accommodate people with disabilities:

- Provide copies of materials in 14-point or larger type
- Adapt computer screens for people with visual or hearing impairments (technology includes screen magnifiers, readers and translators)
- · Prepare easy-to-read versions of materials for people with learning disabilities
- Provide Braille or raised-print notices, materials and displays
- Allow visually impaired participants to touch 3-Dimensional maps or architectural models
- · Record materials to audio or audio-visual media
- Require presenters to verbalize information provided through presentations or written during activities
- · Provide electronic copies that participants may open on personal equipment
- · Structure seating to provide visibility for participants who lip-read
- Mount microphones at wheelchair height
- · Require facilitators to provide hand-held microphones to participants
- · Provide amplification systems
- Provide sign language interpreters
- Display spoken information as printed words through technology (computer assisted reading technology, known as CART)
- Present meetings through video- or teleconferencing, to allow offsite participation

Accommodate People with Limited English Proficiency (LEP):

Individuals with limited English proficiency ("LEP") and for whom English is not their primary language may have difficulty participating in key decisions. Accordingly, the Council will take reasonable steps to help ensure LEP persons have meaningful access to key transportation planning decisions and have opportunities to become involved in Council transportation planning processes.

Public Notices

The Council informs stakeholders about its public participation meetings and opportunities, as well as involvement milestones and outcomes. The Council's Public Affairs Department publishes public comment opportunities at the Council's ADA-compliant website (<u>www.metrocouncil.org</u>), in the *State Register*, and in designated newspapers, as well as on the Council's official calendar. As a rule, the Council releases information about regional participation opportunities through both popular and specialized media outlets that serve people with disabilities and limited English proficiencies.

Regional 2030 TRANSPORTATION Policy Plan - Final November 2010

Vital public information documents written in English, including meeting notices, will include statements that the Council will reasonably accommodate people with disabilities or limited English proficiency.

The Council provides legal notices, beginning 30 to 45 days prior to public hearings, to inform members of the general public and other stakeholders about opportunities to provide formal public comments. Each notice provides, at a minimum, the following information:

- · Name of activity/type of participation event
- Sponsoring organization
- Subject of meeting
- Action to be taken and by whom
- Day, date, time and location of meeting
- Brief summary of the proposed action or plan and geographic scope
- · Start and end dates for public comments
- · Where to obtain copies of the plan or materials, and how to provide formal comments
- A designated contact for more information (name, telephone, email, TTY)
- Offer to provide accommodations for people with limited English proficiency (published in the native languages for identified subject threshold groups)
- Offer to provide accommodations for people who are disabled

Council design standards require program staff to consult with members of the Public Affairs design staff or Metro Transit marketing group to assure consistent use of Council identity elements, design features and typography before publishing display advertisements. (*This requirement does not apply to classifiedstyle legal notices placed through the Data Center.*)

Public Comments:

The Council values the efforts stakeholders make to participate in its regional decisions. To inform participants how their ideas, comments and suggestions influence key regional decisions, the Council considers summaries of public comments at regular business meetings. The Council's designated project managers prepare and present the summaries following each major initiative or project participation process, and provide copies to the Public Affairs Department for publication on the Council's ADA-compliant website and distribution through the Data Center.

The Council's public comment summaries identify:

- the Council activity for which comments were solicited
- · the matters on which public input was sought
- a description of the public participation methods used
- a general description of groups that participated (categorized by factors such as interest, demographic sub-group, or agency affiliation)
- · public comments categorized by major themes
- how public comment influenced the outcome or recommendation that resulted from the process, and why any consistent themes are not reflected in proposed Council actions.

Scheduling Public Meetings:

The Council provides a variety of opportunities for face-to-face and interactive public participation at ADA-accessible venues. Council public participation activities may range from highly structured public hearings to informal special events, and may incorporate online forums or surveys. The Council's Public Affairs staff provides consultation for planning, organizing and publicizing public meetings, and can assist division staff with presentation coaching or meeting evaluation.

Whenever reasonably possible, the Council holds its public meetings at times and places convenient to its stakeholders. To encourage optimal participation, the Council may consider:

- · Locations easily accessed by transit riders and Metro Mobility clients
- · Holding meetings in different areas of the region
- Holding meetings at nontraditional locations such as schools, religious facilities or cultural centers
- · Partnering with community or service organizations to promote/host participation events
- Holding meetings outside of traditional business hours
- Holding multiple meetings on different days of the week and/or at different times of the day
- Avoiding potential conflicts with participation opportunities hosted by other units of government in the region

Information Documents

The Council distributes policy documents and data sets that provide stakeholders and the general public with pertinent information about the planning and decision process. The Council provides copies of its draft and adopted policy and plan documents for public review at its Data Center, library and ADAcompliant website. Single copies of most Council documents are free. A nominal fee may be collected to recover costs on select items.

In response to an informal request for information, any Council staff member may distribute published Council documents or direct the requester to the Public Affairs Department.

Data Practices

Documents, data and information at the Metropolitan Council, unless specifically excepted, are a matter of public record under Minnesota Statutes Chapter 1. Staff must respond in a timely manner to any request for information from a member of the public. If a staff member receives a request for information under the Minnesota Government Data Practices Act, the request should be referred to the Data Practices Official, at 651-602-1387, in accordance with the Council's Data Practices Procedure.

Advisory Bodies

The Council's advisory bodies provide key opportunities for stakeholder participation. They allow members, representing a cross-section of key stakeholder groups in the region, to help shape regional transportation plans and policies. The Council appoints members of the general public, local elected officials, professionals with technical knowledge and experience, or representatives of statute-identified groups, according to the responsibilities of particular advisory bodies. Advisory bodies may conduct studies, recommend action to the Council's standing committees, and/or provide expert advice.

1. **Transportation Advisory Board (TAB):** Advises the Council on transportation matters involving the regional highway, public transit and airport systems; helps the Council, Mn/DOT, counties and cities carry out transportation planning and programming for the region as designated in state and federal laws; participates in drafting the *Transportation Policy Plan* (TPP), and reviews and adopts the region's three-year Transportation Improvement Program (TIP). Its 33 members include 10 municipal elected officials; seven county commissioners; four state and regional agency representatives (Mn/DOT, Minnesota Pollution Control Agency (MPCA), Metropolitan Airports Commission – (MAC), Metropolitan Council); eight citizen representatives; and four transportation mode representatives (one represents freight providers, two represent transit providers, and one represents nonmotorized transportation users of bicycle and pedestrian facilities).

2. **Transportation Accessibility Advisory Committee (TAAC):** The TAAC advises the Metropolitan Council on short- and long-range management plans and policies for special transportation services. Composed of transit riders and advocates for the disability community, it includes 2 Senior Federation

representatives, 2 from the Minnesota Consortium for Citizens with Disabilities, and 1 American Association of Retired Persons (AARP) representative.

3. **Transportation Technical Advisory Committee (TAC):** provides expert advice about plans and programs to the TAB. It includes staff from the Council including Metro Transit; representatives from Transit Opt-Out providers; Mn/DOT; MAC; the MPCA; the FHWA; the seven counties; the cities of Minneapolis and St. Paul; and 8 representatives from the Association of Metropolitan Municipalities (AMM). Members of the TAC may also serve on one or more subcommittees. One subset, the Funding and Programming subcommittee, includes representatives from the state Department of Natural Resources (DNR) and state Bicycle Advisory Committee.

4. **Transit Providers Advisory Committee (TPAC):** Advises the Council on issues related to contracted transit services and reviews and participates in the Council's referral process for the TPP and TIP. Its members represent transportation providers, including private transportation providers.

Local Government Participation

In addition to involving local governments in regional transportation planning processes through its advisory bodies, the Council actively seeks participation by local governments informally and early in its decision-making process. Council and staff members obtain input from local governments through a variety of venues, several of which are integral to the Council's land use planning and other statutory obligations.

1. Face-to-Face Meetings and Interviews: Council members and staff may participate in professional networks or meet with their peers and other agency contacts to discuss regional policy and program issues, as well as day-to-day services and community issues, concerns and needs.

2. **Discussion, Educational and Outreach Meetings:** The Council may customize forums, workshops, focus groups and other participation processes to encourage participations by representatives from local governments.

3. Local Government Meetings: Council members and staff may attend city, county or township meetings to inform local officials about Council activities, listen to local concerns, or solicit participation in public activities.

4. **Review Process:** The Council's departments use a formal review process to comment on updates and amendments to local comprehensive plans, Environmental Assessment Worksheets, Environmental Impact Statements, and Surface Transportation Referrals. Its departments consult about activities that interact, guiding and coordinating implementation of transportation and other regional facilities with local and regional land use plans, in accordance with the Council's regional development guide and metropolitan system plans.

5. **Staff Assistance:** To assist local governments with land use, facilities and service planning related to regional issues and Council activities, the Council provides designated staff experts and periodic technical assistance opportunities to local governments. Council Sector Representatives act as first contacts

for assigned communities and meet regularly with local officials and staff members. Staff assistance develops relationships with local governments throughout the region, enhancing the Council's ability to identify and address local issues in its regional decisions.

Council Tools and Resources

Formal Public Meetings

The Council accepts testimony from stakeholders and the general public in multiple formats, including testimony, postal mail, email, voice mail, fax, and on forms provided for written or website comments. Guidelines for the content of accessible notices soliciting formal public comments are included under "Public Notices."

- Business and Committee Meetings are always open to the public as required by Minnesota's Open Meeting Law and allow the Council's stakeholders to provide public comments and observe the way it conducts its business. Business and committee meetings are listed in the Council's master calendar, posted online and publicized through Metro Meetings. They typically are held at Council headquarters, located at 390 Robert Street North, St. Paul, MN 55101. The building is ADA-compliant and accessible via several major transit routes.
- Public Hearings provide formal public input on issues and business of regional interest. In accordance with state law, the Council adds public hearings for matters that do not pertain to Comprehensive Plan Amendment and Updates to its master calendar and publishes, at least 30 days prior to the meeting, paid legal notices in the State Register and local newspapers. The Council may also issue news releases and highlight hearings on its homepage to promote participation at public hearings and meetings.

Education and Outreach Meetings

The Council implements a variety of face-to-face and interactive opportunities to ensure meaningful public participation and promote full understanding of Council initiatives. Education and outreach meetings provide information and may solicit input.

- Forums Including online forums, elicit stakeholders' and communities' ideas and perspectives on regional issues, projects and initiatives. Usually held in series, forums are often used to encourage continuous feedback/input. While formal minutes are optional, the Council's staff or facilitators generally record general or specific content of public comments.
- Workshops Include meetings or series of meetings designed to share knowledge or information, educating the audience on a topic of regional interest or importance. The Council's workshops provide technical assistance to local communities, help it increase public awareness or promote public involvement. The Council may record public responses or additional questions/concerns for later use by staff or the Council.
- Special Events The Council may develop special events to announce, highlight or kick-off its
 outreach about an issue, project, initiative or news event. The Council generally publicizes its special
 events through the media, Council websites or direct mail.
- **Open Houses** The Council may provide meetings/tours/receptions specific to locations that interest the public, in order to highlight an initiative, project or facility.
- Conferences Provide opportunities for the Council to enhance its regional reputation for leadership and innovation by providing professional education, participating in policy discussions and forums, or networking with stakeholders who are interested in similar issues or technically skilled in areas of Council business.
- Focus Groups Solicit in-depth information about issues, activities or public perceptions from small groups of stakeholders. Often held in series, focus groups allow the Council to obtain detailed information and responses by asking questions that build upon knowledge discovered during the course of the meetings or prior public interaction. May also be used as a problem-solving vehicle, a specialized focus group also known as a "Charrette".
- Key Person Interviews Council members or employees may meet individually with designated stakeholder opinion leaders, such as Chamber officials or members, mayors, advisory body members, nonprofit agency representatives, education representatives, religious leaders, business owners or individual constituents potentially impacted by a Council decision.
- Civic and Community Meetings the Council provides updates to City Councils and other elected bodies, and speakers on topics of interest to groups hosting meetings in the region. Council representatives establish relationships host organizations and may attend the organization's meetings and events.

Interactive/Visualization Techniques:

The Council provides a variety of accessible information resources to help participants understand competing proposals, impacts and possible outcomes related to complex regional transportation projects and plans. Visualization techniques used to illustrate these issues may include, but are not limited to, one or more of the following materials and practices:

- · Aerial photographs, alone or with mapping overlays
- · Photo simulations of proposed projects
- Photographs of existing projects comparable to those proposed
- · Interactive maps that allow comparison of proposals
- · Interactive maps that allow addition/subtraction of proposed elements
- · Printed, three-dimensional, or raised print maps, diagrams, or architectural figures
- "Before" and "After" photos, simulations, maps, diagrams or drawings
- Scenario planning exercises

Media Relations: 651-602-1357

The Council's Public Affairs Department includes staff experienced in news reporting and media relations. It issues news releases, works with reporters to generate stories about Council activities, responds to reporter inquiries, provides briefings, holds press conferences and prepares editorial commentaries. Media activities inform and interest members of the media and public about Council issues, events and opportunities for public participation, maintaining contact with more than 40 broadcast outlets and daily newspapers, 40 weekly newspapers, more than 30 specialty news outlets (serving audiences such as ethnic minority groups, people with disabilities and people over age 65), and 50 neighborhood publications. Staff also produces content for and places the Council Chair's Annual State of the Region Address, and periodic highlights of regional issues, on local broadcast/cable television.

Websites: www.metrocouncil.org and www.metrotransit.org

The Council's ADA-compliant websites provide interactive content and static documents, accessed at a rate of more than 200,000 visits per month. The website includes contact information and venues for public comment, and advertises openings on the Council's advisory bodies. It provides information about the Council's planning and decision-making processes, as well as copies of its draft and adopted plans and policies, maps, displays, and meeting agendas. The homepage highlights public events, and "Meeting and Events" pages provide calendars of the public hearings, meetings and events held by the Metropolitan Council, the Metropolitan Airports Commission and the Metropolitan Sports Facilities Commission. The Council's website provides information about federally funded projects, grant opportunities, Council programs and affordable housing. Metro Mobility, the Council's transportation provider for people with disabilities, provides an online handbook and enrollment form, and the Council's Metro Transit site provides transit schedules, dynamic trip planning and fare information online.

Data Center: 651-602-1400

Public Comment Line: 651-602-1500 TTY: 651-291-0904 Fax: 651-612-1464 Email data.center@metc.state.mn.us 390 Robert Street North

St. Paul, MN 55101

The Council Data Center publishes official public notices of the Council's hearings and public participation meetings. Data Center staff members respond to 12,000 public contacts annually, including requests for printed documents, inquiries about the status of projects, and public comments received at the data center during the public participation process. The Data Center staff assists at events managed by the Public Affairs Department and maintains several database lists. The Data Center distributes Council documents, notices and newsletters via email, messenger and traditional mail service.

Print materials, electronic publications and presentations

The Council's Public Affairs team includes professional editors, writers and designers who are available to assist program staff developing public participation materials. The Public Affairs Department publishes, periodically updates and distributes an extensive array of fact sheets, policy summaries, brochures, audio-visual materials and topical print and electronic publications. The Council distributes several periodicals to stakeholders and interested parties. At the time of PPP adoption, Council publications included the following titles:

1. *Metro Meetings* (electronic and print, based on preference): Sent weekly to 300 subscribers, provides information about meetings and public events held by the Council, its committees and subcommittees, the Metropolitan Airports Commission and the Metropolitan Sports Facilities Commission.

2. *Directions Newsletter*: Electronic version mailed monthly to 700 subscribers, provides articles to inform the public and stakeholders about current regional planning, program and service issues; promotes public use of best management practices related to Council responsibilities. Print version mailed bi-monthly to 4,000 subscribers, summarizes information provided in the electronic version.

3. *Metro Digest* (electronic and print, based on preference): Sent monthly to 300 subscribers, summarizes Council and Commission activities (see Metro Meetings), as well as committee and commission vacancies.

4. *Take Out* (print): Provided for user pickup monthly on all regional buses and trains, discusses meetings and decisions affecting the region's transit system.

5. *Annual Report* (print): Distributed annually by direct mail to 300 subscribers and at the Council's State of the Region event, discusses major Council accomplishments and initiatives.

6. *Metro Mobility Monitor* (print): mailed at least annually to 20,000 clients and stakeholders of the Council's ADA-demand transportation service, discusses policy and service matters affecting its clients.

7. *The Wire* (electronic): distributed to Council members and staff by email, discusses activities and personnel at the agency.

8. *Insights* (print and electronic): distributed to Council members and transit staff, available online to other Council employees; discusses activities and personnel within the transit operations.

Direct Mail/Email Notices

Council departments, as well as its Public Affairs and Transit Marketing staffs, maintain active lists of subscribers and parties interested in the Council's public participation efforts. In addition to its "Meetings and Events" web presence and Metro Meetings bulletins, the Council distributes:

- · Formal meeting notices with requests for comments
- · Form/personalized letters requesting comments and participation, and
- Form/personalized participation invitations.

Database contacts include members of the media or general public, local officials, citizen activists, interest groups and other stakeholders; materials may be sent electronically or by post.

Library: 651-602-1310

390 Robert Street North St. Paul, MN 55101

The Council's library and library staff assist members of the Council and its staff, members of the public, and local officials with Council or regional research.

Staff assistance: 651-602-1545

The Council's public outreach coordinator and other members of the Public Affairs staff provide expert assistance with planning, implementing and evaluating a broad range of public participation activities.

Appendix D: Functional Classification Criteria and Characteristics and Mn/DOT Access Guidance

Functional classification involves determining what function each roadway should perform before determining street widths, speed limits, intersection control or other design features. Functional classification ensures that non-transportation factors, such as land use and development, are taken into account when planning and designing streets and highways.

A major use of functional classification is to determine which routes should be on the Metropolitan Highway System. Functional classification is also used to decide which roads to use for transit service. Once function is established, appropriate or desirable design and operational characteristics can be used as further guidelines for implementation.

Typical functional classification system criteria are presented in Tables D-1, D-3, D-4 and D-6. Typical functional classification system characteristics are shown in Tables D-2, D-5, and D-7. The criteria are intended to be the primary tool for determining the function of a roadway. The characteristics are intended to be guidelines when plans are developed for a given classified route. However, if the characteristics are significantly different for a given highway, they may be used to supplement the criteria in making final decision on the function of that given highway. Generalized Summary of Mn/DOT Access Guidance for the Metropolitan Area is shown in Table D-8.

Within the seven-county metropolitan area the functional classification system consists of four classes of roads: principal arterials (which include all freeways), minor arterials, collector streets and local streets. The Metropolitan Highway System includes all principal arterials and is supplemented by a subgroup of "A" minor arterials. These "A" minor arterials are divided into four subcategories: Augmentors, Relievers, Expanders and Connectors. Principal Arterials and "A" minor arterials are eligible to compete for federal funds.

Principal Arterials

The Metropolitan Highway System is composed of all the principal arterials in the region. Principal arterials consist primarily of Interstate highways and other freeways or expressways, most of them owned and operated by Mn/DOT, with three under the jurisdiction of counties or cities. The emphasis of principal arterials is on mobility rather than land access. Among other functions, they connect the region with other areas in the state and other states. Principal arterials also connect the metro centers to major commercial concentrations. At present, principal arterials connect with other principal arterials, select minor arterials and collectors and some local streets. In the future, new connections to the principal arterials should be limited to other principal arterials and select "A" minor arterials. Principal Arterials provide for the longest trips in the region and express bus service.

Principal arterial spacing varies from 2 to 3 miles in the developed area, from 2 to 6 miles in the developing area--depending on the density of planned development-- and from 6 to 12 miles in the rural area. Where urban level development is planned, spacing of principal arterials or future principal arterials may be 2 to 3 miles. Principal arterials other than interstate freeways provide land access somewhat more frequently than Interstate freeways.

Minor Arterials

The minor arterial system supplements the Metropolitan Highway System in several ways: Minor arterials connect the urban service area to cities and towns inside and outside the region. They interconnect the rural centers in the region to one another and to those just outside the region. Minor arterials provide supplementary connections between the two metro centers and the regional business concentrations. They connect major traffic generators within the central business districts (CBDs) and the regional business concentrations.

In the urban area the emphasis of minor arterials is on mobility as opposed to access, and only concentrations of commercial or industrial land uses should have direct access to them. Minor arterials should connect to principal arterials, other minor arterials and collectors. Connections to some local streets are acceptable. Minor arterials should serve medium-to-short trips. Both local and limited-stop transit use minor arterials.

The spacing of minor arterials in the metro centers and regional business concentrations will vary from one-fourth to three-fourths mile. Typically, in the developed area, minor arterials should be spaced every one-half to one mile. In the developing area, one-to-two-mile spacing is adequate, but to accommodate urban development in the future, one-half to two mile spacing is needed. The criteria and characteristics of minor arterials apply to all minor arterials. The "A" minor arterials are described below and the Criteria of the four types of "A" minor Arterials are described in Table D-3.1.

Collector Streets

The collector system provides connection between neighborhoods and from neighborhoods to minor business concentrations. It also provides supplementary interconnections of major traffic generators within the metro centers and regional business concentrations. Mobility and land access are equally important. Direct land access should primarily be to development concentrations. Collectors connect primarily to minor arterials.

Typically, collectors serve short trips of one to four miles. Local transit uses these streets. Spacing in the metro centers and regional business concentrations may vary from one-eighth to one-half mile. In the developed area, collectors are needed one-fourth to three-fourths mile apart. In the developing area, spacing may range from one-half to one mile and may service existing development, but one-fourth to three-fourth mile spacing may be required in the future.

Local Streets

Local streets connect blocks and land parcels. The primary emphasis is on land access. In most cases, local streets connect to other local streets and collectors. In some cases, they connect to minor arterials. Local streets serve short trips at low speeds. In the urban area, local streets could be are spaced as close as 300 feet, while in the rural area, one-mile spacing may be adequate.

Criterion	Freeway Principal A	Arterial	Other Principal Arterial	
	Urban	Rural	Urban	Rural
Place Connections	Interconnect the metro centers and regional business concentrations, important trans- portation terminals and large institutional facilities within the MUSA.	Connect the MUSA with urban areas and major cit- ies in Minnesota and other states.	Interconnect the metro centers and regional business concentrations, impor- tant transportation terminals and large institutional facilities within the MUSA.	Connect the MUSA with major cities in Minnesota and other states.
Spacing	Developed Planning Area: 2-3 miles Developing Planning Area: Spacing should vary in relation to density of travelshed development, 2-6 miles.	Rural Planning Area: 6-12 miles. Closer spacing may be required to connect por- tions of Urban Planning Areas to each other or to Rural Centers.	Developed Planning Area: 2-3 miles. Developing Planning Area: Spacing should vary in relation to density of development, 2-6 miles.	Rural Planning Areas: 6-12 miles. Closer spacing may be required to connect por- tions of Rural Planning Areas to each other or to Rural Centers.
Management	Maintain at least 40-mph average speed dur- ing peak-traffic periods.	Retain ability to meet urban speed objective if and when area urbanizes.	Maintain at least 40-mph average speed during peak- traffic periods.	Retain ability to meet urban speed objective if and when area urbanizes.
System Connections and Access Spacing*	To other Interstate freeways, other principal arterials and selected "A" minor arterials. Connections between principal arterials should be of a design type that does not require vehicles to stop. Access at distances of 1-2 miles.	To other Interstate free- ways, principal arterials, and selected "A" minor arterials. Access at distances of 2-6 miles.	To Interstate freeways, other principal arte- rials, and selected "A" minor arterials. Con- nections between principal arterials should be of a design type that does not require vehicles to stop. Intersections should be limited to 1-2 miles.	To Interstate freeways, other principal arterials, and selected "A" minor arterials. Intersections should be limited to 2 miles or more.
Trip-Making Service	Trips greater than 8 miles with at least 5 con- tinuous miles on principal arterials. Express transit trips.		Trips greater than 8 miles with at least 5 continuous miles on principal arterials. Express transit trips.	
Mobility vs. Land Access*	Emphasis is placed on mobility rather than land access. No direct land access should be allowed.	Emphasis is placed on mobility rather than land access. No direct land access should be allowed.	Greater emphasis is placed on mobility than on land access. Little or no direct land access within the urban area.	Greater emphasis is placed on mobility than on land access. Little or no direct land access.

Figure D-1: Functional Classification System Criteria for Principal Arterials

*The key objective is stated under "Management" heading in this table.

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Table D-2: Functional Classification System Characteristics for Principal Arterials

Charactoristics	Freeway Principal Arterial		Other Principal Arterial		
Characteristics	Urban	Rural	Urban	Rural	
System Mileage	Suggested limits for Interstate and other principal arterials at 5-10% of system.	Suggested limits for Interstate and other principal arterials at 2-4% of system.	See "Freeway."	See "Freeway."	
Percent of Vehicle Miles Traveled	Suggested limits for Interstate and other principal arterials at 40-65% of system.	Suggested limits for Interstate and other principal arterials at 30-55% of system.	See "Freeway."	See "Freeway."	
Intersections	Grade separated.	Grade separated.	Grade separated desirable. At a minimum, high-capacity con- trolled at-grade intersections.	High-capacity controlled at- grade intersections.	
Parking	None.	None.	None.	None.	
Large Trucks	No restrictions.	No restrictions.	No restrictions.	No restrictions.	
Management Tools	Ramp metering, preferential treatment for transit, interchange spacing.	Interchange spacing.	Ramp metering, preferential treatment for transit, access control, median barriers, traf- fic signal progression, staging of reconstruction, intersection spacing.	Access control, intersection spacing.	
Vehicles Carried	25,000-200,000	5,000-50,000	15,000-100,000	2,500 - 25,000	
Posted Speed Limit	45-55 mph	55-65 mph	40-50 mph	Legal limit	
Right-of-Way	300 feet	300 feet	100 - 300 feet	100 - 300 Feet	
Transit Accommodations	Priority access and movement for transit in peak periods where needed.	None.	Priority access and movement for transit in peak periods where possible and needed.	None.	

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Table D-3: Functional Classification System Criteria for Minor Arterials

Critorian	Minor Arterial ("A" or "B")			
Criterion	Urban	Rural		
Place Connections	Provide supplementary connections to metro centers and regional business concentrations within the MUSA. Provide interconnection of major traffic generators within the metro centers and regional business concentrations.	Connect the MUSA with cities and towns in Minnesota outside the Twin Cites region. Interconnect rural growth centers inside the Twin Cities region and comparable places near the Twin Cities region.		
Spacing	Metro centers and regional business concentrations: 1/4-3/4 mile. Developed area: 1/2-1 mile. Developing area: 1-2 miles.	Rural Areas: As needed, in conjunction with the major collec- tors, provide adequate interconnection of places identified in "Place Connections" criterion.		
System Connections	To most Interstate freeways and other principal arterials, other minor arterials and collectors and some local streets.	To most Interstate freeways and other principal arterials, other minor arterials and collectors, and some local streets.		
Trip-Making Service	Medium-to-short trips (2-6 miles depending on development den- sity) at moderate speeds. Longer trips accessing the principal arte- rial network. Local and limited-stop transit trips.			
Management	 Maintain the following minimum average speed during peak-traffic periods: Metro centers and regional business concentrations - 15 mph. Fully developed area - 20 mph. Developing area - 30 mph. 	Retain ability to meet urban speed objective if and when area urbanizes.		
Mobility vs. Land Access*	Emphasis on mobility rather than on land access. Direct land access within the MUSA restricted to concentrations of commercial/ industrial land uses.	Emphasis on mobility rather than on land access.		

*The key objective is stated under "Management" heading in this table.

Table D-4: Additional Criteria for "A" Minor Arterials

Critoria	"A" Minor Arterial Categories					
Griteria	Relievers	Augmentors	Expanders	Connectors		
Use	Provide direct relief for traffic on Metropolitan Highway Prin- cipal Arterials	Augment the Principal Arterial System within the I-494/I-694 Beltway	Provide connection between developing areas outside the beltway, connect principal arterials	Provide connection between rural town centers in the rural area		
Location	Developed and developing areas within the MUSA and post-2030 long-term service area (LTSA)	Within the I-494 / I-694 Beltway	Outside the I-494 / I-694 Beltway within the MUSA or post-2030 long-term service area (LTSA)	In or near the seven county area, one end may be in the urban area		
Trip Length	Medium length Trips less than 8 miles	Medium to long trips	Medium to long trips	Medium to long trips		
Problem Addressed	Relief of parallel congested Principal Arterials	Serve Principal Arterial function where PAs don't exist	Accommodate added urban development	Improve the safety and direct- ness of routes without continu- ous lane adds		
Existing System	400 miles	200 miles	650 miles	680 miles		

Table D-5: Functional Classification System Characteristics for Minor Arterials

Characteristics	Minor Arterial ("A" or "B")			
Cildiacteristics	Urban	Rural		
System Mileage	Suggested limits for principal arterials and minor arterials	Suggested limits for principal arterials and minor arterials		
	at 15-25% of system.	at 6-12% of system		
Percent of Vehicle Miles Traveled	Suggested limits for principal arterials and minor arterials	Suggested limits for principal arterials and minor arterials		
	at 65-80% of system.	at 45-75% of system.		
Intersections	Traffic signals and cross-street stops.	Cross-street stops.		
Parking	Restricted as necessary.	Restricted as necessary.		
Large Trucks	Restricted as necessary.	Restricted as necessary.		
Management Tools	Traffic signal progression and spacing, land access man-	I and access management/control		
Management 10013	agement/control, preferential treatment for transit.			
Vehicles Carried Daily	5,000-30,000	1,000-10,000		
Posted Speed Limit	35-45 mph	Legal limit		
Right-of-Way	60-150 feet	60-150 feet		
Transit Accommodations	Preferential treatment where needed.	None.		

Table D-6: Functional Classification System Criteria for Collectors and Local Streets

Critorion	Collector		Local		
Criterion	Urban	Rural	Urban	Rural	
Place Connections	Interconnect neighborhoods and minor business concentra- tions within the MUSA. Provide supplementary interconnection of major generators within the metro centers and regional business concentrations.	Provide supplementary interconnection among rural growth centers inside the Twin Cities region and comparable places near the Twin Cities region.	Interconnect blocks within residential neighborhoods and land parcels within commer- cial/industrial developments.		
Spacing	Metro centers and regional business concentrations: 1/8 - 1/2 mile. Fully developed are: 1/4 - 3/4 mile. Developing area: 1/2 - 1 mile	Rural Areas: As needed in conjunction with minor arteri- als, to provide adequate inter- connection of places identified in "Place Connections" crite- rion. In addition, minor collec- tors should be designated at an average spacing of not less than 4 miles.	As needed to access land uses.	As needed to access land uses.	
System Connections	Sometimes to Interstate free- ways and other principal arteri- als. To minor arterials, other collectors and local streets.	To minor arterials, other collec- tors and local streets.	To a few minor arterials. To collectors and other local streets.	To a few minor arterials. To collectors and local roads.	
Trip-Making Service	Short trips (1-4 miles depend- ing on development density) at low-to-moderate speeds. Lon- ger trips accessing the arterial network. Local transit trips.		Short trips (under 2 miles) at low speeds. Longer trips accessing the collector or col- lector and arterial network.		
Mobility vs. Land Access	Equal emphasis on mobil- ity and land access. Direct land access predominantly to development concentrations.		Emphasis on land access, not on mobility. Direct land access predominantly to residential land uses.	Emphasis on land access, not on mobility. Direct land access predominantly to agricultural land uses.	

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	Table B-7. I difetional olassification oystem onaracteristics for concetors and Eocar otreets						
Characteristics	Colle	ector	Local				
Characteristics	Urban	Rural	Urban	Rural			
System Mileage	Suggested federal limita- tions: 5-10%.	Suggested federal limita- tions: 20-25%.	Suggested federal limita- tions: 65-80%.	Suggested federal limita- tions: 63-75%			
Percent of Vehicle Miles Traveled	Suggested federal limita- tions: 5-10%.	Suggested federal limita- tions: 20-35%.	Suggested federal limita- tions: 10-30%.	Suggested federal limita- tions: 5-20%.			
Intersections	Four-way stops and some traffic signals.	Local street traffic should be required to stop.	As required.	As required.			
Parking	Restricted as necessary.	Unrestricted.	Permitted as necessary.	Permitted as necessary.			
Large Trucks	Restricted as necessary.	Restricted as necessary.	Permitted as necessary.	Permitted as necessary.			
Management Tools	Number of lanes, traf- fic signal timing, land access management.	Land access manage- ment.	Intersection control, cul- de-sacs, diverters.				
Vehicles Carried Daily	1,000-15,000	250-2,500	Less than 1,000	Less than 1,000			
Posted Speed Limit	30-40 mph	35-45 mph	Maximum 30 mph	Maximum 30 mph			
Right-of-Way	60-100 feet	60-100 feet	50-80 feet	50-80 feet			
Transit Accommodations	Cross-sections and geo- metrics designed for use by regular-route buses.	None.	Normally used as bus routes only in nonresi- dential areas.	None.			

Table D-7: Functional Classification System Characteristics for Collectors and Local Streets

Table D-8: Generalized Summary of Mn/DOT Recommended Public Street Spacing Access in the Twin Cities Metropolitan Area *

		Public Stre		
	Area or Facility Type	Primary Full-Movement Intersection	Secondary Intersection	Signal Spacing
Principal Arterials				
in the Truin Oiline	Interstate Freeways	Interchange Access Only		None
In the Twin Cities	Non-Interstate Freeway	Interchange	Access Only	None
Drimony Dogional Trada	Rural	1 mile	1/2 mile	Only at Primary Intersections
Centers (Non-IRCs)	Urban/Urbanizing	1/2 mile	1/4 mile	Only at Primary Intersections
	Urban Core	300-600 feet, dependent upon block length		1/4 mile

Minor Arterials				
	Rural	1/2 mile	1/4 mile	Only at Primary Intersections
	Urban/Urbanizing	1/4 mile	1/8 mile	Only at Primary Intersections
	Urban Core	300-600 feet, depend	lent upon block length	

Collectors				
	Rural	1/2 mile	1/4 mile	Only at Primary Intersections
	Urban/Urbanizing	1/8 mile Not Applicable		1/4 mile
	Urban Core	300-600 feet, depend	ent upon block length	1/8 mile

* This table is intended to provide a summary of Mn/DOT Access Guidance for the Metropolitan Area. This chart does not reflect all the facets of Mn/DOT guidance. Agencies should work with Mn/DOT, the appropriate county highway authority and the local land use authority when planning new or modified access. D

Appendix E: Highway Interchange Requests: Evaluation Criteria and Review Procedures

Background

The evaluation criteria and review procedures for highway interchange requests have been established by the Metropolitan Council to meet the objectives of Policy 11.

The Council will work with the Minnesota Department of Transportation and local units of government to ensure the Metropolitan Highway System and its supporting road system are built and designed to adequately serve travel demand to the extent possible, to provide for the safety of users and to minimize negative impacts on the environment.

The procedures are primarily intended for reviewing requests for either new interchanges on existing Metropolitan Highways that are controlled-access, freeway-design facilities, or for additional interchange capacity (such as new or wider ramps) on those freeways. However, the basic principles of need, spacing and design are also applicable to those parts of the Metropolitan Highway System that are not freeways (such as TH 7 and TH 65), and are useful in planning new highways such as TH 610.

These criteria and procedures are based on work originally done in 1979 by a joint committee of the Transportation Advisory Board and the Metropolitan Council. They have been revised and simplified to reflect policy changes, revised state and federal laws and regulations and experience with applying the criteria.

Procedures

The basic premise of these procedures is that the petitioner has the responsibility to prove that new interchange or additional interchange capacity is required. Typically this will require a detailed analysis of existing and forecasted highway access needs. Therefore, informal discussion of interchange requests with Minnesota Department of Transportation and Metropolitan Council staff is encouraged before the applicant initiates a potentially expensive and time-consuming study.

The following steps should be taken to obtain Council approval to add or expand a Metropolitan Highway System interchange:

- 1. A request for an interchange addition or expansion is made to the Metropolitan Council as a comprehensive plan amendment. The applicant must respond to each of the criteria shown below. The response to the criteria should be a separate report from the plan amendment, but may include information from the plan by reference.
- 2. The Metropolitan Council and implementing agency staff (typically, the Minnesota Department of Transportation) jointly evaluate the response to the criteria.

This evaluation process will begin with a review of the proposal for compliance with the first six qualifying criteria. These six criteria must be met before a proposal is examined for compliance with the technical criteria.

- 3. The results are forwarded to the Technical Advisory Committee of the Transportation Advisory Board for information.
- 4. As part of the comprehensive plan amendment review process, Council staff will analyze the consistency of the proposed interchange with regional and local plans.
- 5. If the proposed interchange is consistent with regional plans, and the Council approves the plan amendment, it can become an element in the local unit of government's approved comprehensive plan.
- 6. The approved request is transmitted to the implementing agency, which considers its inclusion in a study program or implementation program.

Criteria

Qualifying Criteria

1. Additional interchange capacity should be considered only when it supports the Metropolitan Council's Regional Development Framework and the Transportation Policy Plan, and local comprehensive plans approved by the Metropolitan Council.

Discussion: This is a critical objective. In addition to solving highway capacity deficiencies, new interchanges or major interchange modifications should be consistent with regional plans and regionally approved local plans, and should support development in desirable locations. In most cases, a new interchange should be in the Metropolitan Urban Service Area (MUSA) or census urbanized area (see Figure E-1). New interchanges should be adjacent to an existing interchange unless the intermediate access can be modified or managed to address safety concerns.

2. The need for additional capacity or safety improvements must be demonstrated and documented before a new interchange, new ramps or expanded ramp capacity are considered.

Discussion: Subjective arguments alone should not be used to justify interchange design revisions. Volume forecasts and capacity calculations are required to document the need for a design revision. Volume and capacity figures should be consistent with Council-approved land use plans and with the transportation element of those local plans.

3. Metropolitan Highway System interchanges should only connect Metropolitan Highways (Principal Arterials) to other Metropolitan Highways or to an "A" minor arterial as defined in the functional classification system adopted by the Transportation Advisory Board and approved by the Metropolitan Council. Exceptions to this criteria will be allowed only under extraordinary circumstances and with the approval of the Council, Mn/DOT and the local road authorities.



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Discussion: The intent of this criterion is to ensure that Metropolitan Highways connect to adequate arterials in the state and local road system. These roads should be continuous and connect to other principal arterials or "A" minor arterials.

- 4. New or expanded interchanges are not to be provided if the need for additional capacity is justified only:
 - As a convenience for short trips;
 - To compensate for lack of an adequate complementary minor arterial or collector system;
 - · To compensate for deficient minor arterial or frontage road capacity; or
 - To correct collector or minor arterial capacity deficiencies caused by poor design or excessive access to adjacent parcels.

Discussion: The purpose of the Metropolitan Highway System is to serve regional trips, not to replace or substitute for inadequate local access and circulation capacity.

5. When an interchange is to be constructed or expanded, the operational integrity of the mainline and associated weaving sections must be maintained. The new interchange or related system change must be acceptable in terms of route design and standards as specified by the Minnesota Department of Transportation or the implementing agency, conforming to such factors as basic number of lanes, lane continuity, lane balance, lane drops, continuity of mainline levels of service and other general design criteria.

Discussion: Highway design standards should be maintained to the greatest extent possible. Operational integrity is measured by the forecasted level of service and safety considerations, including freedom or ease of lane changing and vehicle spacing on the through lanes of a freeway or arterial.

6. Generally, interchanges on the Metropolitan Highway System on the I-494/I-694 ring or inside should be spaced at a minimum of one mile (center to center). Interchanges outside the ring should be spaced at a minimum of 2 miles (center to center) unless physical constraints or the density of existing or planned development requires closer spacing. If it is determined appropriate to locate an interchange at less than one or 2 miles apart or modify an existing interchange, the safe operation of the main roadway must be maintained.

Discussion: Experience has shown that interchanges spaced less than one mile apart have inadequate weaving distance and require special design features such as auxiliary lanes to maintain safety. Outside of the I-494/I-694 ring, other Metropolitan Highways or "A" minor arterials are typically not needed closer than 2 miles due to the lack of intense development.

Technical Criteria

Development Criteria

1. An interchange may be warranted when access to new urban development cannot be adequately or safely served by existing or new minor arterials or by existing ramps at an adjacent interchange.

Discussion: New local urban development must be provided with good local arterial access before Metropolitan Highway System access is considered. Local comprehensive plans should establish the level of development expected (land use element) and the local arterial system (transportation element) proposed to serve the expected development pattern.

2. Interchange additions or revisions to support new development must be subordinate to current, adopted corridor plans for the route.

Discussion: Regional travel demand for the Metropolitan Highway System will take precedence over local or land parcel development and related access needs. Access needs should be evaluated as part of an overall corridor plan when such plans are done.

3. The proposed ramp configuration may not serve a single development exclusively.

Discussion: Legal as well as policy requirements dictate that a public highway facility may not be designated for the sole benefit of a property owner.

4. Public benefits, as well as estimated costs of the interchange, should be evaluated.

Discussion: Detailed cost-benefit analyses normally are not used for interchange justification because of inadequate estimates of benefits. However, cost data for an interchange proposal should be developed during review and the public benefits summarized, at least subjectively.

5. Local governments and the owners and developers of properties that would benefit from an additional interchange should share the cost of additional construction or right-of-way to the extent that they receive tangible benefits.

Discussion: If the interchange is essential to initiating or expanding a development project, contribution by the benefited individual or group may be warranted through such means as right-of-way dedication, negotiation of damages or construction costs. Emphasis should be placed on tangible benefits.

6. When the implementation of the interchange would require delaying other improvements of regional facilities, an additional contribution toward the interchange project development and construction costs may be required.

Discussion: Such extra contributions would prevent delaying the implementing agency's previously programmed project.

Design Criteria

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1. Whenever possible, standard ramp and interchange configurations should be used for design.

Discussion: Standard ramp designs minimize driver indecision, prevent abrupt changes in operating speeds and reduce accident potential.

2. Interchange ramp configuration and design should be based on traffic forecasts developed and adopted by the Metropolitan Council and the Minnesota Department of Transportation.

Discussion: Regional traffic forecasts have been developed jointly by the transportation department and Council staffs. They are based on socioeconomic data developed for the entire region. Local units of government and developers may submit revised forecasts based on more detailed land development plans, but such forecasts must be analyzed and accepted by the transportation department and the Council before they are used to evaluate design changes.

3. Traffic backups resulting from interchange ramp designs must occur on cross streets and frontage roads rather than on the Metropolitan Highway.

Discussion: If traffic backups at an interchange are unavoidable for short periods, the design should ensure that they occur on the slower-speed, lower-function roadways.

4. "A" minor arterial roadways connecting with the proposed interchange must be adequate for the anticipated volumes on the interchange.

Discussion: An interchange justification must demonstrate that the connecting and other supporting roadways critical to its safe and adequate operation are or will be available at the time the interchange is open to traffic.

5. Ramp configurations must be capable of being signed for safe and expeditious movement prior to construction approval.

Discussion: Signing is a critical element of roadway design, ensuring safe and adequate operations. Signing should be part of the design development, not added after construction is approved.

6. Interchange ramp configuration and design should provide for preferential treatment of transit and rideshare vehicles.

Discussion: Because of the desirability of higher vehicle occupancies, transit incentives such as bypass ramps should be considered in the initial interchange design even if their construction is not immediately warranted.

7. If local cross-street improvements are needed in conjunction with the interchange, their construction must be coordinated with construction of the interchange.

Discussion: Local cross-street improvements necessary for safe and adequate operations should be part of the interchange design, not a prerogative of another jurisdiction after operational problems develop. A common problem is that the cross-street restrictions must be implemented by an agency other than the one designing the higher function route. Since such restrictions may affect the safe operation of the higher function route, the cross-street restrictions must be agreed upon before the higher function route design is committed.

Appendix F: Clean Air Act Conformance

Conformity Documentation of the Metropolitan Council 2010 Transportation Policy Plan Update to the 1990 Clean Air Act Amendments

August 11, 2010

The United States Environmental Protection Agency's (EPA's) 40 CFR PARTS 51 and 93, referred to together with all applicable amendments as the "Conformity Rule," requires the Metropolitan Council (the Council) to prepare a conformity analysis of the region's *Transportation Policy Plan* (the Plan), as well as the FY 2011-2014 Transportation Improvement Program (TIP). Based on an air quality analysis, the Council must determine whether the transportation plan conforms to the requirements of the 1990 Clean Air Act Amendments (CAAA) with regard to National Ambient Air Quality Standards (NAAQS) for mobile source criteria pollutants. Under consultation procedures developed by the Minnesota Interagency and Transportation Planning Committee, the MPCA reviews the Council's conformity analysis before the plan is approved for public review; a letter describing MPCA's review is on page F-3.

Specifically, the Minneapolis/St. Paul Metropolitan Area is within an EPA-designated carbon monoxide (CO) maintenance area. A map of this area, which for air quality analysis purposes includes the sevencounty Metropolitan Council jurisdiction plus Wright County and the City of New Prague, is shown in Exhibit F-1. The term "maintenance" reflects the fact that regional CO emissions were unacceptably high in the 1970s when the NAAQS were introduced, but were subsequently brought under control through a metro-area Vehicle Inspection and Maintenance (VIM) Program completed in the 1990s. The EPA then re-designated the area as in attainment of the NAAQS for CO in 1999 and approved a "maintenance plan" containing a technical rationale and actions designed to keep emissions below a set region-wide budget. This plan has remained the same since 2005, when changes to the emissions rates approved by EPA necessitated an update of the approved CO budget as well. Every long-range Plan or TIP approved by the Council must be analyzed using specific criteria and procedures defined in the Conformity Rule to verify that it does not result in emissions exceeding this current regional CO budget.

A conforming TIP and Plan, satisfying the aforementioned analysis requirement, must be in place in order for any federally funded transportation program or project phase to receive FHWA or FTA approval. This appendix describes the procedures used to analyze the *2010 Transportation Policy Plan Update* and lists findings and conclusions supporting the Metropolitan Council's determination that this Plan conforms to the requirements of the CAAA.

The analysis described in the appendix has resulted in a Conformity Determination that the projects included in the 2010 Transportation Policy Plan Update meet all relevant regional emissions analysis and budget tests as described herein. The 2010 Transportation Policy Plan Update conforms to the relevant sections of the Federal Conformity Rule and to the applicable sections of Minnesota State Implementation Plan for air quality.

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Minnesota Pollution Control Agency

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July 28, 2010

Ms. Arlene McCarthy Director Metropolitan Transportation Services Metropolitan Council 390 North Robert Street St. Paul, MN 55101

RE: Air Quality Conformity Analysis for the 2010 Metropolitan Council's 2030 Transportation Policy Plan Update

Dear Ms. McCarthy:

The Minnesota Pollution Control Agency (MPCA) staff has completed its review of the above referenced document submitted by the Metropolitan Council (Council) in support of its 2010 update of the 2030 Transportation Policy Plan (Plan). The Minnesota Interagency Air Quality Conformity Consultation Committee, with representatives from the MPCA, Council, Minnesota Department of Transportation, Federal Highway Administration, and the U.S. Environmental Protection Agency (EPA) were consulted during the preparation of the Plan and its conformity review of projects and documentation. An interagency consultation meeting was held on May 27, 2010. Other ongoing communication occurred along with periodic meetings, draft reports, e-mails and phone calls.

The current Plan was adopted in January 14, 2009. The Highway and Aviation chapters were not substantially revised at that time due to ongoing studies. Those studies have now been completed, and the Plan has been updated to include the results as well as any necessary comments. Other Plan chapters have not been substantially rewritten, but have been modified as necessary to reflect changes that have occurred over the past 18 months.

As part of this Plan Update, the Council has revised the Conformity Documentation referenced as Appendix F in the Plan that provides the basis for meeting carbon monoxide (CO) standards. This revision involved preparing a quantitative analysis of CO emissions impact of the regionally significant projects listed in the Plan. The analysis included the projects listed in Tables F-1 through F-4. The analysis shows that emissions in tons/year for the milestone years 2009, 2015, 2020 and 2030 are below the regional CO motor vehicle emissions budget which was most recently revised by the MPCA in 2005.

I have examined the document for conformance with a check list of requirements from the joint Transportation Conformity Rule of the EPA and the U.S. Department of Transportation. Based on this information, the MPCA has determined that the projects included in the 2010 Plan Update meet all relevant regional emissions analysis and budget tests as described herein.

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Ms. Arlene McCarthy Page 2 July 28, 2010

Therefore, the 2010 Plan Update fully meets and conforms to the relevant sections of the Federal Transportation Conformity Rule and to the applicable sections of the Minnesota State Implementation Plan for Air Quality.

The MPCA staff appreciates the opportunity given to review this document as part of the EPA's Transportation Conformity Rule consultation process, and for the great work done by the Council's staff by completing this analysis in a timely fashion. The staff also appreciates the cooperation of the interagency consultation group with their immediate assistance in resolving all policy and technical issues with respect to the Plan's Air Quality Conformity determination.

If you have any questions, please contact me at 651-757-2347 or via e-mail at innocent.eyoh@state.mn.us.

Sincerely,

Innocent,

Innocent Eyoh Planner Principal Air Assessment and Environmental Data Management Section Environmental Analysis and Outcomes Division

cc: Jonathan Ehrlich, Met Council Brian Isaacson, Mn/DOT Susan Moe, FHWA Michael Leslie, EPA J. David Thornton, MPCA Michael Sandusky, MPCA Frank Kohlasch, MPCA John Seltz, MPCA

IEE:jab

I. Conformity of the 2010 Transportation Policy Plan: Findings and Conclusions

A quantitative analysis of CO emissions impact of the regionally significant projects listed in the Plan was prepared. The analysis included the projects listed in Tables F-1 through F-4. The analysis shows that daily CO emissions in tons/day for the milestone years of 2009, 2015, 2020 and 2030 are below the regional CO motor vehicle emissions budget, which was most recently revised in 2005 (see Table F-7). This analysis meets the following Conformity Rule requirements:

- Inter-agency consultation (§93.105, §93.112). The Minnesota Pollution Control Agency (MPCA), Minnesota Department of Transportation (Mn/DOT), Environmental protection Agency (EPA), and Federal Highway Administration (FHWA) were consulted during the preparation of the Plan and its conformity review and documentation. The "Transportation Conformity Procedures for Minnesota" handbook provides guidelines for agreed-upon roles and responsibilities and inter-agency consultation procedures in the conformity process.
- **Regionally significant and exempt projects** (§93.126, §93.127). The quantitative analysis includes all known federal and nonfederal regionally significant projects as defined in §93.101 of the Conformity Rule. Exempt projects not included in the regional air quality analysis were identified by the inter-agency consultation group and classified in accordance with §93.126 of the Conformity Rule.
- Donut areas (§93.105(c)(2)). No regionally significant projects are planned or programmed for the City of New Prague. The air quality analysis of CO emissions for Wright County is prepared by the Council as part of an intergovernmental agreement with the County, MN/DOT and the Council. Four regionally significant projects were identified for Wright County to be built within the analyses period of the Plan and are included in the air quality analysis. The projects are in the maintenance area, but are outside of the Metropolitan Council's seven-county planning jurisdiction.
- Latest planning assumptions (§93.110). The Council is required by Minnesota statute to prepare regional population and employment forecasts for the Twin Cities Seven-County Metropolitan Area. The published source of socioeconomic data for this region is the Metropolitan Council's 2030 Regional Development Framework. This planning document provides the Council with socio-economic data (planning assumptions) needed to develop long range forecasts of regional highway and transit facilities needs. The latest update to these forecasts was on October 13, 2010; this latest version was used in the 2010 Transportation Policy Plan Update air quality analysis (see Table F-5).

Horizon years; Motor vehicle emissions budget (§93.118). The motor vehicle emissions budget test was prepared for the following horizon years: 2009, 2015, 2020 and 2030.

The first year of this set is the year for which the current conformity budget was established in the August 2004 "Revision of the Minneapolis-St. Paul Carbon Monoxide Maintenance Plan" approved by EPA, and is also ten years after the approval of the previous Maintenance Plan.

The last year of this set is the last year of this plan. No two horizon years within the 2010-2030 forecast period are more than ten years apart.

- Network-based travel model (§93.122 per §93.118). In accordance with past practices, the Regional Travel Demand Forecast Model (RTDFM) was used to develop forecasts of travel on the region's roadway system based upon the planning assumptions referred to above. Factors were developed to reconcile and calibrate network-based estimates of VMT to Highway Performance Monitoring System (HPMS) estimates of vehicle-miles-traveled for 2000, the validation base year. These factors were then applied to model estimates of future VMT.
- Latest emissions model (§93.111). MOBILE 6.2, an emissions model approved by the EPA, was
 used to estimate regional emissions based upon the VMT estimates output by the RTDFM described
 above. CO emissions were calculated in a manner consistent with the methodology presented
 in the August 2004 "Revision of the Minneapolis-St. Paul Carbon Monoxide Maintenance Plan"
 documentation. Example emissions model output files were reviewed by MPCA as part of the interagency consultation process.

Other conformity requirements have been addressed as follows:

- The Plan was prepared in accordance with the *Public Participation Plan for Transportation Planning*, adopted by the Council on February 14, 2007. This process satisfies SAFETEA-LU requirements for public involvement, in addition to the public consultation procedures requirement of Conformity Rule §93.105.
- The Plan addresses the fiscal constraint requirements of the SAFETEA-LU metropolitan planning rule 23 CFR part 450, §450.324 and §93.108 of the Conformity Rule. Chapter 2 of the Plan documents the consistency of proposed transportation investments with already available and projected sources of revenue.
- The Council has reviewed the Plan and certifies that the Plan does not conflict with the implementation of the SIP, and conforms to the requirement to implement the Transportation System Management Strategies which are the adopted Transportation Control Measures (TCMs) for the region. All of the adopted TCMs have been implemented.
- The Plan includes the 2011-2014 Transportation Improvement Program projects. Moreover, any TIP projects that are not specifically listed in the Plan are consistent with the policies and purposes of the Plan and will not interfere with other projects specifically included in the Plan.
- There are no projects which have received NEPA approval and have not progressed within three years.
- Although a small portion of the Twin Cities Metropolitan Area is a maintenance area for PM-10, the designation is due to non-transportation sources, and therefore is not analyzed herein.

II. Consultation Procedures

A. Public Involvement Process

The Council remains committed to a proactive public involvement process used in the development and adoption of the plan as required by the Council's Public Participation Plan for Transportation Planning. The Public Participation Plan is in Appendix C of the *2030 Transportation Policy Plan* and complies with the public involvement process as defined in 23 CFR 450.316 and the SAFETEA-LU requirements of Title 23 USC 134(i)(5), as well as the most current revisions to the Conformity Rule.

In addition to the Public Participation Plan, the Council continues to develop, refine and test public involvement tools and techniques as part of extensive ongoing public involvement activities that provide information, timely notices and full public access to key decisions and supports early and continuing involvement to the development of plans and programs. For example, open houses, comment mail-in cards, emails, letters, internet bulletin board, voice messages and notices on its web site are used to attract participation at the open houses, disburse informational materials and solicit public comments on transportation plans.

B. Interagency Consultation Process

An interagency consultation process was used to develop the *Transportation Policy Plan*. Consultation continues throughout the public comment period to respond to comments and concerns raised by the public and agencies prior to final adoption by the Council. The Council, MPCA and Mn/DOT confer on the application of the latest air quality emission models, the review and selection of projects exempted from a conformity air quality analysis, and regionally significant projects that must be included in the conformity analysis of the plan. An interagency conformity work group provides a forum for interagency consultation. The work group has representatives from the Council, MPCA, Mn/DOT, EPA and FHWA. An interagency meeting was held on May 27, 2010 to consult during the preparation of the plan document. Ongoing communication occurred along with periodic meetings, draft reports, emails and phone calls.

III. Description of Emissions Analysis Methodology and Assumptions

A. Project Lists and Assumptions

Definition of Regionally Significant and Exempt Projects

Pursuant to the Conformity Rule, the projects listed in the Plan were reviewed and categorized using the following determinations to identify projects that are exempt from a regional air quality analysis, as well as regionally significant projects to be included in the analysis. The classification process used to identify exempt and regionally significant projects was developed through an interagency consultation process involving the MPCA, EPA, FHWA, the Council and Mn/DOT. Regionally significant projects were selected according to the definition in §93.101 of the Conformity Rules:

Regionally significant project means a transportation project (other than an exempt project) that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel.

Junction improvements and upgraded segments less than one mile in length are not normally coded into the Regional Travel Demand Forecast Model (RTDFM), and therefore are not considered to be regionally significant, although they are otherwise not exempt. The exempt air quality classification codes used in the "AQ" column of project tables of the TIP are listed in Exhibit F-4. Projects which are classified as exempt must meet the following requirements:

- The project does not interfere with the implementation of transportation control measures.
- The project is segmented for purposes of funding or construction and received all required environmental approvals from the lead agency under the NEPA requirements including:
 - A determination of categorical exclusion: or
 - A finding of no significant impact: or
 - A final Environmental Impact Statement for which a record of decision has been issued.
- The project is exempt if it falls within one of the categories listed in §93.126 in the Conformity Rule. Projects identified as exempt by their nature do not affect the outcome of the regional emissions analyses and add no substance to the analyses. These projects are determined to be within the four major categories described in the conformity rule.
 - Safety projects that eliminated hazards or improved traffic flows.
 - Mass transit projects that maintained or improved the efficiency of transit operations.
 - Air quality related projects that provided opportunities to use alternative modes of transportation such as ride-sharing, van-pooling, bicycling, and pedestrian facilities.
 - Other projects such as environmental reviews, engineering, land acquisition and highway beautification.

2011-2014 Transportation Improvement Program Projects

The inter-agency consultation group, reviewed the list of projects to be completed by the 2011-2014 TIP timeframe, including the following:

- In-place regionally significant highway or transit facilities, services, and activities;
- Projects selected through the Council's Regional Solicitation process;

- Major Projects from Mn/DOT's ten-year work program; and
- Regionally significant projects (regardless of funding sources) which are currently:
 - under construction, or;
 - undergoing right-of-way acquisition, or;
 - have completed the NEPA process.

Each project was assigned to a horizon year of 2015 and categorized in terms of potential regional significance and air quality analysis exemption as per §93.126 and §93.127 of the Conformity Rule, using the codes listed in this Appendix. The resulting list of regionally significant projects for 2015 is shown in Table F-1.

2030 Transportation Policy Plan

The inter-agency consultation group also reviewed projects to be completed before 2030 but not within the 2011-2014 TIP timeframe, including the project types listed above, as well as regionally significant planned projects in the *Transportation Policy Plan* and other regionally significant projects, regardless of funding source. Each project was assigned to a horizon year (2015, 2020, or 2030) and categorized in terms of potential regional significance and air quality analysis exemption as per §93.126 and §93.127 of the Conformity Rule, using the codes listed in this Appendix. The resulting list of regionally significant projects for 2015, 2020 and 2030 is shown in Tables F-2 through F-5. Although not in the tables, included in the analysis are all transitway corridors under study or development listed on page 120 of the 2010 Transportation Policy Plan.

Wright County and City of New Prague Projects

A significant portion of Wright County and the City of New Prague are included in the Twin Cities CO maintenance area established in October 1999. However, since neither the county nor the cities are part of the Seven County Metropolitan Area, Wright County and New Prague projects were not coded into the Seven-County regional transportation model. However, Wright County and New Prague projects are evaluated for air quality analysis purposes, and the emissions associated with the regionally significant projects identified are added to the Seven-County region's emissions total. No regionally significant projects are currently planned or programmed for the City of New Prague during the time period of this plan. Six Wright County projects were considered in the regional air quality analysis:

TH 25: Construct 4 lane from Buffalo to start of 4 lane south of I-94 in Monticello

I-94: Add WB C-D road between CSAH 37 and CSAH 19 interchanges in Albertville.

I-94: Add WB auxiliary lane between CSAH 18 interchange and TH 25 interchange in Monticello

Table F-1: Regionally Significant TIP Projects - 2009 Action Scenario					
Route	Description	Agency	MN/DOT Project Number/Comments		
	2009 IS NOW A PAST BASE-YEAR SCENARIO. ALL PREVIOUS 2009 ACTION YEAR PROJECTS ARE NOW				
	ASSUMED AS A BASE-CASE.				

	Table F-2: Regionally Significant TIP Projects - 2015 Action Scenario					
Route	Description	Agency	MN/DOT Project Number/Comments			
TH 25	TH 55 IN MONTICELLO TO I-94 IN BUFFALO, WRIGHT CO RECONSTRUCT TO 4 LANES	MN/DOT	8605-44			
TH 23	FROM E OF ST. CLOUD TO TH 25 IN FOLEY – 2 TO 4 LANE EXPANSION	MN/DOT				
I-94	ADD WB C-D ROAD BETWEEN CSH 37 ND CSAH 19 INTERCHANGES IN ALBERTVILLE. INCLUDES WB OFF RAMP FOR CSAH 19	MN/DOT	8680-145			
I-94	ADD WB AUXILLARY LANE BETWEEN CSAH 18 INTERCHANGE AND TH 25 INTERCHANGE IN MONTICELLO	MN/DOT	8605-44			
CSAH 116	SUNFISH LAKE BOULEVARD TO GERMANIUM ST – RECONSTRUCT TO FOUR LANES	ANOKA COUNTY				
CSAH 23	147 TH ST TO 181st ST – CONSTRUCTION OF 6-LANE FACILITY, INTERSECTION UPGRADES TO ACCOMMODATE BRT BUSES ON CEDAR AVENUE	DAKOTA COUNTY				
CSAH 109	MAIN ST TO JEFFERSON HWY – CONSTRUCT 4-LANE DIVIDED ROAD	HENNEPIN COUNTY				
CSAH 17	CSAH 14 (MAIN ST) TO CSAH 116 (BUNKER LAKE BLVD) – RECONSTRUCTION TO SIX-LANE ROADWAY IN BLAINE AND FOUR- LANE ROADWAY IN HAM LAKE	ANOKA COUNTY				
CSAH 2	19 [™] ST SW TO 12 [™] ST SW AND THE I-35 INTERCHANGE – RECONSTRUCTION	WASHINGTON COUNTY				
CSAH 21	CSAH 16 TO CSAH 18 – RECONSTRUCTION	SCOTT COUNTY				
CSAH 81	TH 100 TO CSAH 10 – RECONSTRUCT TO 6-LANE URBAN DIVIDED ROADWAY	HENNEPIN COUNTY				
TH 242	THRUSH ST TO CRANE ST – RECONSTRUCT TO 4-LANE DIVIDED ROADWAY, INTERSECTION IMPROVEMENTS AND ACCESS MANAGEMENT	ANOKA COUNTY				
CSAH 21	FROM CSAH 42 IN PRIOR LAKE TO CSAH 15 IN SHAKOPEE	SCOTT COUNTY				
CSAH 96	AT TH 10 IN ARDEN HILLS-CONSTRUCT INTERCHANGE, ETC.	RAMSEY COUNTY				
TH 7	AT LOUISIANA AVE IN ST. LOIUS PARK- CONSTRUCT INTERCHANGE ETC.	ST. LOUIS PARK				
CSAH 10	FROM VICKSBURG LANE TO PEONY LN IN MAPLE GROVE-RECONSTRUCT TO 4-LANE DIVIDED ROADWAY, TRAILS, ETC.	MAPLE GROVE				
CSAH 116	FROM CSAH 7 TO 38 TH AVE IN ANOKA & ANDOVER-RECONSTRUCT TO 4-LANE DIVIDED RDWY, PED/BIKE TRAIL, ETC.	ANOKA COUNTY				
CSAH 81	N OF CSAH 10 IN CRYSTAL TO N OF 63 RD AVE N IN BROOKLYN PARK-RECONSTRUCT TO 6-LANE DIVIDED RDWY, ETC.	HENNEPIN COUNTY				
TH 169	S OF CSAH 81 TO N OF CSAH 109 IN BROOOKLYN PARK, CONSTRUCT INTERCHANGE	MN/DOT	2750-57UGAC			

Table F-2: Regionally Significant TIP Projects - 2015 Action Scenario

Route	Description	Agency	MN/DOT Project Number/Comments
1-494	FROM 10 [™] ST IN OAKDALE TO LAKE RD IN WOOBURY- REPLACE CONCRETE PAVEMENT, CONNECT AUSILIARY LANES, ETC.	MN/DOT	8285-93
TH 13	FROM ZINRAN AVE S TO LOUISIANA AVE S IN SAVAGE-RECONSTRUCT TH 13/101 INCLUDING AN OVERPASS FOR EB 101 TRAF- FIC, ETC	SCOTT COUNTY	
TH 36	AT HILTON TRAIL IN PINE SPRINTS-RECONSTRUCT INTERSECTION	MN/DOT	8204-55
CSAH 10	REALIGN AND WIDEN CSAH 10 AND CSAH 101 FROM CSAH 101 TO EAST OF PEONY LN	MAPLE GROVE	189-020-019
TH 101/I-94	CONSTRUCT I-94 WB OFF RAMP TO N. OF S. DIAMOND LK. RD., EXTEND RAMP AND GRADE SEPERATION OVER S. DIAMOND LK. RD. ETC	ROGERS	238-010-02
CR 83	CONSTRUCT BRIDGE AND RETAINING WALLS FOR CR 83 OVERPASS OF I-35	WASHINGTON COUNTY	
TH 610	FROM CSAH 81 TO TH 169 IN BROOKLYN PARK AND MAPLE GROVE- CONSTRUCT TH 610	MN/DOT	2771-38
TH 169/l- 494	NEW INTERCHANGE CONSTRUCTION	MN/DOT	2776-03B
CITY	ON GRANARY RD FROM 25TH AVE TO 17TH AVE SE IN MPLS-CONSTRUCT FIRST SEGMENT AS 3-LANES WITH TURN LANES, SIGNALS, LIGHTING, SIDEWALKS AND BICYCLE TRAIL	MINNEAPOLIS	141-433-02
CSAH 17	ON SCOTT CSAH 17 FROM SCOTT CSAH 78 TO SCOTT CSAH 16-RECONSTRUCT, ETC	SCOTT COUNTY	70-617-22
CSAH 5	AT TH 13 IN BURNSVILLE-CONSTRUCT INTERCHANGE, ACCESS CLOSURES, FRONTAGE RDS, ETC	DAKOTA COUNTY	19-605-28
TH 101	FROM CARVER CSAH 18(LYMAN BLVD) CSAH 14(PIONEER TR) IN CHANHASSEN- RECONSTRUCT TO 4-LN RDWY, ETC	CHANHASSEN	194-010-11
TH 149	FROM TH 55 TO I-494 IN EAGAN RECONSTRUCT FROM 4-LN RDWY TO 6-LN RDWY, TRAIL, ETC	EAGAN	195-010-10
CSAH 11	ON ANOKA CSAH 11(FOLEY BLVD) FROM 101ST TO EGRET IN COON RAPIDS-RECONSTRUCT TO 4-LN RDWY, NEW SIGNALS, TRAIL, ETC	ANOKA COUNTY	02-611-32
CSAH 18	ON CARVER CSAH 18(LYMAN BLVD) FROM CARVER CSAH 15(AUDUBON RD) TO CARVER CSAH 17(POWERS BLVD) IN CHANHASSEN-RECONSTRUCT TO 4-LN RDWY, ETC	CARVER COUNTY	10-618-13
CSAH 49	AT TH 36 IN ROSEVILLE & LITTLE CANADA RECONSTRUCT INTERCHANGE, REPLACE BR, ETC	RAMSEY COUNTY	62-649-27
CSAH 61	FROM CSAH 3(EXCELSIOR BLVD) TO NO OF TH 7 IN HOPKINS AND MINNETONKA- COUNTY UPGRADE TO A 4-LANE RDWY, INTERSECTION IMPROVEMENTS, ETC	HENNEPIN COUNTY	27-661-46
TH 36	FROM HAZELWOOD AVE TO TH 61 IN MAPLEWOOD-CONSTRUCT SPLIT- DIAMOND INTERCHANGE BETWEEN ENG- LISH ST/TH 61, ACCESS CLOSURES, SIGNAL INSTALLATION, ETC	MAPLEWOOD	138-010-18
CSAH 51	ON ROBERT ST FROM MENDOTA RD TO ANNAPOLIS ST IN W ST PAUL- WIDENING, MILL AND OVERLAY, LANDSCAP-ING, ETD	ANOKA COUNTY	02-651-07

Table F-3: Regionally Significant TIP Projects - 2020 Action Scenario					
Route	Description	Agency	Mn/DOT Project Numbers / Comments		
TH 252	ADD GENERAL PURPOSE LANE NORTH AND SOUTH OF 81ST AVE. INTERSECTION TO COMPLETE 3 GENERAL PURPOSE LANES NORTHBOUND	Mn/DOT			
I-35W	PHASE I "TURBINE" DESIGN I-35W NB TO I-494 WB FLYOVER	Mn/DOT			
I-494	AUXILLARY/MANAGESD LANE WESTBOUND FROM I-35W TO TH 100	Mn/DOT			
I-35E	MNPASS LANE FROM I-94 (WITH DIRECT CONNECTION TO ST. PAUL CBD) TO LITTLE CANADA ROAD	Mn/DOT			
TH 36	NEW ST CROIX RIVER CROSSING	Mn/DOT	8217-82045		
TH 61	REPLACE MISSISSIPPI RIVER BRIDGE AND APPROACHES	Mn/DOT	1913-64		
TH 52	REPLACE LAFAYETTE BRIDGE	Mn/DOT	6244-30		
I-35E	REPLACE CAYUGA BRIDGE	Mn/DOT	6280-308		

Table F-4: Regionally Significant TIP Projects - 2030 Action Scenario						
Route	Description	Agency	Mn/DOT Project Numbers / Comments			
NO REGIONALLY SIGNIFICANT PROJECTS IDENTIFIED						

B. Travel Forecasting Model Overview

The following provides a summary of the traffic forecast models used in the air quality analysis. Detailed technical information on the models is found in technical memorandums developed as part of the 2000 Travel Behavior Inventory. The information is available through the Council's web site or the Metropolitan Transportation Services Division.

The RTDFM is broadly based upon the classical "four-step" family of travel demand models, with some added features that implement Conformity Rule analysis requirements. Exhibit F-2 illustrates the flow of the sub-models used in the RTDFM; these are described in further detail below. All sub-models were calibrated using of the 2000 Travel Behavior Inventory Home Interview Survey, which provides a database of observed daily trips by origin, destination, purpose, and mode.

Highway Model Network

Travel analysis zones (TAZ's) are used in the travel demand modeling process as a common geographic unit for data summary. The system of TAZ's covers the entire seven-county Twin Cities Metropolitan Area, plus the adjoining collar counties. All home-interview data and selected other trip and socioeconomic data were compiled by TAZ. In addition, the TAZ system forms the geographic framework

for coding highway and transit networks. Each TAZ is linked to all others by the highway network, and within the region's core, most are linked to one another by the transit network as well. The most significant application of the TAZ is as the geographic unit used by the models to predict attractions and productions of person-trips.

The year 2000 zone system consists of 1201 zones within the 7-county region (Anoka, Dakota, Carver, Hennepin, Ramsey, Scott, and Washington), 35 "inner" external station zones around these 7 counties, 364 zones in the 13 collar or ring counties (Chisago, Isanti, Mille Lacs, Sherburne, Wright, McLeod, Sibley, LeSueur, Rice, Goodhue, Pierce, WI; St. Croix, WI; and Polk, WI) and 32 zones representing "outer" external stations around the ring counties. Internal zone boundaries most often lie along major highways or arterial streets or on any other significant physical boundary that shapes and directs trip movements, such as a large lake or major river. County boundaries also form edges of zones where appropriate. An external station is a point at the edge of the twenty-county area where vehicle trips leave and/or enter the twenty-county area.

The development of the 2000 highway network was completed by the Council with assistance from Mn/ DOT and the transportation departments of counties and cities. Future year projects were added to this base to create future year networks including roadway condition information for all horizon years. Every TAZ is classified by area type (e.g. Rural, Developing, Developed, Residential Core, Business Core and Outlying Business Center), and every roadway link is assigned the same area type as the TAZ within which it lies (using GIS). These area types are then combined with facility types to create a matrix of assumed speeds and capacities based upon the 2000 Travel Behavior Inventory (TBI) highway speed and capacity survey. Facility types are categories of roads which operate in a similar manner, including the following:

- 1. Metered Freeway
- 6. Undivided Arterial
- 2. Unmetered Freeway 7. Collector
- 3. Metered Ramp
- 4. Unmetered Ramp
- 5. Divided Arterial
- 8. HOV
- 9. Centroid Connector
- 10. HOV Ramp

- 13. Metered System Ramp
- 14. Unmetered System Ramp
- 15. Expressway

A revision completed in December 2005 added two new fields to the highway network. One of these is used to assign differential capacities by time of day to HOV and tolled facilities facilities, while the other is used to store manually coded default speeds for freeways, which are set at 10% above observed posted speed limits.

Trip Generation Model

The traffic forecasts used to calculate the CO emissions listed in Table F-7 are based on the most recent socioeconomic data prepared by the Council for the 2030 Regional Framework. The Trip Generation Model produces total trip productions and attractions by purpose for each transportation analysis zone based on the population, number of households, employment level and socio-economic characteristics of

each zone, including estimated auto ownership. Table F-5 lists the assumed population, household, and employment totals by year for the seven-county metro area, based upon the 2030 Regional Development Framework, revised through Comprehensive Plan Amendments as of Oct 13, 2010.

Table F-5: METROPOLITAN AREA FORECAST SUMMARY						
	1990	2000	2015	2020	2030	
Population	2,288,729	2,642,062	3,242,000	3,438,000	3,735,000	
Households	875,504	1,021,459	1,295,000	1,388,000	1,530,000	
Employment	1,272,773	1,563,245	1,927,000	2,033,000	2,226,000	

Destination Choice Model

The Destination Choice Model (also known as the trip distribution model) estimates the probability of selecting a particular destination zone, given a particular zone of origin, as defined by the regional network and zone system. This sub-model estimates the number of person-trips to be anticipated between any two zones in the regional model on an average weekday, regardless of mode. The probability of selecting any particular destination zone is a decreasing function of the composite impedance to said zone, calculated using a "logsum" combination of level of service and cost variables extracted from the congested highway and transit networks, computed in a manner consistent with the mode choice model described below.

Mode Choice Model

The Mode Choice Model applies a hierarchical nested logit model to estimate the percentage of trips by purpose assigned to non-motorized (bicycle/pedestrian), transit, single-occupancy vehicle (SOV) and high-occupancy vehicle (HOV) travel modes. For a given trip and market segment, weighting factors are applied to level of service and cost values extracted from the congested highway and transit networks to compute an overall "utility" associated with each alternative mode available. The difference between these utilities is used to calculate the probability of selecting each alternative mode, using a mathematical formulation that ensures that the probabilities of all alternatives add to one. Different parameters are used for off-peak and peak trips by purpose, including home-based work, home-base other and non-home-based trips (the last of these being further sub-divided into work-related and non-work related trip types). Home-based trips destined to the University of Minnesota are dealt with separately, in a special combination destination/mode choice model.

Diurnal Factoring Model

The Diurnal Factoring Model (also known as the Temporal Distribution Model) splits the daily trip tables into 24 time segments to replicate the peak and off-peak period travel shares observed in the 2000 TBI. This permits the network to be reasonably sensitive to peak and off-peak travel congestion as required by §93.122 of the Conformity Rule.

Assignment Model

The Assignment Model assigns vehicle trips to capacity restrained equilibrium shortest paths built from the individual links of the highway system. Initially, all speeds are set to free-flow (uncongested) values, and all trips are assigned to the shortest path between their respective origins and destinations. Then, the speeds on each link are reduced to reflect the effects of congestion, and the set of shortest paths is re-calculated based upon the congested travel times. A percentage of the trips are assigned to these congested paths, and the process is repeated iteratively until user equilibrium is reached. Congested speeds are a decreasing function of the volume-to-capacity ratio, so that the final congested travel time is influenced by utilization levels as well as distances and posted speeds. The delay function used to adjust link speeds is based upon a conical function calibrated using 2000 Travel Behavior Inventory Highway Speed Survey data, rather than the default Bureau of Public Roads equation.

The I-394 MnPASS lanes, which opened in May 2005, are also taken into account in the highway assignment step of the regional travel demand model by using dynamic toll tables (provided by Mn/DOT) and the estimated sample distribution of I-394 corridor drivers' willingness to pay for time savings (derived from a research study by the University of Minnesota). This route diversion approach is common throughout the traffic and revenue forecasting industry. It is assumed that these lanes will continue operation into the future, and that the current relationship between congestion levels and toll rates reflected in the aforementioned dynamic toll tables will remain the same in real terms through 2030. The same approach is followed for modeling the dynamic shoulder lanes on I-35W.

External Travel Model

A parallel four-step process is performed for the counties surrounding the seven-county Metro to address the effects of improvements within the Council jurisdiction area on travel crossing the seven-county boundary. This process includes simplified trip generation, distribution, and mode choice steps, as well as an external station choice step which determines which roadways crossing the boundary are used by externally-based vehicle trips. The external travel model is not intended to address the effects of improvements outside the seven-county area on vehicle travel in the "collar" counties. A separate "Collar County Travel Demand Model" has been created for this purpose by Mn/DOT and is under evaluation for potential air quality analysis use in the Wright County portion of the CO maintenance area. No network-based modeling was used to analyze the impacts of Wright County projects.

Method of Successive Averages Model Loop

In accordance with §93.122 of the Conformity Rule, which specifies that, "zone-to-zone travel impedances used to distribute trips between origin and destination pairs must be in reasonable agreement with the travel times that are estimated from final assigned traffic volumes," the Regional Travel Demand Forecast Model includes a feedback loop which extracts congested level of service and cost values from the assignment step and inputs these to prior steps. The entire model is run iteratively and volumes from each iteration are averaged together until input and output travel times are in reasonable agreement with one another. Typically 3-4 model iterations are required to reach the assumed 2% link volume convergence criterion; the feedback loop and convergence check process is automated using a batch file.

C. Air Quality Modeling

The MOBILE 6.2 model is used to produce carbon monoxide emission factors from mobile sources for the region. Sample input and output files for MOBILE 6.2 are in Exhibit F-3. Daily mobile source CO air pollution was calculated based on emission factors from MOBILE 6.2 (in grams per vehicle mile), applied to vehicle miles of travel (VMT) aggregated by county and road facility type. The model also accounts for travel on centroid connectors (which serve as proxies for local roads), as well as intra-zonal travel. Adjustment factors were implemented to ensure consistency with 2000 Highway Performance Measures System (HPMS) data and to adjust for the use of January CO rates. Further information on the recalculation of the regional Motor Vehicle Emissions Budget (MVEB) shown in Table F-7 is in the *Revision of the Minneapolis-St. Paul Carbon Monoxide Maintenance Plan* prepared in August 2004 by Sonoma Technology, Inc. for the MPCA. The revised maintenance plan was submitted to the USEPA by the MPCA in October 2004 to revise the SIP.

The series of models currently used are not capable of analyzing individual travel demand management strategies. This type of analysis must be performed "off-model" by applying CO reduction estimate techniques developed to analyze the benefits of CMAQ-type projects.

Table F-6 lists the input values applied by the MOBILE 6.2 model.

Table F-6: MOBILE 6.2 INPUT VALUES				
The EPA-MOBILE 6.2 model produced the vehicular CO emissions for				
the inventory using the following input values:				
Passenger/light vehicle Registration2004, 7-county area				
Heavy Duty TrucksMOBILE 6 Default				
Gasoline volatility				
Minimumtemperature16 degrees F.				
Maximumtemperature				
Altitudelow altitude				

D. Conformity Emissions Budget Test

The conformity test as defined in §93.118 requires that the CO emissions calculated in the conformity analysis for the plan and the TIP must be equal to or less than the CO MVEB for the region, 1,961 short tons/day. The budget is assumed to remain constant throughout the 20-year planning period of the plan.

The Action Scenario as described in the Conformity Rules §93.119(g) and referenced in §93.122(a)(5), is the future transportation system that would result from the implementation of the plan and other regionally significant projects to start construction in the time frame of the plan.

The results of the emissions budget conformity test for the plan are shown in Table F-1. CO emissions from motor vehicle sources remain below the MVEB for the analysis milestone years 2009, 2015, 2020 and 2030. The emissions can be reasonably expected to remain below the emissions budget for the following reasons:

1. Continued improvement in auto emissions controls systems and the ongoing implementation of an oxygenated gasoline program as reflected in the modeling assumptions used in the January 2005 amendment to the SIP.

2. A regional commitment to continue capital investments to maintain and improve the operational efficiencies of the highway and transit systems

Adoption of a regional long-term 2030 Regional Development Framework. The Development Framework strategies support land use patterns that efficiently connect housing, jobs, retail centers and civil uses with neighborhoods, urban and rural centers and transit oriented development along transit corridors. A land use development pattern is expected to emerge that is more compact, mixed-use and pedestrian-friendly particularly along designated transitway corridors. Further, the Council has the authority by state statute to periodically review local comprehensive plans for consistency with regional plans and conformity to regional systems such as transportation and sewers, make capital investments for the regional sewer collection and treatment system and the metropolitan transit system which it operates, and approve design and capital investments on principal arterials. These capital investments are programmed to implement the regional land use and system plans. Also by statute, the Council must approve significant regional highways proposed for construction by Mn/DOT. A memorandum of understanding between the Council and Mn/DOT commits both agencies to pursuing innovative strategies for reducing passenger delay and growth in vehicle-miles-traveled such as congestion pricing.

4. Extensive CO air quality emissions modeling by the MPCA, accepted by the EPA as part of the documentation for the redesignation request, demonstrated that the National Ambient Air Quality standards can be met without the operation of a regional vehicle inspection maintenance program.

5. The continued involvement of local governmental units in the regional 3C transportation planning process allows the region to address local congestion, effectively manage available capacities in the transportation system, and promote transit supportive land uses and more compact development patterns as part of a coordinated regional growth management strategy.

The model results in a decrease in CO emissions from 2015 to 2020 and then an increase from 2020 to 2030. This is because reductions in the rate of CO emissions have been decreasing at a faster pace than vehicle-miles traveled (VMT) has been increasing in the region, such that overall CO emissions have been declining. This trend should continue between 2015 and 2020, but will reverse between 2020 and 2030 as the degree of improvement in CO emissions rates is expected to level off while VMT will continue to increase.

An attainment area for PM-10 is located in the City of St. Paul. The attainment designation is based on an USEPA approved MPCA plan to bring this area into attainment. The previous non-attainment designation was not due to transportation sources.

IV. Estimated Future Emissions in the Twin Cities Carbon Monoxide Maintenance Area

The USEPA, in response to a MPCA request, redesignated the Twin Cites seven-county Metropolitan Area and Wright County as in attainment for CO in October 1999. A 1996 motor vehicle emissions budget (MVEB) was revised in January 2005 in a revision to the SIP. The SIP amendment revised the MVEB budget to a not-to-exceed threshold of 1,961 tons per day of CO emissions for the analysis milestone years of 2009, 2015, 2020 and 2030. The results of the emissions analysis is shown in Table F-7.

V. Timely Implementation of Transportation Control Measures

Pursuant to the Conformity Rule, the Council reviewed the plan and certifies that the plan conforms with the SIP and does not conflict with its implementation. All Transportation System Management (TSM) strategies which were the adopted TCM's for the region have been implemented or are ongoing and funded. There are no TSM projects remaining to be completed. There are no fully adopted regulatory new TCM's nor fully funded non-regulatory TCM's that will be implemented during the programming period of the TIP. There are no prior TCM's that were adopted since November 15, 1990, nor any prior TCM's that have been amended since that date.

Table F-7: CO EMISSION BUDGET CONFORMITY TEST PLAN ACTION SCENARIOS DAILY CO EMISSIONS FOR ANALYSIS MILESTONE

YEARS 2009, 2015, 2020, 2030 (Short Tons/day)					
NETWORK	2009	2015	2020	2030	
BASELINE EMISSIONS BUDGET (MVEB)	1,961	1,961	1,961	1,961	
ACTION (BUILD) SCENARIO	1,420	1,221	1,181	1,221	
CO EMISSIONS BELOW THE	541	740	780	740	
EMISSIONS BUDGET	541				

As part of the Urban Partnership Agreement (UPA), additional transit lanes have been added to Marquette and 2nd Ave in Minneapolis, and transit capacity in the I-35W corridor has been enhanced through dynamic priced shoulder lanes.

A list of officially adopted TCM's for the region may be found in the November 27, 1979 Federal Register notice for EPA approval of the Minneapolis-St. Paul CO Maintenance Plan, based upon the 1980 Air Quality Control Plan for Transportation, which in turn cites transit strategies in the 1978-1983 Transportation Systems Management Plan. It is anticipated that the Transportation Air Quality Control Plan will be revised in the near future. The following lists the summary and status of the currently adopted TCM's:

- Vehicle Inspection and Maintenance Program (listed in Transportation Control Plan as a potential strategy for hydrocarbon control with CO benefits). This program became operational in July 1991 and was terminated in December 1999.
- I-35W Bus/Metered Freeway Project. Metered freeway access locations have bus and carpool bypass lanes at strategic intersections on I-35W. In March, 2002 a revised metering program became operational. The 2030 Transportation Policy Plan calls for the implementation of Bus Rapid Transit in the I-35W corridor. As part of the Urban Partnership Agreement (UPA), additional transit lanes have been added to Marquette and 2nd Ave in Minneapolis, and transit capacity in the I-35W corridor has been enhanced through dynamic priced shoulder lanes.
- Traffic Management Improvements (multiple; includes SIP amendments):
 - Minneapolis Computerized Traffic Management System. The Minneapolis system is installed. New hardware and software installation were completed in 1992. The system has been significantly extended since 1995 using CMAQ funding. Traffic signal improvements will be made to downtown street system to provide daily enhanced preferred treatment for bus and LRT transit vehicles in 2009.
 - St. Paul Computerized Traffic Management System. St. Paul system completed in 1991.
 - University and Snelling Avenues, St. Paul. Improvements were completed in 1990 and became fully operational in 1991.
- Fringe Parking Programs. Minneapolis and St. Paul are implementing ongoing programs for fringe
 parking and incentives to encourage carpooling through their respective downtown traffic management organizations. Stricter Enforcement of Traffic Ordinances. Ongoing enforcement of parking
 idling and other traffic ordinances is being aggressively pursued by Minneapolis and St. Paul.
- Public Transit Strategies (from the 1983 Transportation Systems Management Plan):
 - Reduced Transit Fares. Current transit fares include discounts for off-peak and intra-CBD.
 Reduced fares are also offered to seniors, youth, medicare card holders, and persons with disabilities.
 - Transit Downtown Fare Zone. All transit passengers can ride either the Minneapolis or Saint Paul fare zones for 50 cents. Since March 2010 passengers can ride Nicollet Mall buses for free within the downtown zone.
 - Community-Centered Transit. The Council is authorized by legislation to enter into and administer financial assistance agreements with local transit providers in the metropolitan region, including community-based dial-a-ride systems. This program had been used to provide funding assistance to local agencies operating circulation service coordinated with regular route transit service. A regional restructuring of dial-a-ride service, now called Transit Link, occurred in 2010.

- Flexible Transit. Routes 755 and 756 in Medicine Lake were operated on a flex-route in 2006 by First Student, a private provider. Also, Metro Mobility, a service of the Council, as well as the diala-ride services mentioned above, operates with flexible routes catered to riders' special needs.
- Total Commuter Service. The non-CBD employee commuter vanpool matching services provided by this demonstration project, mentioned in the 1983 Transportation Systems Management Plan as well as the Transportation Control Plan, are now offered by theVan-Go! program, a service of the Council
- Elderly and Handicapped Service. ADA Paratransit Service is available for people who are unable or have extreme difficulty using regular route transit service because of a disability or health condition. ADA Paratransit Service provides "first-door-through-first-door" transportation in 89 communities throughout the metropolitan area for persons who are ADA-certified. The region's ADA paratransit service is overseen by Metro Mobility In addition, every regular-route bus has a wheelchair lift, and drivers are trained to help customers use the lift and secure their wheelchairs safely. Hiawatha Line trains offer step-free boarding, and are equipped with designated sections for customers using wheelchairs. In addition, all station platforms are fully accessible. Northstar is also fully accessible.
- Responsiveness in Routing and Scheduling. Metro Transit has begun a series of Transit Redesign "sector studies" to reconfigure service to better meet the range of needs based on these identified transit market areas. The Sector 1 and 2 studies, covering the northeast quadrant of the region, were the first to be completed. Following the successful reorganization of transit service in those areas, the remaining sectors, were studies and changes were implemented. Service is now re-evaluated as needed.
- CBD Parking Shuttles. The downtown fare zones mentioned above provide fast, low-cost, convenient service to and from parking locations around the CBD.
- Simplified Fare Collection. The fare zone system in place at the time of the Transportation Systems Management Plan has since been eliminated. Instead, a simplified fare structure based upon time (peak vs. off-peak) and type (local vs. express) of service has been implemented, with discounts for select patrons (e.g. elderly, youth). Convenient electronic fare passes are also available from Metro Transit, improving ease of fare collection and offering bulk-savings for multi-ride tickets.
- Bus Shelters. Metro Transit coordinates bus shelter construction and maintenance throughout the region. Shelter types include standard covered wind barrier structures as well as lit and heated transit centers at major transfer points and light-rail stations.
- *Rider Information*. Rider information services have been greatly improved since the 1983 Transportation Systems Management Plan was created. Schedules and maps have been redesigned for improved clarity and readability, and are now available for download on Metro Transit's web-site, which also offers a custom trip planner application to help riders choose the combination of routes that best serves their needs. Bus arrival and departure times are posted in all shelters, along with the phone number of the TransitLine automated schedule information hotline. Some shelters and stations have real time "next trip" information.

- Transit Marketing. Metro Commuter Services, under the direction of Metro Transit, coordinates all transit and rideshare marketing activities for the region, including four Transportation Management Organizations (TMOs) that actively promote alternatives to driving alone through employer outreach, commuter fairs, and other programs. Metro Commuter Services also conducts an annual Commuter Challenge, which is a contest encouraging commuters to pledge to travel by other means than driving alone.
- Cost Accounting and Performance-Based Funding. Key criteria in the aforementioned Transit Redesign process include service efficiency (subsidy per passenger) and service effectiveness (passengers per revenue-hour). Metro Transit uses these metrics to evaluate route cost-effectiveness and performance and determine which routes are kept, re-tuned, or eliminated.
- *"Real-Time" Monitoring of Bus Operations*. The regional Transit Operations Center permits centralized monitoring and control of all vehicles in the transit system.
- Park-and-Ride. <u>The Park-and-Ride Facility Site Location Study</u> provides guidelines intended for use in planning, designing, and evaluating proposed park-and-ride facilities served by regular route bus transit. The Metropolitan Council administers capital funding to transit operating agencies building, operating, and maintaining park-and-ride facilities. In 2009 the region served 108 parkand-ride facilities with a capacity of 25,700. Average usage in 2009 was 67 percent.
- Hennepin and First Avenue One-Way Pair. These streets in downtown Minneapolis were re-configured subsequent to the 1980 Air Quality Control Plan for Transportation to address a local CO hot-spot issue that has since been resolved. The streets reverted to a two-way configuration in 2009.

In addition to the above list, there are two TCM's that are traffic flow amendments to the SIP. The MPCA added them to the SIP since its original adoption. These include in St. Paul, a CO Traffic Management System at the Snelling and University Avenue. While not control measures, the MPCA added two additional revisions to the SIP which reduce CO: a vehicle emissions inspection/maintenance program, implemented in 1991, to correct the region-wide carbon monoxide problem, and a federally mandated four-month oxygenated gasoline program implemented in November 1992. In December 1999 the vehicle emissions inspection/maintenance program was eliminated.

The MPCA requested that the USEPA add a third revision to the SIP, a contingency measure consisting of a year-round oxygenated gasoline program if the CO standards were violated after 1995. The USEPA approved the proposal. Because of current state law which remains in effect, the Twin Cities area has a state mandate year-round program that started in 1995. The program will remain regardless of any USEPA rulemaking.

VI. Exhibits

This section contains the exhibits referenced in this appendix.



F

Exhibit F-2: Regional Travel Demand Forecasting Model Flow Chart



Exhibit F-3: Samples of MOBILE 6.2 Input and Output Files for 2015 Analysis Milestone Year **MOBILE 6.2 Input Command Set for 2015**

- ***** * MOBILE6.2.03 (24-Sep-2003) * * Input file: TIP2015.IN (file 1, run 1). ****** ** Definition of General Parameters * Reading Registration Distributions from the following external * data file: 04REGDAT.MN M 49 Warning: 1.00 MYR sum not = 1. (will normalize) M 49 Warning: 1.01 MYR sum not = 1. (will normalize) M 49 Warning: 1.01 MYR sum not = 1. (will normalize) M 49 Warning: 1.01 MYR sum not = 1. (will normalize) M 49 Warning: 1.01 MYR sum not = 1. (will normalize) M616 Comment: User has supplied post-1999 sulfur levels. ***** ** Generation of CO Emission Rate Tables * ***** * Anoka freeway - 65.8 mph * File 1, Run 1, Scenario 1. M 96 Warning: 65.8 speed reduced to 65 mph maximum M581 Warning: The user supplied freeway average speed of 65.0 will be used for all hours of the day. 100% of VMT has been assigned to the freeway roadway type for all hours of the day and all vehicle types. M 48 Warning: there are no sales for vehicle class HDGV8b M 48 Warning: there are no sales for vehicle class LDDT12 Calendar Year: 2015 Month: Jan. Altitude: Low Minimum Temperature: 16.0 (F) Maximum Temperature: 38.0 (F) Absolute Humidity: 75. grains/lb Nominal Fuel RVP: 13.4 psi Weathered RVP: 13.9 psi Fuel Sulfur Content: 30. ppm Exhaust I/M Program: No Evap I/M Program: No ATP Program: No Reformulated Gas: No Ether Blend Market Share: 0.000 Alcohol Blend Market Snate. 1.000 Alcohol Blend Oxygen Content: 0.027 Ether Blend Oxygen Content: 0.000 Alcohol Blend RVP Waiver: Yes LDGV LDGT12 LDGT34 LDGT HDGV LDDV Vehicle Type: LDDT HDDV GVWR: <6000 >6000 (All) _____ -----_____ _____ _____ VMT Distribution: 0.2928 0.4227 0.1590 0.0345 0.0003 0.0024 0.0832 0.0050
 - 1.0000 Composite Emission Factors (g/mi): Composite CO : 17.19 15.92 17.45 16.34 9.15 0.665 0.375 0.707 20.28 15.017 -----_____ ----------_____

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Vehicle Type: LDGV GVWR:	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution: 0.2928	0.4227	0.1590		0.0345	0.0003	0.0024	0.0832	0.0050	1.0000
Composite Emission Factors (g/mi) Composite CO : 14.64	13.34	14.54	13.67	6.35	0.630	0.354	0.642	10.57	12.566
<pre>* # # # # # # # # # # # # # # # # # # #</pre>	# # # # .0 mph	* * * * *							

M583 Warning: The user supplied arterial average speed of 43.0 will be used for all hours of the day. 100% of VMT has been assigned to the arterial/collector roadway type for all hours of the day and all vehicle types. M 48 Warning: there are no sales for vehicle class HDGV8b M 48 Warning: there are no sales for vehicle class LDDT12

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<pre>#************************************</pre>	mposite Emission Fa Composite CO :	actors (g/m. 17.19	i): 15.92	17.45	16.34	9.15	0.665	0.375	0.707	20.28	15.017
there are no sales for vehicle class LDDT12 Calendar Year: 2015 Month: Jan. Altitude: Low Minimum Temperature: 16.0 (F) Maximum Temperature: 38.0 (F) Maximum Temperature: 38.0 (F) Maximum Temperature: 38.0 (F) Maximum Temperature: 39.0 (F) Absolute Humidity: 75. grains/lb Nominal Fuel RVF: 13.4 psi Weathered RVF: 13.9 psi Fuel Sulfur Content: 30. ppm Exhaust I/M Program: No Exhaust I/M Program: No Reformulated Gas: No Ether Blend Market Share: 0.000 Alcohol Blend Market Share: 1.000 Alcohol Blend Market Share: 1.000 Alcohol Blend Oxygen Content: 0.027 Alcohol Blend Oxygen Content: 0.027 Alcohol Blend NVP Waiver: Yes Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh GVWR:	<pre># # # # # # # # # # # Dakota arterial/col File 1, Run 1, Scena # # # # # # # # # # 4583 Warning: The user s will be us has been a type for a type for a there ar 4 48 Warning: 1 48 Warning:</pre>	<pre># # # # # # lector - 3 rrio 5. # # # # # # sed for all issigned to all hours o re no sales</pre>	<pre># # # # # 8.2 mph # # # # # terial ave hours of the arter f the day for vehic</pre>	<pre># # # # # # # # # # # rage speed the day. ial/collec and all ve le class H</pre>	of 38.2 100% of VM tor roadwa hicle type DGV8b	TT Υ s.					
Calendar Year: 2015 Month: Jan. Altitude: Low Minimum Temperature: 16.0 (F) Maximum Temperature: 38.0 (F) Absolute Humidity: 75. grains/lb Nominal Fuel RVP: 13.4 psi Weathered RVP: 13.9 psi Fuel Sulfur Content: 30. ppm Exhaust I/M Program: No Expan I/M Program: No ATP Program: No Reformulated Gas: No Ether Blend Market Share: 0.000 Alcohol Blend Market Share: 1.000 Alcohol Blend Oxygen Content: 0.027 Alcohol Blend RVP Waiver: Yes Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC Åll Veh GVWR: 	there ar	re no sales	for vehic	le class L	DDT12						
Exhaust I/M Program: No Evap I/M Program: No ATP Program: No Reformulated Gas: No Ether Blend Market Share: 0.000 Alcohol Blend Market Share: 1.000 Ether Blend Oxygen Content: 0.027 Alcohol Blend Oxygen Content: 0.027 Alcohol Blend RVP Waiver: Yes Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh GVWR: 	Ca Minimum Maximum Absolu Nomir We Fuel Sul	Alendar Yea Monti Altitud Temperatur Temperatur ite Humidit al Fuel RV eathered RV fur Conten	r: 2015 h: Jan. e: Low e: 16.0 (e: 38.0 (y: 75. g P: 13.4 p P: 13.9 p t: 30. p	F) F) rains/lb si pm							
Ether Blend Market Share: 0.000 Alcohol Blend Market Share: 1.000 Alcohol Blend Oxygen Content: 0.007 Alcohol Blend RVP Waiver: Yes Vehicle Type: LDGV GVWR: <6000	Exhaust Evap Refor	I/M Program I/M Program ATP Program cmulated Gam	m: No m: No m: No s: No								
Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh GVWR: <6000	Ether Blend Market Ether Blend Oxygen	Share: 0.0 Content: 0	00 A .000 A	lcohol Ble lcohol Ble Alcohol Bl	nd Market nd Oxygen end RVP Wa	Share: 1.0 Content: 0 iver: Yes	000 0.027				
VMT Distribution: 0.2928 0.4227 0.1590 0.0345 0.0003 0.0024 0.0832 0.0050 1.0000 mposite Emission Factors (g/mi): Composite CO : 14.90 13.60 14.83 13.94 6.07 0.610 0.342 0.606 10.04 12.784	Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
mposite Emission Factors (g/mi): Composite CO : 14.90 13.60 14.83 13.94 6.07 0.610 0.342 0.606 10.04 12.784	VMT Distribution:	0.2928	0.4227	0.1590		0.0345	0.0003	0.0024	0.0832	0.0050	1.0000
	mposite Emission Fa Composite CO :	actors (g/m. 14.90	i): 13.60	14.83	13.94	6.07	0.610	0.342	0.606	10.04	12.784

Hennepin freeway -	67.0 mph									
	ario 6.									
# # # # # # # # # # M 96 Warning:	# # # # #	* * * * * *	* * * * *							
67.0	speed	reduced to	65 mph max	kimum						
The user s will be us has been a all hours	supplied from sed for all assigned to of the day	eeway avera hours of t the freewa and all ve	age speed o the day. 10 ay roadway chicle type	of 65.0 00% of VMT type for es.						
4 48 Warning: there ar	e no sales	for vehic:	le class HI	GV8b						
I 48 Warning: there ar	e no sales	for vehic:	le class LI	DDT12						
Ca	lendar Yea	r: 2015								
Minimum Maximum Absolu Nomir We Fuel Suj	Mont Altitud Temperatur Temperatur Ite Humidit al Fuel RV eathered RV fur Conten	h: Jan. e: Low e: 16.0 (H e: 38.0 (H y: 75. gr P: 13.4 ps P: 13.9 ps t: 30. pp	F) F) Si Si Si							
Exhaust	I/M Program	m: No								
Evap	I/M Program ATP Program	m: No m: No								
Refor	mulated Ga	s: No								
Ether Blend Market Ether Blend Oxygen	Share: 0.0 Content: 0	00 A. .000 A.	lcohol Bler Lcohol Bler Alcohol Ble	nd Market nd Oxygen end RVP Wa	Share: 1.0 Content: 0 iver: Yes	00 .027				
Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2928	0.4227	0.1590		0.0345	0.0003	0.0024	0.0832	0.0050	1.0000
mposite Emission Fa Composite CO :	actors (g/m. 17.19	i): 15.92	17.45	16.34	9.15	0.665	0.375	0.707	20.28	15.017
File 1, Run 1, Scena # # # # # # # # # #	ario 7.									
<pre>Maring: The user s will be user s will be user has been a type for a 4 48 Warning: there ar 4 48 Warning: Ca Minimum Maximum Absolu Nomir We Fuel Sul Exhaust</pre>	<pre># # # # # # upplied ar seed for all ussigned to ill hours o re no sales re no sales te no sales tendar Yea Monti Altitud Temperatur Temperatur te Humidit te Humidit tal Fuel RV sathered RV fur Conten T/M Program </pre>	<pre># # # # # # # # # # # # # # # # # # #</pre>	<pre># # # # # cage speed the day. : al/collect and all vel te class HI te class LI te cla</pre>	of 29.9 LOO% of VM Cor roadwa Licle type DGV8b DDT12	T Y S.					
<pre>Warning: The user s will be us has been a type for a 4 48 Warning: there ar 4 48 Warning: ca 4 48 Warning: ca 6 Minimum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Maximum Refor Evap Refor</pre>	<pre># # # # # # upplied ar sed for all ssigned to ill hours o te no sales te</pre>	<pre># # # # # # # # # # # # # # # # # # #</pre>	<pre># # # # # cage speed the day. 1: al/collect and all vel te class HI te class LI ce class LI collect f) cains/lb si si si </pre>	of 29.9 LOO% of VM Cor roadwa Licle type DGV8b DDT12	Τ Υ S.					
Mood Warning: The user : will be user : will be user : type for : 4 48 Warning: there ar 4 48 Warning: there ar Ca Minimum Maximum Maximum Absolu Nomir We Fuel Sul Exhaust Evap Refor Ether Blend Market Ether Blend Market	<pre># # # # # # upplied ar seed for all ussigned to ill hours o re no sales re no sales te no sales te no sales thendar Yea Monti Altitud Temperatur Temperatur tal Fuel RV sathered RV fur Conten I/M Program I/M Program Share: 0.00 Content: 0</pre>	<pre># # # # # # # # # # # # # # # # # # #</pre>	<pre># # # # # rage speed the day. 1 and all vel te class HI te class HI te class LI te cl</pre>	of 29.9 100% of VM cor roadwa iicle type OGV8b DDT12 DDT12 nd Market nd Oxygen end RVP Wa	T Y s. Share: 1.0 Content: 0 iver: Yes	00 .027				
<pre>1985 Warning: The user s will be us has been a type for a 4 48 Warning: there an 4 48 Warning: ca Minimum Maximum Absolu Nomir Fuel Sul Exhaust Evap Refor Ether Blend Market Ether Blend Market Ether Type: GVWR:</pre>	<pre># # # # # # supplied ar sed for all ssigned to ill hours o te no sales te</pre>	<pre># # # # # # # # # # # # # # # # # # #</pre>	<pre># # # # # cage speed the day. 1: al/collect and all vei the class HI the class HI the class LI the class</pre>	of 29.9 100% of VM cor roadwa hicle type OGV8b DDT12 DDT12 end RVP Wa LDGT (All)	T y s. Share: 1.0 Content: 0 iver: Yes HDGV	00 .027 LDDV	LDDT	HDDV	МС	All Veh
<pre>1005 Warning: The user : will be user : will be user : type for : 4 48 Warning: 4 48 Warning: there ar 4 48 Warning: Ca Minimum Maximum Maximum Maximum Maximum Fuel Sul Exhaust Evap Refor Ether Blend Market Ether Blend Market Ether Blend Market Ether Type: GVWR: VMT Distribution:</pre>	<pre># # # # # # upplied ar sed for all ssigned to ill hours o te no sales te</pre>	<pre># # # # # # # # terial aver hours of t the arter: f the day a for vehic: for vehic: r: 2015 h: Jan. e: Low e: 16.0 (1 e: 38.0 (1 y: 75. g) P: 13.4 g) P: 13.4 g) P: 13.9 g; t: 30. p] m: No m: No m: No 00 A: LDGT12 </pre>	<pre># # # # # cage speed the day. 12 al/collect and all vel te class HI te class HI te class LI te class LI to class LI the class LI t</pre>	of 29.9 LOO% of VM cor roadwa hicle type DGV8b DDT12 DGV8b DDT12 d Oxygen and RVP Wa LDGT (All)	T y s. Share: 1.0 Content: 0 iver: Yes HDGV 0.0345	00 .027 LDDV 0.0003	LDDT 0.0024	HDDV 0.0832	MC 	All Veh 1.0000

:110 I, KUN I, SCENA										
f # # # # # # # # # # 4 96 Warning:	* * * * * *	* * * * *	* * * * *							
66.4 4581 Warning:	speed 1	reduced to	65 mph max	ximum						
The user s will be us has been a all hours	supplied fre ed for all assigned to of the day	eeway avera hours of the freewa and all ve	age speed o the day. 10 ay roadway ehicle type	of 65.0 00% of VMT type for es.						
4 48 Warning: there ar 4 48 Warning:	e no sales	for vehic	le class HI	DGV8b						
there ar	e no sales	for vehic.	le class LI	DDT12						
Ca Minimum Absolu Nomir We Fuel Sul	Month Month Altitude Temperature Temperature the Humidity al Fuel RVI athered RVI fur Content	r: 2015 h: Jan. e: Low e: 16.0 (1 e: 38.0 (1 y: 75. g: P: 13.4 p: P: 13.9 p: t: 30. p;	F) F) si si pm							
Exhaust Evap Refoi	I/M Program I/M Program ATP Program mulated Gas	m: No m: No m: No s: No								
Ether Blend Market Ether Blend Oxygen	Share: 0.00 Content: 0	00 A. .000 A.	lcohol Bler lcohol Bler Alcohol Ble	nd Market nd Oxygen end RVP Wa	Share: 1.0 Content: 0 iver: Yes	00.027				
Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
WMT Distribution.									0.0050	1 0000
ALL DISCITUALIOU:	0.2928	0.4227	0.1590		0.0345	0.0003	0.0024	0.0832	0.0030	1.0000
<pre>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>></pre>	0.2928 	0.4227 i): 15.92 # # # # # # #	0.1590 17.45 # # # # #	16.34	0.0345 9.15	0.0003	0.0024	0.0832	20.28	15.017
<pre>int Distribution: pmposite Emission F& Composite CO : Composite CO : f # # # # # # # # Assay arterial/cold file 1, Run 1, Scena file 1, Run 1,</pre>	0.2928 	0.4227): 15.92 	0.1590 17.45 17.45 17.45 17.45 17.45 10.159 10.	16.34 of 27.9 100% of VM tor roadwa hicle type DGV8b DDT12	0.0345 9.15 7 7 9 8.	0.0003	0.0024	0.707	20.28	15.017
<pre>mposite Emission F: Composite Emission F: Composite CO :</pre>	0.2928 	0.4227 i): 15.92 15.92 i # # # # # # terial ave: hours of f the arter: f the day a for vehic: for vehic: r: 2015 h: Jan. e: Low e: 16.0 (1) e: 38.0 (0) y: 75. g; P: 13.9 p; t: 30. p; m: No m: No m: No S: No 00 A	0.1590 17.45 17.45 # # # # # # # # # # rage speed the day. 1 ial/collect and all veh le class HI le class LI F) F) rains/lb si pm lcohol Blei	16.34 of 27.9 100% of VM tor roadwa hicle type DGV8b DDT12	0.0345 9.15 T Y y s.	0.0003	0.0024	0.0832	20.28	15.017
<pre>int Distribution: pmposite Emission Fr Composite CO : * # # # # # # # # # Ramsey arterial/col File 1, Run 1, Scena # # # # # # # # # # 4583 Warning: The user s will be us has been a type for a 4 48 Warning: there ar 4 48 Warning: there ar 4 48 Warning: Ca Minimum Maximum Maximum Absolu Nomir Fuel Sul Exhaust Evap Refor Ether Blend Market Ether Blend Market Ether Blend Oxygen</pre>	0.2928 	0.4227): 15.92 	0.1590 17.45 17.45 # # # # # # # # # # rage speed the day. 2 ial/collect and all vel le class HI le class HI le class LI F) F) F) rains/lb si pm lcohol Bler Alcohol Bler	16.34 of 27.9 100% of VM tor roadwa hicle type DGV8b DDT12 DDT12	0.0345 9.15 7 7 y s. Share: 1.0 Content: 0 iver: Yes	0.0003 0.665 0.665	0.0024	0.707	20.28	15.017
<pre>mposite Emission Fr Composite Emission Fr Composite CO :</pre>	0.2928 	0.4227): 15.92 15.92 	0.1590 17.45 17.45 17.45 17.45 17.45 10.159 10.	16.34 of 27.9 100% of VM tor roadwa hicle type DGV8b DDT12 DGV8b DDT12 nd Market nd Oxygen end RVP Wa LDGT (All)	0.0345 9.15 T y s. Share: 1.0 Content: 0 iver: Yes HDGV	0.0003 0.665 0.665	0.0024	0.0832 0.707	20.28	15.017

* # # # # # # # # # # # # # # # # # # #	# # # # #							
* Scott Ireeway - /0.0 mpn * File 1 Pup 1 Scoparie 10								
* # # # # # # # # # # # # # # # # # # #	# # # # #							
M 96 Warning:								
70.0 speed reduced t	o 65 mph ma	ximum						
M515 Warning:								
The combined freeway and ramp	average sp	eed entere	d					
The average speed will be res	ites per no	ur.						
M582 Warning.	et to this	varue.						
The user supplied freeway ave	rage speed	of 60.7						
will be used for all hours of	the day. 1	00% of VMT						
has been assigned to a fixed	combination	of freewa	ys					
and freeway ramps for all hou	rs of the d	lay and all						
vehicle types.								
M 48 Warning:								
there are no sales for vehi	cle class H	DGV8b						
M 48 Warning:	-11 *	DDm10						
chere are no sales for vehi	CIE CIASS L	IDDIIZ						
Calendar Year: 2015								
Month: Jan.								
Altitude: Low								
Minimum Temperature: 16.0	(F)							
Maximum Temperature: 38.0	(F)							
Absolute Humidity: 75.	grains/lb							
Nominal Fuel RVP: 13.4	psi							
Weathered RVP: 13.9 Evol Sulfur Content: 20	psi							
Fuer Surfur Concent: 50.	ppm							
Exhaust I/M Program: No								
Evap I/M Program: No								
ATP Program: No								
Reformulated Gas: No								
Ether Blend Market Share: 0.000	Alcohol Ble	nd Market	Share: 1.0	000				
Ether Blend Oxygen Content: 0.000	Alconol Ble	na Oxygen	content: u	1.027				
	AICONOI BI	ella KVF Wa	iver. ies					
Vehicle Type: LDGV LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR: <6000	>6000	(All)						
VMT Distribution: 0.2928 0.4227	0.1590		0.0345	0.0003	0.0024	0.0832	0.0050	1.0000
Composite Emission Factors (g/mi):								
Composite CO : 17.29 15.99	17.51	16.40	8.93	0.662	0.373	0.703	19.51	15.072
Composite CO : 17.29 15.99	17.51	16.40	8.93	0.662	0.373	0.703	19.51	15.072

<pre>* # # # # # # # # # # # # # # # # # # * Scott arterial/coll * File 1, Run 1, Scena * # # # # # # # # # # # # # # # # # # #</pre>	<pre># # # # # # # # # # # ector - 43 rrio 11. # # # # # # supplied ar sed for all assigned to all hours of the no sales</pre>	<pre># # # # # # .0 mph # # # # # # .terial av . hours of o the arte of the day ; for vehi </pre>	<pre># # # # # # # # # # erage speed the day. rial/collec: and all vei cle class H;</pre>	of 43.0 100% of VM tor roadwa hicle type DGV8b	T Y s.					
there ar	re no sales	for vehi	cle class L	DDT12						
Ca Minimum Maximum Absolu Nomir Nomir Fuel Sul	Alendar Yea Mont Altitud Temperatur Temperatur te Humidit tal Fuel RV eathered RV fur Conten	hr: 2015 ch: Jan. le: Low re: 16.0 re: 38.0 ry: 75. rP: 13.4 rP: 13.9 rt: 30.	(F) (F) grains/lb psi ppm							
Exhaust Evap Refor	I/M Progra I/M Progra ATP Progra mulated Ga	um: No um: No um: No us: No								
Ether Blend Market Ether Blend Oxygen	Share: 0.0 Content: 0	000	Alcohol Ble: Alcohol Ble: Alcohol Ble	nd Market nd Oxygen end RVP Wa	Share: 1.0 Content: 0 iver: Yes	00.027				
Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2928	0.4227	0.1590		0.0345	0.0003	0.0024	0.0832	0.0050	1.0000
Composite Emission Fa Composite CO :	ctors (g/m 15.31	14.02	15.31	14.37	5.83	0.590	0.329	0.567	9.39	13.141
<pre>* # # # # # # # # # # # # * Washington freeway * File 1, Run 1, Scena * # # # # # # # # # # M 96 Warning:</pre>	<pre># # # # # # # - 71.1 mph rrio 12. # # # # # # speed Supplied fr sed for all ussigned to of the day re no sales te no sale</pre>	<pre># # # # # # # # # # # # reduced t reeway ave hours of the free hours of the free hours of for vehi for vehi for vehi for vehi Low re: 16.0 re: 38.0</pre>	<pre># # # # # # # # # # o 65 mph ma: rage speed the day. 1 way roadway vehicle typ cle class H: cle class L: (F) (F)</pre>	ximum of 65.0 00% of VMT type for es. DGV8b DDT12						
Absolu Nomir We Fuel Sul Exbaust	te Humidit al Fuel RV athered RV fur Conten	TY: 75. TP: 13.4 TP: 13.9 It: 30.	grains/lb psi psi ppm							
Ether Bland Market	I/M Progra ATP Progra cmulated Ga	um: No um: No us: No	Alcohol Blo	nd Market	Share 1 0	0.0				
Ether Blend Oxygen	Content: 0	.000	Alcohol Ble Alcohol Ble	nd Oxygen end RVP Wa	Content: 0 iver: Yes	.027				
Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2928	0.4227	0.1590		0.0345	0.0003	0.0024	0.0832	0.0050	1.0000
Composite Emission Fa	actors (g/m	 i):								

M583 Warning: The user si will be use has been at type for at there are M 48 Warning: there are M 48 Warning: there are Cai Minimum Maximum Maximum Nomine Wee Fuel Sulf Exhaust: Evap: There Blend Market !	<pre># # # # # # # # # # # # # # # # # # #</pre>	<pre># # # # # # terial ave hours of the arter f the day for vehic for vehic c: 2015 n: Jan. a: Low c: 16.0 (c: 38.0 (y: 75. g P: 13.9 p P: 13.9 p P: 30. p P: 30. p n: No n: No n: No n: No n: No 00</pre>	<pre># # # # # rage speed the day. 1 ial/collect and all vef le class HI le class LI F) F) Fi rains/lb si si pm lcohol Bler leobol Bler </pre>	of 39.7 LOO% of VM cor roadwa licle type DGV8b DDT12	T Y s. Share: 1.0	100				
Ether Blend Oxygen (Content: 0.	.000 A	lcohol Bler Alcohol Ble	nd Oxygen end RVP Wa	Content: 0 iver: Yes	.027				
			T DCm24	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Vehicle Type: GVWR:	LDGV	LDGT12 <6000	>6000	(All)						

ouboorce nursoroi	I LUCC	OTO (G/mT)	•								
Composite CO	:	15.02	13.72	14.97	14.06	5.93	0.601	0.336	0.589	9.79	12.884

* # # # # # # # # # # # # #	* * * * * *	* * * * *							
* Wright freeway - 73.9 mph									
* File 1, Run 1, Scenario 14.									
M 96 Warning:	* * * * * *	* * * * *							
73.9 spee	d reduced t	o 65 mph ma	ximum						
M515 Warning:									
The combined freew	ay and ramp	average sp	eed entere	d					
cannot be greater	than 60./ m	lles per no	waluo						
M582 Warning.	WIII DE IES	et to this	varue.						
The user supplied	freeway ave	rage speed	of 60.7						
will be used for a	ll hours of	the day. 1	00% of VMT						
has been assigned	to a fixed	combination	of freewa	iys					
and freeway ramps	for all hou	rs of the d	lay and all						
vehicle types.									
M 48 Warning:	os for vobi	clo class H	DCV8b						
M 48 Warning.	es for venir	CIE CIASS II	103700						
there are no sal	es for vehi	cle class I	DDT12						
Calendar Y	'ear: 2015								
Mc	onth: Jan.								
Altit Minimum Momenta	ude: Low	(1)							
Maximum Temperat	ure: 16.0	(F) (F)							
Absolute Humic	lity: 75.	grains/lb							
Nominal Fuel	RVP: 13.4	psi							
Weathered	RVP: 13.9	psi							
Fuel Sulfur Cont	ent: 30.	ppm							
Exhaust I/M Proc	ram: No								
EVap I/M Proc	ram: No								
Reformulated	Gas: No								
Ether Blend Market Share: (.000	Alcohol Ble	nd Market	Share: 1.0	00				
Ether Blend Oxygen Content:	0.000	Alcohol Ble	nd Oxygen	Content: C	.027				
		Alcohol Bl	end RVP Wa.	liver: Yes					
Vehicle Type: LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:	<6000	>6000	(All)		2001	2001		110	
VMT Distribution: 0.2928	0.4227	0.1590		0.0345	0.0003	0.0024	0.0832	0.0050	1.0000
Composite Emission Factors (c	r/mi)•								
Composite CO : 17.29	15.99	17.51	16.40	8.93	0.662	0.373	0.703	19.51	15.072

<pre>* File 1, Kun 1, S * # # # # # # # # M583 Warning: The us will b has be type f</pre>	cenario 15. # # # # # # # # # e used for all en assigned to or all hours o	<pre># # # # # cerial av hours of the arte the day</pre>	<pre># # # # # erage speed the day. rial/collect and all vel</pre>	of 51.8 100% of VM tor roadwa	T Y					
M 48 Warning: ther	e are no sales	for vehi	cle class Hi	DGV8b						
M 48 Warning: ther	e are no sales	for vehi	cle class LI	DDT12						
Mini Maxi Ab N Fuel Exha	Calendar Yea: Montl Altitud mum Temperatur solute Humidit; ominal Fuel RVI Weathered RVI Sulfur Conten ust I/M Program	c: 2015 h: Jan. Low c: 16.0 c: 38.0 y: 75. c: 13.4 c: 13.9 c: 30. h: No	(F) (F) grains/lb psi ppm							
E	vap 1/M Program ATP Program eformulated Gas	n: NO n: NO s: NO								
Ether Blend Mar Ether Blend Oxy	ket Share: 0.00 gen Content: 0)0 .000	Alcohol Blen Alcohol Blen Alcohol Ble	nd Market nd Oxygen end RVP Wa	Share: 1.0 Content: 0 iver: Yes	00 .027				
Vehicle Typ GVW	e: LDGV R:	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distributio	n: 0.2928	0.4227	0.1590		0.0345	0.0003	0.0024	0.0832	0.0050	1.0000
Composite CO Composite CO	: 16.06 : 16.06 # # # # # # # # # 6 mph cenario 16.	14.78 	16.17 # # # # #	15.16	6.18	0.585	0.327	0.559	8.95	13.830
<pre>* # # # # # # # # M586 Warning: 100% o roadwa vehicl M 48 Warning:</pre>	f VMT has been y type for all e types with a	# # # # # assigned hours of average	# # # # # to the free the day fo: speed of 3	eway ramp r all 4.6 mph.						
ther M 48 Warning:	e are no sales	for vehi	cle class HI							
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Exhibit F-4: Projects that do not Impact Regional Emissions, and Projects that also do not Require Local Carbon Monoxide Impact Analysis

Certain transportation projects eligible for funding under Title 23 U.S.C. or the Urban Mass Transportation Act have no impact on regional emissions. These are "exempt" projects that, because of their nature, will not affect the outcome of any regional emissions analyses and add no substance to those analyses. These projects (as listed in §93.126 of conformity rules) are excluded from the regional emissions analyses required in order to determine conformity of the *Transportation Policy Plan* and TIPs.

Following is a list of "exempt" projects and their corresponding codes used in column "AQ" of the 2009-2012 TIP. The coding system is revised from previous TIPs to be consistent with the coding system for exempt projects in the proposed Minnesota Pollution Control Agency (MPCA) revision to the State Implementation Plan for Air Quality for Transportation Conformity.

Except for projects given an "A" code or a "B" code, the categories listed under Air Quality should be viewed as advisory in nature, and relate to project specific requirements rather than to the TIP air quality conformity requirements. They are intended for project applicants to use in the preparation of any required federal documents. Ultimate responsibility for determining the need for a hot-spot analysis for a project under 40 CFR Pt. 51, Subp. T (The transportation conformity rule) rests with the U.S. Department of Transportation. The Council has provided the categorization as a guide to project applicants of possible conformity requirements, if the applicants decide to pursue federal funding for the project.

SAFETY

Railroad/highway crossing	S-1
Hazard elimination program	S-2
Safer non-federal-aid system roads	S-3
Shoulder improvements	S-4
Increasing sight distance	S-5
Safety improvement program	S-6
Traffic control devices and operating assistance other than signalization projects	S-7
Railroad/highway crossing warning devices	S-8
Guardrails, median barriers, crash cushions	S-9
Pavement resurfacing and/or rehabilitation	S-10
Pavement marking demonstration	S-11
Emergency relief (23 U.S.C. 125)	S-12
Fencing	S-13

Skid treatments	S-14
Safety roadside rest areas	S-15
Adding medians	S-16
Truck climbing lanes outside the urbanized area	S-17
Lighting improvements	S-18
Widening narrow pavements or reconstructing bridges (no additional travel lanes)	S-19
Emergency truck pullovers	S-20
MASS TRANSIT	
Operating assistance to transit agencies	T-1
Purchase of support vehicles	T-2
Rehabilitation of transit vehicles	T-3
Purchase of office, shop, and operating equipment for existing facilities	T-4
Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts, etc.)	T-5
Construction or renovation of power, signal, and communications systems	T-6
Construction of small passenger shelters and information kiosks	T-7
Reconstruction or renovation of transit buildings and structures (e.g., rail or bus buildings, storage and maintenance facilities, stations, terminals, and ancillary structures)	T-8
Rehabilitation or reconstruction of track structures, track and trackbed in existing rights-of-way	T-9
Purchase of new buses and rail cars to replace existing vehicles or for minor expansions of the fleet	T-10
Construction of new bus or rail storage/maintenance facilities categorically excluded in 23 CFR 771	T-11
AIR QUALITY	
Continuation of ride-sharing and van-pooling promotion activities at current levels	AQ-1
Bicycle and pedestrian facilities	AQ-2

O-1

O-2

O-3

O-4

O-5 O-6

O-7

O-8

0-9

O-10

OTHER

Specific activities which do not involve or lead directly to construction, such as:

- Planning and technical studies
- Grants for training and research programs
- Planning activities conducted pursuant to titles 23 and 49 U.S.C.
- Federal-aid systems revisions
- Engineering to assess social, economic and environmental effects
- of the proposed action or alternatives to that action
- Noise attenuation Advance land acquisitions (23 CFR 712 or 23 CFR 771)
- Acquisition of scenic easements
- Plantings, landscaping, etc.
- Sign removal
- Directional and informational signs
- Transportation enhancement activities (except rehabilitation and
- operation of historic transportation buildings, structures, or facilities) Repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial functional, locational, or capacity changes

Projects Exempt from Regional Emissions Analyses that may Require Further Air Quality Analysis

The local effects of these projects with respect to carbon monoxide concentrations must be considered to determine if a "hot-spot" type of an analysis is required prior to making a project-level conformity determination. These projects may then proceed to the project development process even in the absence of a conforming transportation plan and TIP. A particular action of the type listed below is not exempt from regional emissions analysis if the MPO in consultation with other state agencies MPCA, Mn/DOT, the EPA, and the FHWA (in the case of a highway project) or the FTA (in the case of a transit project) concur that it has potential regional impacts for any reason.

Channelization projects include left and right turn lanes and continuous left-turn lanes as well as those turn movements that are physically separated. Signalization projects include reconstruction of existing signals as well as installation of new signals. Signal preemption projects are exempt from hotspot analysis. Final determination of which intersections require an intersection analysis by the project applicant rests with the U.S.DOT as part of its conformity determination for an individual project.

Projects Exempt from Regional Emissions Analyses	
ntersection channelization projects	E-1
ntersection signalization projects at individual intersections	E-2
nterchange reconfiguration projects	E-3
Changes in vertical and horizontal alignment	E-4
Fruck size and weight inspection stations	E-5
3us terminals and transfer points	E-6

Regionally significant projects

The following codes identify the projects included in the "action" scenarios of the TIP air quality analysis:

Baseline - Year 2000	B-00
Action - Year 2005	A-05
Action - Year 2010	A-10

Non-Classifiable Projects

Certain unique projects cannot be classified as denoted by a "NC." These projects were evaluated through an interagency consultation process and determined not to fit into any exempt nor intersection-level analysis category, but they are clearly not of a nature which would require inclusion in a regional air quality analysis.

Traffic Signal Synchronization

Traffic signal synchronization projects (Sec. 83.128 of the Conformity Rules, Federal Register, August 15, 1997) may be approved, funded, and implemented without satisfying the requirements of this subpart. However, all subsequent regional emissions analysis required by subparts 93.118 and 93.119 for transportation plans, TIPS, or projects not from a conforming plan and TIP must include such regionally significant traffic signal synchronization projects.

Appendix G: Regional Transit Standards

Transit Market Areas

While several factors influence the propensity to use transit, the primary predictors of transit productivity are density of development at the origin and destination of trips. Transit markets in the seven county region are identified using the Transit Market Index, which is calculated using three primary factors: 1) population density, 2) employment density, and 3) transit dependent population. This Transit Market Index measures the potential market for transit services in a given area. Different types and levels of transit services are appropriate for each transit market area.

The Transit Market Index for an area is expressed in relative units of expected transit demand per acre and is calculated as follows:

(Total Population) + (Total Employment / 3) + (Population Over 16 – Available Automobiles) Transit Market Index = _____

Acreage of populated land uses (including industrial, institutional, commercial, and residential uses)

For the purposes of this plan, Transit Market Index is calculated at the Census block group level.

The region has five distinct Transit Market Areas that are determined based on the Transit Market Index for a given location. The Transit Market Area for a location is determined not only based on the Transit Market Index for that location, but also on the Transit Market Index of surrounding areas.

Table G-1: Transit Mark Area Characteristics			
Transit Market Index			
Transit Market Index above 20.0			
Transit Market Index between 10.0 and 20.0			
Transit Market Index between 5.0 and 10.0			
Transit Market Index between 1.0 and 5.0			
Transit Market Index below 1.0			

Transit Market Area I has the highest density of population, employment, and people who depend on transit. Because of this, Market Area I is able to support intensive transit service.

Transit Market Area II has high to moderately high population and employment densities yielding a market area that is conducive to fixed route transit operations, but not as intensive as in Market Area I.

Transit Market Area III has moderate density and can support a variety of transit services, but at lower intensity than areas I and II. In some cases, general public dial-a-ride services may be appropriate in Market Area III.

Transit Market Area IV has lower concentrations of population and

employment. This market can support peak-period express bus services, if a sufficient concentration of commuters likely to use transit service is located along a corridor. Some areas may have sufficient den-

sity for Market Area IV, but may not have sufficient aggregate commuter demand to justify extension or improvement of express service. General public dial-a-ride services are appropriate in Market Area IV.

The low population and employment densities of Transit Market Area V increase the complexity and challenge of matching transit service to transit need. General public dial-a-ride service may be appropriate in Market Area V, but due to very low-intensity land uses, these areas cannot support regular route transit.

In the longer term to meet transit needs in suburban and rural settings, intensification of land use with a minimum 'critical mass' of increased intensity is necessary to provide and sustain increased transit service.

Transit Markets/Service Options

The table below identifies transit strategies that appear to be most appropriate for the different transit market areas. The service types presented are general descriptions for each market area; specific implementation of transit services will depend on available resources, specific analysis of transit demand, complementary and competing services, and other factors. Detailed analysis of specific communities

Table G-2: Market Areas - Suggested Service Types				
Transit Market Area	Suggested Service Type			
Area I	Primary emphasis on regular route service. Downtown area circulators possible.			
Area II	Primary emphasis on regular route service. Crosstown routes and limited stop services are appropriate to link major destinations.			
Area III	A mix of regular route and community circulator service com- plemented by dial-a-ride service in specific cases. Commu- nity circulators should tie into regular route regional service at a transfer point.			
Area IV	Peak period express service, if potential demand for service is sufficient to support at least three peak-period trips. Gen- eral public dial-a-ride services are appropriate.			
Area V	Primary emphasis on general public dial-a-ride services			
ADA Paratransit Services	Paratransit service as determined by state and federal regula- tion. See ADA section of this appendix for additional details.			
Transitways	Transitway service is unique to each transitway corridor, and is determined through detailed planning and study unique to individual transitway corridors.			

within the metropolitan area may generate additional transit service delivery strategies.

Transitways

Transitways are unique transportation corridors with specific, detailed planning processes that result in appropriate levels of service for specific corridors. The detailed planning work on transitway corridors leads to unique applications of transit service design standards and specific types of service unique to each corridor.

ADA Paratransit Services

ADA paratransit service is public transportation for certified riders who are unable to use the regular fixed-route bus due to a disability or health condition. In the Twin Cities region, the Metropolitan Council oversees all ADA Paratransit Services. Metro Mobility contracts with ADA Paratransit service providers, who provide customers with "firstdoor-through-first-door" transportation.

ADA Eligibility

Eligibility is determined using federal guidelines established by the Americans with Disabilities Act

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(ADA). A person may be eligible for ADA Paratransit Service if any of the following conditions apply:

- He/she is unable to independently navigate the fixed-route transit system because of a health condition or disability (OR)
- He/she is unable to independently board or exit fixed-route vehicles due to a health condition or disability (OR)
- He/she is unable to propel to or from a bus stop within the fixed-route service area due to a health condition or disability.

ADA Service Span and Coverage

The ADA Paratransit Service coverage area and hours of service is determined by several factors including Federal and State requirements. Per the Federal requirements, ADA paratransit service must operate at a minimum within ³/₄ of a mile of the local fixed route network during the same hours of the day as the fixed route transit service operates.

Metro Mobility achieves this by analyzing the fixed routes hours of service delivery for weekday, Saturday and Sunday/Holiday service in each community where service is provided and then matches that service level.

Beyond the federal requirements, the State requires Metro Mobility to provide service to all communities within the transit taxing district. Metro Mobility is available to these eligible residents living outside of the federally mandated service area by currently providing 12 hours of service on weekdays, and on an as space is available basis on Saturday's and Sundays/Holidays.

Transit Service Design Standards

A consistent set of transit service design standards ensures regional coordination and consistency. Regional design standards are custom-tailored for each transit market area. These standards represent typical design guidelines for transit service, though exceptions often exist based on specific circumstances and conditions. (т

Transit Service Options

Table G-3: Transit Service Options					
Services Considered:	Area I	Area II	Area III	Area IV	Area V
Express	Yes	Yes	Yes	Yes	No
Urban Radial	Yes	Yes	Yes	No	No
Urban Crosstown	Yes	Yes	No	No	No
Suburban Local/ Circulator	Yes*	Yes	Yes	No	No
General Public Dial-a-Ride	No	No	Specific	Yes	Yes
*Area I circulators applicable for downtown or other employment areas over 30,000					

This table outlines what type(s) of service are appropriate for each Transit Market Area.

Service Span

Service Span is the number of hours during the day between the start and end of service on a transit route

Table G-4: Service Span						
Days and Times of Service:	Area I	Area II	Area III	Area IV	Area V	
Express	PMENW	PMENW	PME	Р	n/a	
Urban Radial	PMENOW	PMENOW	PMENW	n/a	n/a	
Urban Crosstown	PMENW	PMENW	n/a	n/a	n/a	
Suburban Local/ Circulator	PMENW	PMENW	PMENW	n/a	n/a	
General Public Dial-a-Ride	n/a	n/a	Up to 18 hours	Up to 14 hours	Up to 14 hours	

A trip's service period is determined by the time the route crosses its maximum load point. This standard represents the upper limit of service. For example, owl service is allowable but not required in Area I for an urban local route.

Peak: 6:00am-9:00am and 3:00pm-6:30pm; Midday: 9:00am-3:00pm; Evening: 6:30pm-9:00pm; Night/Early AM: 9:00pm-1:30am and 5:00am-6:00am and Owl: 1:30am-5:00am. Weekend is Saturday, Sunday/Holiday. Times do not necessarily correspond with fare structure times.

Table G-5: Minimum Frequency						
	Area I	Area II	Area III	Area IV	Area V	
Express	30" Peak	30" Peak	3 Peak Trips	3 Peak Trips	N/A	
Urban Radial	15" Peak/ 30" Offpeak	30" Peak/ 60" Offpeak	60" Peak/ 60" Offpeak	N/A	N/A	
Urban Crosstown	30" Peak/ 30" Offpeak	30" Peak/ 60" Offpeak	N/A	N/A	N/A	
Suburban Local/ CirculatorN/A30" Peak/ 60" Offpeak60" Peak/ 90" OffpeakN/AN/A						
Additional service may be added as demand warrants. Applies primarily to peak travel direction						

Minimum Frequency

Service frequency is expressed as the average number of minutes between transit vehicles on a given route or line, moving in the same direction. This table shows the recommended minimum service frequency for each service type in a given market area.

Route Spacing

Maximum desired distance between bus routes, in miles.

Table G-6: Maximum Route Spacing								
	Area I	Area I Area II Area III Area IV						
Express	Subject to av	ailability and de	emand of a hig	hway corridor	n/a			
Urban Radial	0.5 1 Specific n/a n/a							
Urban Crosstown	1	2	n/a	n/a	n/a			
Suburban Local/Circulator n/a 2 Specific n/a n/a								
"Specific" means the route structure will be adapted to demographics, geography and land use that impact route spacing.								

Route Deviations

Route deviations are departures from a route's primary street to serve a specific transit generator. The route then returns and continues on the primary street.

• The number of riders served on the deviation must be greater than thru riders (deviation rides > thru rides).

Other factors, such as bus stop siting, access, and operational feasibility, are also involved in determining whether a route deviates.

Minimum Branch or Extension Productivity

Some transit routes serve multiple destinations at the end of a route using route "branches". In addition, some routes are extended to serve additional destinations. To ensure that any route branches or extensions carry enough riders to justify the added cost of operation, the following productivity standards apply. Productivity is measured by passengers per in-service hour, as defined by the number of passengers getting on or off on a specific route segment, divided by the additional time required to operate the segment.

Table G-7: Minimum Branch or Extension Productivity*						
	Area I	Area II	Area III	Area IV	Area V	
Express	25	25	15	9	n/a	
Urban Radial	25	20	15	n/a	n/a	
Urban Crosstown	25	20	n/a	n/a	n/a	
Suburban Local/Circulator n/a 15 9 n/a n/a						
* As measured by passengers per in-service hour for boardings/alightings						

Travel Time Competitiveness Guidelines

To be successful in attracting riders who have access to automobiles, transit service must provide travel times that are competitive with comparable auto travel times.

- Local bus travel time should generally not exceed 2.0 times average auto time.
- Express bus travel time should generally not exceed 1.35 times average auto time.

Network Transfer Connectivity

Transit network connectivity is the ability to travel anywhere the transit network reaches with minimal waiting time for transfers between the trips. Ideally, all transfers are designed to occur within 5-15 minutes at the transfer point. In specific situations where connections are less than 5 minutes, timed transfers should be arranged with specific transit operator instructions to "meet" the other bus.

Transit Stop Service Area

Standard walking distance to access transit services is ¹/₄ mile for local bus service and ¹/₂ mile for limited stop bus or transitway stations.

Recommended Bus Stop Spacing

Bus stops that are close together reduce walking distance and access to transit, but tend to increase bus travel time. This recommended spacing seeks to achieve a balance.

- 6-8 stops per mile for local service
- 1-2 stops per mile for limited stop service

An allowable exception to standards may be central business districts and major traffic generators. These guidelines are goals, not a minimum nor a maximum.

Bus Stop Siting

- Near side stops are preferred in most areas.
- Far-side/mid-block stops are preferred in high density commercial areas, where traffic movements impede bus operations, or in applications of transit signal priority.
- Individual stop sites must be evaluated for:
 - Traffic conditions in area (i.e., right turns, merging, etc.)
 - Curb availability (see stop dimensions table below)
 - · General suitability for bus stop (i.e., curb cuts, ADA considerations, obstructions, etc.).

Bus Stop Dimensions

The length of the bus stop, in feet, needed in order for a bus to safely pull into and out of a bus stop. *Passenger Waiting Shelters*

A standard shelter location may be appropriate if the following ridership target is met at a proposed stop.

- Minneapolis and St. Paul: ≥40 boardings per day
- All other areas: ≥25 boardings per day

Heaters are occasionally installed in shelters with a warrant of 80 or more passenger boardings per day. *Custom Shelters*

Custom shelters will meet a warrant of 100 boarding passengers per day, if one of the following criteria is met:

- Part of a larger project such as a bus corridor
- Transit Centers
- Park-and-Ride lots owned and maintained by regional transit providers
- Downtown bus stops

Table G-8: Bus Stop Dimensions					
Bus Stop Dimensions*	Standard Small Bus Bus Only Stop Stop				
Near-side Stop	100 ft.	75 ft.			
Far-side Stop	120 ft.	90 ft.			
Mid-Block Stop 150 ft. 110 ft.					
*Bus stops which have multiple buses stopping at the same time require more space.					

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Facility Amenities

Regional transit providers offer a range of amenities at bus stops, transit centers and other facilities for the comfort, convenience and safety of our customers. The following table identifies the standard amenities that are included with various facility types. Some amenities are always provided and others are occasionally provided, depending on the specific size, location or use of the facility.

Table G-9: Facility Amenities							
Facility Type	Lights	Heaters	Trash Receptacles	Stand Alone Benches	Cameras	Electronic Customer Information Displays	
Transit Centers	Y	Y	Y	Y	0	0	
Park & Ride Lots	Y	0	0	0	0	0	
Rail Stations	Y	Y	Y	Y	Y	Y	
Standard Shelters	0	0	N	N	Ν	0	
Custom Shelters O O N O O O							
Y = Yes, always provided; N = No, not provided; O = Occasionally provided							

Note that this guideline applies only to public transit agency-owned facilities. Providers also lease park & ride lots, and some shelters are owned and maintained by other entities. In those cases, providers do not normally offer customer amenities, although some may be included in certain situations.

Transit Vehicle Load Guidelines

The number of riders on board the vehicle as a percentage of the number of seats. This value is used to determine when is the bus is overloaded and additional service is needed. If the result is greater than 100%, then some standees are acceptable.

Table G-10: Peak Periods						
	Area I	Area II	Area III	Area IV	Area V	
Express*	70-100%	70-100%	70-100%	70-100%	n/a	
Urban Radial	85-125%	85-125%	85-125%	n/a	n/a	
Urban Crosstown	50-125%	50-125%	n/a	n/a	n/a	
Suburban Local/ Circulator	n/a	50-125%	50-125%	n/a	n/a	
Light Rail Transit	200%	200%	200%	n/a	n/a	

*Limited stop routes traveling less than 4 miles on freeways have a maximum load standard of 115%. Limited stop routes that do not travel on freeways have the same guidelines as urban radial or urban crosstown routes.

Guidelines are based on the number of seats on the vehicle, measured at the maximum load point of route. These standards are flexible on the fringe of peak period.

Maximum customer load average over a 15 minute period on a consistent basis

Table G-11: Off Peak Periods						
	Area I	Area II	Area III	Area IV	Area V	
Express	65-100%	60-100%	50-100%	n/a	n/a	
Urban Radial	60-100%	60-100%	n/a	n/a	n/a	
Urban Crosstown	50-100%	30-100%	n/a	n/a	n/a	
Suburban Local/ Circulator	n/a	30-100%	30-100%	n/a	n/a	
Light Rail Transit	200%	200%	200%	n/a	n/a	
Limited stop routes that do not travel on freeways have the same guidelines as urban radial or urban crosstown routes.						
Guidelines are based on maximum load point of route.						
Maximum customer	load average ov	ver a 30 minute p	eriod on a consi	stent basis.		

Transit Performance Standards

The primary performance standards to measure service performance are Subsidy per Passenger and Passengers per In-Service Hour. Performance standards are used to evaluate the relative productivity and efficiency of the services provided. To be responsible and dynamic, a transit system must consistently measure and adjust service in unproductive routes and address insufficient service in productive areas. The use of two regional performance standards provides better insight into the operational and financial performance of individual routes and services.

Revision of Transit Performance Standards

The Metropolitan Council will complete a review of these transit performance standards. Working with regional transit providers, the Council will review and potentially modify the standards listed below. Following this review and potential revision, all providers will review their transit service annually based on the regional transit performance standards. Providers will annually submit their performance reviews to the council for inclusion in a regional service performance review.

Table G-12: Passenger Subsidy					
Threshold No.	Level of Subsidy per Passenger Performance	Monitoring Goal	Possible Action		
1	20 to 35% over peer average	For Quick Review	Minor Modifications		
2	36 to 60% over peer average	For Intense Review	Major Changes		
3	More than 60% over peer average	For Significant Change	Restructure/ Eliminate		

Subsidy	ner	Passe	naer
Subsidy	μει	1 0000	nger

Subsidy or net cost is the difference between the total cost of providing service minus revenue from passenger fares. Subsidy per passenger represents the net cost divided by the number of passengers using the service. This standard identifies services that are not operating within regional efficiency ranges and focuses corrective actions for those services. Subsidy thresholds are determined by calculating the non-weighted subsidy per passenger average within each service classification plus fixed percentage deviations from that average.

Table G-13: Passengers per In-Service Hour						
Type of Service	Average Passengers per In-Service Hour	Minimum Passengers per In-Service Hour				
Light Rail Transit	≥70	≥50				
Big Bus Fixed Route – All Day	≥20	≥15				
Big Bus Fixed Route – Peak Only	≥20	N/A				
Small Bus Fixed Route	≥9	≥5				
Small Bus Non-Fixed Route	≥3	≥2				
Other/Rideshare/Shared Ride Taxi	≤2	N/A				

Passengers per In-Service Hour

The passenger per in-service hour standard establishes a minimum threshold of performance for light rail transit, big bus fixed route service, small bus fixed route service and paratransit operations. Passengers per in-service hour represents the total passengers carried divided by the in-service time. This measure is most often calculated at the route level, but can also be used less formally at a route segment or trip level. (т

Appendix H: 2030 Park-and-Ride Plan

Metropolitan Council 2030 Park-and-Ride Plan

The Park-and-Ride Plan is part of the ongoing planning and implementation for transit service and facilities in the region. Several policies in the 2030 Transportation Policy Plan address transit facilities, such as Policies 12 and 14 and strategies 12a and 14e.

Chapter 7 of the 2030 Transportation Policy Plan is the long range transit plan for the region. While it includes some general discussion of existing and planned park-and-ride facilities in the section titles Transit Passenger Facilities, the Park-and-Ride Plan is intended to go a step further and serve as a more detailed guide to selecting, prioritizing and implementing those facilities.

The 2030 Park-and-Ride Plan is available online at: http://www.metrocouncil.org/planning/transportation/transportation.htm

Appendix I: Airport Long-Term Comprehensive Plans

Plan Context

The twenty-year long-term comprehensive airport plan (LTCP) is intended to integrate all information pertinent to planning, developing and operating an airport in a manner that reflects its system role and compatibility with its surrounding environs. The plan- content guidelines apply to Major, Intermediate and Minor airports; therefore some flexibility for emphasis or level of detail on certain plan elements will be necessary. Plans should be reassessed every five years and updated according to the review schedule defined later in this appendix. The reassessment involves reviewing the new forecasts against prior forecasts and actual airport activity, checking the progress of implementation efforts (e.g. individual project planning, environmental evaluations, and capital program), and identifying any other issues or changes that may warrant continued monitoring, interim action or establish a need for a plan update.

The LTCP does not replace any other planning or reporting requirements of another governmental unit. The scope and emphasis of a long-term comprehensive airport plan should reflect the airport's system role and the objectives for each plan content category as described below.

Plan Content

Airport Development

Objective: To portray the type and location of airport physical and operational development in a systematic fashion, reflecting both the historical and forecast levels of unconstrained aviation demand. The plan should include:

- Background data including a description of previous planning studies and development efforts; each item described should contain a synopsis of pertinent dates, funding sources, objectives and results.
- An overview of historical and forecast aviation activity (number of based aircraft, aircraft mix, number of annual and peak hour aircraft operations) and the demand compared to the existing and proposed facilities.
- An airport map showing land use areas, by type, within the airport property boundary or under airport control. Maps showing airport development phasing based upon key demand and capacity levels. A description of facilities staging, by phase, for specific land use areas. A copy of the latest FAAapproved airport layout plan (ALP) with associated data tables as described in FAA AC 150/5070-6.

Airport and Airspace Safety

Objective: To identify planning and operating practices required to ensure the safety of aircraft operations and protect the regional airspace resource. The plan should include:

- An airport map depicting the airport zoning district, land use safety zones and a description of the associated airport zoning ordinance as required under MS 360.061-360.074 and defined in MN Rules 8800.2400. This map should contain appropriate topographical reference and depict those areas under aviation easements.
- An airport area map showing the FAA FAR Part 77 airspace surfaces, including an approach and clear zone plan as described in FAA AC 150/5070-6.
- A map of aircraft flight tracks depicting the local aircraft traffic pattern and general description of
 operating parameters in relation to the physical construction and operational development phasing of
 the airport.

Airport and Aircraft Environmental Capability

Objective: To define aviation impacts and measures needed to meet both social and natural environmental needs of the region. The plan should include:

- Aircraft on-ground and over-flight activities described within a historical and forecast context, including seasonal and daily traffic. Maps of aircraft noise impact areas depicted by contours of DNL noise levels for annualized aircraft activity.
- Description of adopted Noise Abatement Operations Plan and/or operational abatement measures being implemented.
- Description of land use measures and proposed strategy for off-airport land uses affected by aircraft noise as defined in the *Land Use Compatibility Guidelines for Aircraft Noise* (See Appendix M). Description of aircraft, ground vehicle and point-source air pollution emissions within a historical and forecast context, including definition of the seasonal and daily operating environment. Identify existing and potential air-quality problem area(s).
- Description and map of existing drainage system including natural drainage-ways and wetlands by type. Provide map and description of proposed surface water management plan for water quantity and quality including proposed facilities, storage volumes, rates and volumes of runoff from the site, and pollutant loadings associated with planned airport site facilities (as identified in SPCC and SWPPP) that could affect surface water quality. More specific mitigation measures, to avoid off-site flooding, minimize pollution of surface waters, and loss or alteration of wetlands, should be included in an EA or an EIS, not the LTCP.
- Description of the types of potential groundwater contaminants present on the site and proposed measures for the safe handling, storage and disposal of these substances to protect ground water, including description of the MAC and private operators roles for managing these materials.

- Projection of the annual average volume of wastewater to be generated for the next 20 years by five year increments from terminals, operators and the proposed facilities (description and map) for handling and treating wastewater including public sewer service, private treatment plants and individual on-site sewage disposal systems. Include a description of proposed management for private facilities and roles of the MAC and private operators in implementation.
- Description of recommended air, water and noise control plans, including monitoring programs.

Compatibility with Metropolitan and Local Plans

Objective: To identify demand and capacity relationships between airport and community systems and define a management plan for maintaining compatibility. The plan should include:

- Description of historical and forecast ground traffic activities, including average and peak-flow characteristics on a seasonal, daily, and peak hour basis. Map showing location of ground access points, parking areas and associated traffic counts. Definition of potential problem areas and plan for traffic management.
- Description of water supply, sanitary and storm sewer and solid waste systems. Definition of historical and forecast use levels and capacities. Depictions of locations where airport systems interface with local or regional systems. Identification of potential problem areas and the plan(s) for waste management.
- Description of other airport service needs (for example, police and fire) that may require changes in agreements or types/levels of governmental and/or general public support.

Implementation Strategy

Objective: To establish the type, scope and economic feasibility of airport development and recommended actions to implement a compatible airport and community plan. The plan should include:

- Description of the overall physical and operational development phasing needed over the [next] twenty years.
- A capital improvement plan to cover a seven-year prospective period. The first three years of the development plan should be project-specific, and the other four years of the plan, including projects of more than four years duration and new projects, may be aggregate projections. Estimates of federal, state and local funding shares should be included for all projects included in the plans.
- Identification of the planning activities needed for implementation of the comprehensive airport plan.

Plan Amendment

The LTCP is to be prepared on a regular basis for each affected airport as defined in the LTCP review schedule. The document should be prepared to meet the plan content information discussed previously. In the event that a change to the plan cannot be accommodated during its scheduled update the LTCP,

or parts thereof, should be amended. An amendment should be prepared and reviewed by the Council prior to project inclusion in [that] year's capital improvement program. Examples of potential amendments include, but are not limited to the following items:

- Projects meeting the capital review thresholds of \$5 million at MSP, and \$2 million at reliever airports (as defined in CIP Review Criteria Table P-3 and Table P-4),
- · Changes requiring an update to FAA airport layout plan (ALP),
- Runway changes
- Projects having potential off-airport effects
- Reliever Airport Non-aviation land use changes. This involves land use parcels on-airport that are not being released by the FAA for sale, but remain as part of the airport property and are made available by the airport operator through lease agreements with private parties to enhance revenues to the airport sponsor. The size of parcels and lease period may vary considerably; location and use of potential parcels were not part of individual LTCP reviews. Council review objectives are:
 - to monitor such parcel changes for purposes of maintaining its overall land use data base,
 - to know the location and use of the parcels in relation to the approved LTCP,
 - to appraise airport operators of any recent local or metro system changes they may not be aware of that may need additional review/coordination.
 - to establish an administrative review process in coordination with airport sponsors for review of non-aviation land use change proposals.

METRO AREA PUBLIC USE AIRPORTS	PLAN STATUS	5-YEAR UPDATE
Minneapolis-St. Paul Int'l.	2030 LTCP Approved June 2010	2015
St. Paul Downtown	2025 LTCP Approved April 2010	2015
Anoka County-Blaine	2025 LTCP Approved April 2010	2015
Flying Cloud	2025 LTCP Approved April 2010	2015
Airlake	2025 LTCP Approved October 2008	2013
Crystal	2025 LTCP Approved October 2008	2013
Lake Elmo	2025 LTCP Approved October 2008	2013
So. St. Paul Municipal	Community CPU Approved 2009	2018
Forest Lake Municipal	Community CPU Approved 2009	2018
Lino Lakes Seaplane Base	Community CPU Approved 2009	2018
Wipline Seaplane Base	Community CPU Approved 2009	2018

Table I-1: LTCP Update Schedule

Figure I-2: MSP 2030 Long-term Concept Plan



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Figure I-3: MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT 2030 LTCP

OBJECTIVES

- Keep existing runways, improve taxiways
- Continue the pavement maintenance program
- Expand/Rehabilitate Terminal 1 Building, add Gates and tram on concourse G/H, add Parking
- Expand Terminal 2, add Gates and Parking
- Improve road access to Terminals 1 & 2
- Construct cross-over Twy



Figure I-4: ST. PAUL DOWNTOWN AIRPORT 2025 LTCP

OBJECTIVES

- Keep existing runways
- · Continue the pavement maintenance program
- Improve sub-drain system for Terminal Building
- · Improve Electrical vault for code compliance
- Plan on-going floodwall maintenance, operations, and monitoring/permits
- Continue development of non-aviation land uses for revenue enhancement



Figure I-5: ANOKA COUNTY-BLAINE AIRPORT 2025 LTCP

OBJECTIVES

- Maintains current runways.
- Retains parallel runways for post 2025 system needs.
- Continues the pavement maintenance Program.
- Completes relocation and construction of Xylite street.
- Relocates/extends Taxiway Charlie.
- · Improves security gates
- Continues development of non-aviation uses for revenue enhancement.

Figure I-6: FLYING CLOUD AIRPORT 2025 LTCP

OBJECTIVES

- Maintain parallel runways
- · Shift/extend cross runway
- · Continue the runway maintenance program
- · Complete So. Bldg. Area utilities
- Provide object-free area on Taxiway (A)
- Relocate ATCT
- Continue development of non-aviation land uses for revenue enhancement





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Figure I-7: CRYSTAL AIRPORT 2025 LTCP

OBJECTIVES

- Removes one main-wind and one cross-wind runway.
- Provides several on-airport parcels for non-aviation development.
- Uses existing vacant hangars to provide spaces in short and mid-term period.
- Identifies potential new hangar areas to be developed by private funding, if need arises.





Figure I-8: AIRLAKE AIRPORT 2025 LTCP

OBJECTIVES

- Previously proposed cross-wind runway removed from the plan.
- New South hangar building area to be developed with private funds.
- Existing runway extended in long-term, requires Cedar Ave. relocation.

	Existing Airport Property Line	\square	Runway Safety Area
7	Ultimate Runway Protection Zone	\sim	Runway Object Free Area
71	Mn/DOT State Safety Zones	$(T \rightarrow z)$	Building Area Expansion
	Pinelines		Trout Stream Protection
	Pipelnes		Trout Stream Protection (100' Buffer)
	Pipelines Wetlands		Trout Stream Protection (100' Buffer) Road Relocation

Figure I-9: LAKE ELMO AIRPORT 2025 LTCP



OBJECTIVES

- · Extend cross-wind runway and taxiway.
- Develop new east-side hangar building area with private funds.
- Request Mn/DOT install a on-airport weather monitoring and reporting system.
- Retain new mainwind RWY for post 2025.

View to SW down cross-wind runway

Figure I-10: SOUTH ST. PAUL AIRPORT 2018 PLAN

OBJECTIVES

- Obstruction Removals
- Rwy/Twy asphalt maint.
- Hangar refurbishment
- Service Equip. replacement
- Construct Maintenance Bldg.
- Construct 12-Unit T-Hangars



Figure I-11: FOREST LAKE AIRPORT 2018 PLAN



OBJECTIVES

- Obstruction Removals
- Land Acquisition
- Pave RWY (Phase I -2700' x 75')
- T-Hangar 15-unit
- Automated Weather Station
- FBO Hangar
- Airport Perimeter Fence
- Relocate Fuel Facility
- Extend RWY 600' (Phase II)

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Appendix J: National and State Airport Classifications

The National Plan of Integrated Airports (NPIAS) is constantly updated as state and local airport and system plans are completed and accepted by the FAA. Table J-1 indicates the current mix of airports for the region included in the 2009-2013 NPIAS and officially eligible for federal airport funding. Current NPIAS information is summarized below.

	Hub Type	R	ole	Year 5	2000 2012	
Airport		Current	Year 5	Based Aircraft	Development Cost	
Minnesota						
Buffalo		GA	GA	50	\$ 2,229,150	
Cambridge		GA	GA	47	\$ 1,185,000	
Faribault		GA	GA	75	\$ 3,023,579	
Le Sueur		GA	GA	57	\$ 893,140	
Princeton		GA	GA	45	\$ 5,499,763	
Red Wing		GA	GA	57	\$ 1,189,334	
Rush City		GA	GA	41	\$ 6,288,266	
St. Cloud		Р	Ρ	109	\$ 17,765,111	
Winsted		GA	GA	33	\$ 2,299,000	
Airlake		Reliever	Reliever	165	\$ 1,450,000	
Anoka CoBlaine		Reliever	Reliever	494	\$ 14,110,000	
Crystal		Reliever	Reliever	288	\$ 7,940,000	
Flying Cloud		Reliever	Reliever	491	\$ 72,750,655	
MSP International	Large	Р	Р	162	\$278,179,926	
Lake Elmo		Reliever	Reliever	249	\$ 19,345,000	
St. Paul Downtown		Reliever	Reliever	125	\$ 8,196,529	
So. St. Paul		Reliever	Reliever	218	\$ 3,000,300	
Wisconsin						
New Richmond		GA	GA	221	\$ 1,267,895	
Osceola		GA	GA	69	\$ 3,647,308	

Table J-1: Current NPIAS
Other airports, in addition to those in the National Plan of Integrated Airports (NPIAS), are part of the Minnesota state airport system plan (SASP) as depicted in Figure J-3. Several near-by airports in adjacent states are included to indicate where some Minnesota communities may access air service. Some of the ambiguities between the state and metro system designations are based upon state-wide requirements and laws and rules that apply only to the metro area; thus, the metro airport classifications are depicted on the map as a separate group without classification. It should especially be noted that this map legend includes a new state class of Special Purpose airports designed specifically to provide facilities for use by the new federally-created category of light sport aircraft. It should be noted that the Special purpose terminology is the same used in the metro classification; however, the state definition is primarily for licensing of runways < 1,000 ft long, while the metro definition is primarily for planning at airports and airstrips with runway lengths generally up to 2,500 ft long and also includes heliports and seaplane facilities.

The existing regional airport system plan (RASP) for the metropolitan area is depicted in Figure J-4; it identifies key parts of the system involving the hub airport, reliever airports, and special purpose facilities. Changes to the system designations involves the City of Forest Lake airport designated a Minor system airport. The other change involves removing General Aviation Search Area (A) in Hennepin County. No public-owned airports exist or are proposed in either Scott or Carver Counties.



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Service Areas and Access

Accessibility, both by air and ground, is important to efficient use of air-transportation. Overall growth, at both the national and regional level, is expected to continue fueling future travel demand and increase current levels of commercial airport and urban roadway congestion. Total trip times for air transportation has increased over the past decade due to peak hour capacity issues on runways and roads, increased overall use of each system on a daily and annual basis, and increased security demands at the airports and for aircraft operations. The U.S. urban land use pattern is now more spread out, with jobs increasingly dispersed throughout the region. The regional system of airports should reflect the trends in long-term urban development, population and employment patterns.

Regional Growth Management & Airport Service Areas

Population growth and land use development provide both constraints and opportunities. The regional growth management plan, in coordination with local communities, defines when and where the growth is likely to occur, including type and density of development. A tool for alignment of the aviation system with the Development Framework is the use of airport service areas to relate regional and aviation forecasts and plans. Airport service areas have been identified for the Major, Intermediate and Minor system airports; they are used to reflect current forecast demand, at a regional and sub-regional level, for the 2030 planning horizon. The functional roles of the airports, and how the system is operated, results in types of service capabilities that are almost mutually exclusive between the different classes of airports.

There are two types of criteria used in the aviation policy plan to define airport service areas; one reflects air access to local destinations from the particular airport for itinerant aircraft users, and the other reflects local ground access by based-aircraft users from their home or work locations to their preferred airport, or others using MSP air services. The service areas defined by ground access users are identified by surface travel times on the future 2030 highway system.

The service area for MSP International Airport reflects the fact that it is the region's only Major airport and provides service to many different types of air-service providers, and different user groups accessing the airport by multimodal surface transportation. Predominant users of the airport can be grouped as follows:

- airline passengers, arriving by personal auto, and they originate their trips in all travel time zones,
- other users, are also characteristic within different travel zones for MSP:
 - within the 15 minute zone for example, a typical user group would be hotel courtesy vehicles and parking shuttle services,
 - within the 30 minute zone would be transit bus, shuttles, taxis and light rail transit,
 - within the 45 minute zone would be rental vehicles,
 - the 60 minute zone is the MSP primary service area within which most of the personal auto access is captured,
 - from 60 to 90 minutes there is a combination of personal auto and for-hire access,
 - within and beyond the 90 minute travel time there is an increase in the for-hire user group.

General ground access indicates service potential; it does not necessarily indicate where passenger, cargo or airline/airport employees origins and destinations occur. Over time cargo users and employees may tend to gravitate to certain areas around the airport, but many passengers will still tend to come from all over the greater metro region. Each of these groups will experience different levels of congestion and bottlenecks on their way to the airport. A separate O/D analysis is long overdue to identify IRCs and other road, turn lane, signal, bridge, signage, or transit links important to the total air trip travel time, and therefore important to be recognized in the TIP. Total trip time for air transportation is important as a cost factor to the region's economy and competitiveness. Multimodal access, at least within certain distances/ links to the airport, should be part of an optimized transportation system.

The performance measure used in the NPIAS for access and location of airports at the national level uses a 60 minute criteria for scheduled air service airports, and 30 minutes for general aviation airports. In urban areas the 30 minute criteria is also interpreted as approximately 20 minutes driving time. Figure K-1 depicts the 60 minute threshold defining the MSP 2030 primary travel shed; also depicted is the combined 30 minute travel shed for the system reliever airports. A large portion of the central MUSA area is not within the access area of a reliever airport; developing portions of Scott County and the Lake Minnetonka area are also further removed. MSP access is less to the north and west due to higher density development and congestion.

Metro Collar County Airport Service Areas

Airport role and function reflect the airport's location, airspace in relation to other airports, and navigational/landing aids. Figure K-2 depicts the 60 minute service area for the St. Cloud airport and a combined 30 minute service area for all the remaining public airports in the collar counties. Most of the metro airports [generally] have higher capabilities and levels of service than adjacent-county airports, and are generally expected to retain or attract users from further away.

These service areas can obviously be enlarged or decreased by changes in facility capabilities, system role, or changes in costs and service levels. For example: Forest Lake airport in northern Washington County is expected to have an increased presence in the system through a role change from Special Purpose, to Minor airport; White Bear Lake airstrip, formerly a private airport [Benson's] but now publically owned, located in Ramsey County may by legal agreement be closed in 2036. The airport at River Falls, in Pierce County-WI was closed to allow development of a new high school - its service area has disappeared from the map. Some of the system airports are essentially being built-out (e.g. Crystal and So. St. Paul), and from a prospective users viewpoint, looking to base their aircraft, those facilities are limited. Until recently, most metro airports have had hangar waiting lists.

Special Purpose Airports Service Areas

A few facilities in the metro area and collar county area have privately-owned, public-use airports that are included in the SASP and RASP as depicted in Figure K-3. Some of these facilities may eventually transition into the national plan of integrated airports (NPIAS) and become eligible for federal airport improvement program funding. This category of airport is not only distinguished by type of ownership, but is usually characterized by turf runways. The category also includes seaplane bases and heliport sites. The Stanton airport is primarily used by glider enthusiasts, and the Forest Lake airport is pursuing construction of a paved runway in order to fulfill its new role as a Minor system facility. The users at these facilities are in general low-time fliers, and as urban development encroaches on private, personal-use airstrips these special purpose facilities may be attractive for relocation due to lower costs than public owned airports.







Appendix L: Regional Airspace

All of the open sky covering the United States, from less than an inch off the ground all the way to outer space, is part of America's airspace. This airspace resource is recognized in both the Minnesota state airports system plan (SASP) and the Minneapolis-St. Paul Metropolitan regional aviation system plan (RASP). All of this airspace is divided into several standardized types ranging from A through G, with A being the most restricted and G the least restrictive as depicted in Figure L-1.

Coordination and proper planning are required to make efficient and safe use of the airspace between the different classes of airports and air-transportation users. At lower altitudes this airspace is shared with the nation's communications industry and others that requires airport and airways protection from potential obstructions to air navigation, or activities that disrupt aviation communications and navigation/landing aids. Each type of airspace has its own required level of air traffic control services and its own minimum requirements for pilot qualifications, aircraft equipment, and weather conditions. In addition, there is other airspace reserved for special purposes called special use airspace (SUA).

Within the U.S., airspace is classified as either controlled or uncontrolled. Controlled airspace will have specific defined dimensions (e.g. altitude ranges or vertical boundaries, and an applicable surface area or horizontal boundaries). Within controlled airspace air traffic control (ATC) services are provided to all pilots operating under instrument flight rules (IFR), because they are flying solely by reference to instrument indicators. The services are also provide to some pilots operating under visual flight rules (VFR) even though they are using points on the ground to navigate.

Class A airspace covers the entire U.S. at altitudes between 18,000 and 60,000 feet mean sea level (msl). All jet routes are in this airspace that is used primarily by jets and airliners traveling over long distances between major cities. Air traffic in this airspace operates under IFR rules and must maintain radio contact with enroute ATC. As aircraft transition from a jetway route to lower altitudes they are handed off to a specific destination airport's ATC. In most cases they will be arriving to an airport with an air traffic control tower (ATCT) that is surrounded by a Class B, C, or D airspace.

Class B airspace surrounds the nation's busiest airports, such as Minneapolis-St. Paul International Airport (MSP) as depicted in Figure L-2. This airspace extends from the surface to 10,000 feet and out to 30 nautical miles and is structured like an upside-down wedding cake. This structure and associated operating procedures helps separate the larger high-performance airline traffic arrivals and departures from the smaller and usually slower general aviation traffic operating at the reliever and local airports. At the outer limits of the Class B airspace, from the surface to 10,000 feet MSL at MSP, there is a Mode-C Veil. This is an imaginary vertical surface that delineates where an aircraft must have a Mode-C transponder so ATC can track their flight. VFR transition routes are specific designated flight paths used by ATC to route VFR traffic through Class B airspace. VFR flyways are general flight paths through low altitudes for general aviation to fly from one ground-based radio beacon to another across the U.S. It helps pilots

plan flights into, out of, through, or near complex Class B terminal airspace, especially where IFR routes occur. (Note: minor redesign of the 2006 Class B airspace is being evaluated and revisions may occur in the 2010/2011 time period).

Class C airspace extends from the surface to 4,000 feet above ground level (AGL) for a 20 nautical mile distance from the airport. This airspace surrounds other busy airports that have radar services for arriving and departing aircraft. No Class C airport airspace is designated in the Twin Cities metro area airspace.

Class D airspace surrounds airports with operating air traffic control towers and weather reporting services. This airspace extends from the surface to 2,500 feet AGL within 4.3 nautical miles (5 statute miles) of the airport. In the metro area the Anoka County-Blaine, Crystal, Flying Cloud and St. Paul Downtown Airports have a Class D airspace designation. These airports have part-time ATCT and their airspace reverts to Class E airspace areas when the towers are not in operation.

Class E airspace includes all other controlled airspace in the U.S. that is not designated as class A, B, C, D or G. This airspace extends to 18,000 feet MSL from various altitudes and can be extended to the surface. Class E airspace also surrounds airports with weather reporting services in support of IFR operations, but no operating control tower. In the Twin Cities area the Airlake Airport is such a facility.

Class F designated airspace is not used in the U.S.

Class G airspace is uncontrolled; it includes all airspace in the U.S. not classified as Class A, B, C, D, or E. No ATC services are provided and the only requirement for flight is certain visibility and cloud clearance minimums. Most of the airspace below 1,200 feet AGL is Class G airspace.

Special Conservation Area includes airspace surrounding national parks and wildlife refuges. In the Twin Cities region the St. Croix National and Scenic Wild River is such an area and pilots are requested to maintain a minimum altitude of 2,000 feet AGL whenever possible. One objective is to avoid bird strikes and another is to minimize noise intrusion on wildlife and quietude for user experience in protected natural settings.

Special Use Airspace is where aeronautical activity must be limited, usually because of military use or national security concerns, and includes the following areas: (Note: None of these limited airspace use area occur within the Twin Cities region).

- Prohibited areas (e.g. Camp David)
- Restricted areas (military activities including Controlled Firing Areas)
- Warning Areas (extends outward from 3 nm off the coast).
- Military Operations Areas (MOA established for military training activities)
- Alert Areas (e.g. established for areas with a high volume of pilot training)

Other Airspace Areas are designated usually as temporary limitations for specific events and include:

- Airport Advisory Areas
- Military Training Routes (MTRs)
- National Security Area (NSA)
- Temporary Flight Restrictions (TFRs)

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Figure L-1: National Airspace Classification



Source: FAA and HNTB Corporation

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Appendix M: Land Use Compatibility Guidelines

Land Use Compatibility Guidelines for Aircraft Noise

The regional, *Land Use Compatibility Guidelines for Aircraft Noise* have been prepared to assist communities in preventive and corrective mitigation efforts that focus on compatible land use. The compatibility guidelines are one of several aviation system elements to be addressed in the comprehensive plans and plan amendments of communities affected by aircraft and facility operational impacts. The Metropolitan Land Planning Act (MLPA), requires all local governmental units to prepare a comprehensive plan for submittal to the Metropolitan Council for review; updated plans were due December 2008. The new plans reflect the 2003 *Development Framework*, and the 2005 *Metro Systems Statements*. The following overall process and schedule applies:

- In 2011, after adoption of the new 2030 Transportation Policy Plan, the Council transmits new Systems Statements to each metro community.
- Within nine months after receipt of the *Systems Statements* each community reviews its comprehensive plan and determines if a plan amendment is needed to ensure consistency with the MDG. If an amendment is needed the community prepares a plan amendment and submits it to the Council for review.
- Each community affected by aircraft noise and airport owner jointly prepare a noise program to reduce, prevent or mitigate aircraft noise impacts on land uses that are incompatible with the guidelines; both operational and land use measures should be evaluated. Communities should assess their noise impact areas and include a noise program in their 2018 comprehensive plan update.
- Owners/Operators of system airports should include their part of the noise program in preparation or update of each airports long-term comprehensive plan (LTCP). See Table M-1 for listing of noise impacted communities.
- Council reviews community plan submittal and approves, or requires a plan modification.
- Airport owner submits long-term comprehensive airport plan or plan update (LTCP), for Council review and approval. A schedule for updates of LTCP's is included in the *Transportation Policy Plan*.



Airport Noise

The airport section of the land use compatibility guidelines assume:

- Federal and Manufactures programs for reduction of noise at its source (engines, airframes),
- · Airport operational noise abatement measures/plan in place,
- Community comprehensive plans reflect compatible land use efforts occurring through land acquisition, "preventive" land use measures, or "corrective" land use measures,
- Availability of a Council noise policy area map (from most recently approved LTCP) for the facility under consideration. The noise exposure maps identify where, geographically, the land use compatibility guidelines are to be applied.

Preventive and Corrective Land Use Measures

Airport noise programs, and the application of land use compatibility guidelines for aircraft noise, are developed within the context of both local community comprehensive plans, and individual airport long-term comprehensive plans (LTCPs). Both the airport and community plans should be structured around an overall scheme of preventive and corrective measures. Table M-2 depicts the current land use measures adopted in conjunction with development of the MSP Part 150 noise compatibility program.

The status of noise programs at other system airports, in relation to the land use measures adopted at MSP, are also included to indicate the extent of the current noise control effort on a system-wide basis. Other land use measures may also need to be considered at other system airports. The level and extent of noise impacts vary widely between the airports and therefore not all land use measures may be appropriate or the level of emphasis may need to be different for neighborhoods within the same community.

Airport	Community
MSP International*	Minneapolis, Bloomington, Richfield, Mendota Heights, Mendota, Eagan, Burnsville
St. Paul Downtown	St. Paul
Anoka County – Blaine	Blaine
Flying Cloud	Eden Prairie
Crystal	Crystal
Airlake	Eureka Twp., Lakeville
South St. Paul	So. St. Paul, Inver Grove Heights
Lake Elmo	Baytown, West Lakeland, Lake Elmo
* As defined under MS 473.62	21, Sd. 6.

Table M-1: Noise Impacted Communities

PREVENTIVE LAND USE MEASURES			CORRECTIVE LAND USE MEASURES				
	MSP Int'l	Other Regional		MSP Int'l	Other Regional		
	Airport	Airport		Airport	Airport		
	Communities	Communities		Communities	Communities		
Amend local land use plans to bring them into conformance with regional land use compatibility guidelines for aircraft noise.	YES	YES	Acquire developed property within RPZs within runway safety zones within DNL 70.	YES YES YES	YES FCM & STP Airports.		
Apply zoning performance standards.	YES	YES	Part –150 sound insulation	YES	NO		
Establish a public information program.	[YES] Policy Plan	[YES] Policy Plan	program.	criteria)	NO		
Revise building code.	YES MS 473.192	YES MS 473.192	Property purchase guarantee.	NO (Not supported by communities)	NO		
Fair property disclosure policy.	[YES] Usually applied by developer or builder.	[YES] Usually applied by developer or builder.	Creation of sound barriers walls berms	YES YES	[YES] Proposed in the FCM & ANE		
Dedication of avigation easements.	YES	YES	ground runup enclosures	YES			
Transfer of development rights.	NO	NO					
Land banking (acquisition of undeveloped property)	NO	NO					

Table M-2: Current Land Use Measures

The compatibility guidelines indicate that some uses be "Discouraged". Prior to applying the guidelines the comprehensive plan or plan amendment needs to assess what has been or can be done to discourage noise sensitive uses. This should be done when the overall preventive and corrective land use measures are being assessed as part of the overall comprehensive plan. The land use compatibility guidelines (contained in Table M-4) are defined and described below. All new land uses are categorized according to whether they are considered new/major redevelopment or new/in-fill/redevelopment.

The land uses are listed in Table M-4 as specific categories grouped to reflect similar general noise attenuation properties and what the normally associated indoor and outdoor use activities are. The listing is ranked from most to least sensitive uses in reference to the aircraft noise spectrum. In Table M-6 there is an additional breakdown of the land uses in each category based upon the acoustic properties of typical land uses by the standard land use coding manual (SLUCUM). The Council has prepared a *Builders Guide* to assist in determining acoustic attenuation of proposed new single-family detached housing, which is discouraged, but may be allowed by communities in zone 4 and the buffer zone.

New Development: Major Redevelopment - or - Infill/Reconstruction

"New Development" - means a relatively large, undeveloped tract of land proposed for development. For example, a residential subdivision, industrial park, or shopping center.

"Major Redevelopment" - means a relatively large parcel of land with old structures proposed for extensive rehabilitation or demolition and different uses. For example, demolition of an entire block of old office or hotel buildings for new housing, office, commercial uses; conversion of warehouse to office and commercial uses.

"Infill Development" - pertains to an undeveloped parcel or parcels of land proposed for development, similar to or less noise-sensitive than the developed parcels surrounding it. For example, a new house on a vacant lot in a residential neighborhood, or a new industry on a vacant parcel in an established industrial area.

"Reconstruction or Additions to Existing Structures" - pertains to replacing a structure destroyed by fire, age, etc., to accommodate the same use that existed before destruction, or expanding a structure to accommodate increased demand for existing use (for example, rebuilding and modernizing an old hotel, or adding a room to a house). Decks, patios and swimming pools are considered allowable uses in all cases.

Definition of Compatible Land Use

The four land use ratings in land use compatibility Table M-4 are explained as follows:

COMP - "Compatible" - uses that are acoustically acceptable for both indoors and outdoors.

PROV - "Provisional" - uses that should be discouraged if at all feasible; if allowed, must meet certain structural performance standards to be acceptable according to MS473.192 (metropolitan area Aircraft Noise Attenuation Act). Structures built after December 1983 shall be acoustically constructed so as to

achieve the interior sound levels described in Table M-3. Each local governmental unit having land within the airport noise zones is responsible for implementing and enforcing the structure performance standards in its jurisdiction.

COND - "Conditional" - uses that should be strongly discouraged; if allowed, must meet the structural performance standards, and requires a comprehensive plan amendment for review of the project under the factors described in Table M-6.

INCO - "Incompatible" - Land uses that are not acceptable even if acoustical treatment were incorporated in the structure and outside uses restricted.

Noise Policy Area

A noise policy area is defined for each system airport and includes - aircraft noise exposure zones; a [optional] buffer zone; and, the preventive and corrective land use measures that apply to that facility.

Noise Exposure Zones:

Zone 1 - Occurs on and immediately adjacent to the airport property. Existing and projected noise intensity in the zone is severe and permanent. It is an area affected by frequent landings and takeoffs and subjected to aircraft noise greater than 75 DNL. Proximity of the airfield operating area, particularly runway thresholds, reduces the probability of relief resulting from changes in the operating characteristics of either the aircraft or the airport. Only new, non-sensitive, land uses should be considered - in addition to preventing future noise problems the severely noise-impacted areas should be fully evaluated to determine alternative land use strategies including eventual changes in existing land uses.

Zone 2 - Noise impacts are generally sustained, especially close to runway ends. Noise levels are in the 70 to 74 DNL range. Based upon proximity to the airfield the seriousness of the noise exposure routinely interferes with sleep and speech activity. The noise intensity in this area is generally serious and continuing. New development should be limited to uses that have been constructed to achieve certain exterior-to-interior noise attenuation and that discourage certain outdoor uses.

Zone 3 - Noise impacts can be categorized as sustaining. Noise levels are in the 65 to 69 DNL range. In addition to the intensity of the noise, location of buildings receiving the noise must also be fully considered. Aircraft and runway use operational changes can provide some relief for certain uses in this area. Residential development may be acceptable if it is located outside areas exposed to frequent landings and takeoffs, is constructed to achieve certain exterior-to-interior noise attenuation, and is restrictive as to outdoor use. Certain medical and educational facilities that involve permanent lodging and outdoor use should be discouraged.

Zone 4 - Defined as a transitional area where noise exposure might be considered moderate. Noise levels are in the 60-64DNL range. The area is considered transitional since potential changes in airport and aircraft operating procedures could lower or raise noise levels. Development in this area can benefit from insulation levels above typical new construction standards in Minnesota, but insulation cannot eliminate outdoor noise problems.

Noise Buffer Zones - Additional area that can be protected at option of the affected community; generally, the buffer zone becomes an extension of noise zone 4. At MSP, a one-mile buffer zone beyond the DNL60 has been established to address the range of variability in noise impact, by allowing implementation of additional local noise mitigation efforts. A buffer zone, out to DNL 55, is optional at those reliever airports with noise policy areas outside the MUSA.

Land Use	Interior Sound Level **
Residential	45dba
Educational/Medical	45dba
Cultural/Entertainment/Recreational	50dba ***
Office/Commercial/Retail	50dba
Services	50dba
Industrial/Communications/Utility	60dba
Agricultural Land/Water Area/ Resource Extraction	60dba
* Do not apply to buildings, accessory buildings, or p	portions of buildings
that are not normally occupied by people.	
** The federal DNL descriptor is used to delineate a	ll the system airport
noise policy zones.	
*** Special attention is required for certain noise ser	nsitive uses, for
example, concert halls.	

Table M-3: Structure Performance Standards*

Table M-4: Land Use Compatibility Guidelines for Aircraft Noise

		Compatibility with Aircraft Noise Levels									
	Type of Development		New Development and Major Redevelopment				Infill Development and Reconstruction or Additions to Existing Structures				
	Noise Exposure Zones	1 DNI	2 DNI	3 DNI	4 DNI	Buffer	1 DNI	2 DNI	3 DNI	4 DNI	Buffer
Land Use Cate	gory	75+	74-70	69-65	64-60	Zone*	75+	74-70	69-65	64-60	Zone*
Residential											
Single / Mult	iplex with Individual Entrance	INCO	INCO	INCO	INCO		COND	COND	COND	COND	
Multiplex / A	partment with Shared Entrance	INCO	INCO	COND	PROV		COND	COND	PROV	PROV	
Mobile Hom	е	INCO	INCO	INCO	COND		COND	COND	COND	COND	
Educational, Med Nursing Homes	ical, Schools, Churches, Hospitals,	INCO	INCO	INCO	COND		COND	COND	COND	PROV	
Cultural / Entertai	nment/Recreational										
Indoor		COND	COND	COND	PROV		COND	COND	COND	PROV	
Outdoor		COND	COND	COND	COND		COND	COND	COND	COMP	
Office / Commerc	ial/Retail	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Services											
Transportatio	on-Passenger Facilities	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Transient Lo	dging	INCO	COND	PROV	PROV		COND	COND	PROV	PROV	
Other medic	al, Health & Educational Services	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Other Servic	ces	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Industrial/Commu	inication / Utility	PROV	COMP	COMP	COMP		PROV	COMP	COMP	COMP	
Agriculture Land/	Water Areas / Resource Extraction	COMP	COMP	COMP	COMP		COMP	COMP	COMP	COMP	

NOTE: COMP = Compatible; PROV = Provisional; COND = Conditional; INCO = Incompatible

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Table M-5: Conditional Land Use Review Factors

	Residential:		Education / Medical	Cultural / Entertainment / Recreational		Office /	
Land Use Review Factor	Single, Multiplex with Individual Entrance, Mobile Home	Multiplex/ Apartment, with Shared Entrance	Schools, Churches, Hospitals, and Nursing Homes	Indoor	Outdoor	Commercial / Retail	Services
1. Indoor Sound level: Proposed construction design will provide outdoor to indoor attenuation required by structure performance stan- dard in Table M-3.	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible
2. Location: Located under major departure flight track used by jets.	Incompatible *	Compatible	Incompatible	Compatible	Compatible	Compatible	Compatible
3. Location: Located parallel to primary runway used by jets.	Incompatible	Incompatible	Incompatible	Incompatible	Incompatible	Incompatible	Depends upon pro- posed use.
4. Location: Located parallel to runway to be used for unshielded engine run-ups.	Incompatible	Compatible	Incompatible	Compatible	Probably Incompatible, depends upon proposed use.	Compatible	Compatible
5. Planning Considerations: Consistent with adjacent land use ambi- ent noise; consistent with the overall comprehensive plan.	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible
6. Method of Disclosure: Local government has adopted effec- tive method to inform future occupants of aircraft noise exposure (notice in property deed, truth in housing, infor- mational bulletin, and permit notice).	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible
* Incompatible for new development: compati	ble for redevelopmen	t & infill development	if the municipality de	termines that Fac	tor 5 is satisfied o	& Factors 1 & 6 will k	e enforced

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Table M-6: Typical Land Use by Standard Land Use Coding Manual Codes (SLUCM)

TYPE OF LAND USE	CODE NUMBERS AND SPECIFIC USES					
Residential						
	11	Household units				
	11.11	Single units - detached				
Single/Multiplex with Individual	11.12	Single units - semi detached				
Entrance	11.13	Single units - attached row				
	11.21	Two units - side-by-side				
	11.22	Two units - one above the other				
	11.31	Apartments - walk-up				
Multiplex/Apartment with Shared Entrance	11.32	Apartments - elevator				
	12	Group quarters				
	13	Residential hotels				
	14	Mobile home parks or courts				
Educational Services						
	65.1	Hospital				
Educational and Medical, Schools,	68	Nursing homes				
Churches, Nursing Homes	69.1	Religious activities				
	71	Cultural activities (including churches)				
Cultural, Entertainment, Recreational						
Indoor	72	Public assembly				
IIIdool	72.1	Auditoriums, concert halls				
	74	Recreational activities (golf courses, riding stables, water recreation)				
Outdoor	75	Resorts and group camps				
	76	Parks				

Office, Commercial, Retail Services		
	52	Retail trade - building materials, hardware and farm equipment
	53	Retail trade - general merchandise
	54	Retail trade - food
	55	Retail trade - automotive, marine craft, aircraft and accessories
	56	Retail trade - apparel and accessories
	57	Retail trade - furniture, home furnishings, and equipment
	58	Retail trade - eating and drinking establishments
	59	Other retail trade

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Table M-6: Typical Land Use by Standard Land Use Coding Manual Codes (SLUCM)

TYPE OF LAND USE	CODE NUMBERS AND SPECIFIC USES						
Other Medical, Health, Educational Services							
	60	Services					
	61	Finance, insurance and real estate services					
	62	Personal services					
	63	Business services					
	64 Repair services						
	65	Professional services					
	25	Professional, scientific and controlling instruments; photographic and optical					
	55	goods; watches and clocks manufacturing					
Transportation Passenger Facilities	40	Transportation, communication and utilities					
Transient Lodging	15	Transient lodging					

Noise Policy Area Contours

This section of the land use compatibility guidelines for aircraft noise contains maps depicting the latest noise information being used to define the noise policy areas for each system airport. The noise policy area is established as part of the [latest] LTCP reviewed and approved by the Council. The new noise policy area identifies the geographical area where the noise compatibility guidelines are to be applied, and replaces the previous TPP noise contours. The currently approved LTCP noise contours and associated planning time period for each system airport are identified in the following pages. The compatibility guidelines allow for use of noise buffer zones around an airport at the discretion of the affected community; application of buffer zones will be addressed through the systems statement process.

For additional noise related information refer to the individual airport LTCP for noise modeling and operational documentation, the Council's *Local Planning Handbook* for communities and the *Builder's Guide* for acoustic requirements concerning construction of new single-family detached housing in noise policy areas.

















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SOUTH SAINT PAUL MUNICIPAL AIRPORT

The South Saint Paul Municipal Airport is currently operating at an annual level of aircraft takeoffs and landings that is similar to Crystal and Airlake Airport activity and aircraft fleet mix. An up-to-date noise modeled contour is currently not available for this facility. It is assumed that similar to the Airlake Airport conditions that the DNL 65 noise contour is essentially all located on-airport, and that some portions of the DNL 60 contour extends into adjacent land uses. The airport is completely encroached by urban development and preventive noise mitigation measures have limited application at this time. Much of the noise impact area likely falls within established single-family residential areas of both So. St. Paul and Inver Grove Heights. Corrective noise mitigation measures are also not being applied in these areas since neither city has identified any parcels for land use re-development in its community comprehensive plan update in 2018 the city should work with Mn/DOT and the Council to prepare a LTCP, including aircraft noise analysis and evaluation of land uses based upon the compatibility guidelines for aircraft noise as defined in the TPP.

FOREST LAKE AIRPORT

The Forest Lake Airport is part of the state and regional airport system, but not a part of the NPIAS, and does not have a LTCP- developed aircraft noise policy area established at this time. The Council has reviewed the community comprehensive plan update and the airport area AUAR for land use compatibility and land acquisition purposes. The level of air traffic at this facility is sufficiently low that aircraft noise is currently not sufficient to warrant any corrective land use measures. In its transition from private to public ownership adequate land use planning for safety and noise has been considered. The airport role has been changed from Special Purpose status to a Minor general aviation airport and intention to apply for NPIAS status and paving of the existing turf runway. Prior to the community comprehensive plan update in 2018 the city should work with Mn/DOT and the Council to prepare a LTCP sufficient to identify forecast levels of activity that would require potential land use changes to maintain or improve compatibility with adjacent land uses base upon the land use compatibility guidelines for aircraft noise as defined in the TPP.

Appendix N: 2010 System Airport Assessments

An airport capability assessment is prepared for each facility in the regional system. The assessment sheet functions like a report card, providing a quick summary of the airport's condition. A 10-year retrospective look is included to show what progress has been made or where challenges/opportunities still remain. Capability in future years is predicated on implementation of facility long-term comprehensive plans (LTCP's) to meet forecasted demand for short, medium, and long-term planning horizons.

Each assessment is based upon the latest available airport development plan, environmental evaluation, capital improvement program, airport layout plan, Mn/DOT, MAC and FAA data/information. A number of general system evaluation criteria categories are used in the report card that identify various items monitored in the planning process. Each system evaluation criterion is determined to be, within a particular timeframe, as being (S) Satisfactory, (Q) Questionable, (U) Unsatisfactory, or (?) an unknown quantity. A definition of the assessment marks is as follows:

Satisfactory (S)	The particular element meets policy, planning, development, design/
	performance, and regulatory requirements.
Questionable (Q)	Not all parts of the element meet requirements.

- Unsatisfactory (U) Element does not meet minimum thresholds.
 - Unknown (?) The element has not been adequately documented, or included in the aviation planning process.

	Airport							
System Evaluation Criterion	Status in [Prior 10 Yrs]	Current Status [Year]	Forecast Status Short-Term [Year]	Forecast Status Medium-Term [Year]	Forecast Status Long-Term [Year]			
Airside – Capacity vs Demand	?	U	U	Q	S			
Landside – Capacity vs Demand								
Ground Accessibility								
Environmental Compatibility								
Infrastructure – Utilities								
Safety								
Air Service								
Economic Impact								
Fiscal								
S – Satisfactory Q – Questionable	U – Unsatisfacto	ory ? – Unknowr	1					

Sample Report Card Layout

All criterion are included for consistency in each report card; however, a particular part of an element may not be included, or the scope can vary depending upon whether the airport is classified as a Major airport (airline service), an Intermediate airport (corporate business), Minor airport (small business, training, and recreational), or a Special Use facility that is primarily for recreational users.

Definitions of System Evaluation Criterion

Airside – Capacity vs Demand: Comparison of the annual service volume (ASV) the airfield can accommodate with the number of operations counted, estimated or forecast. This element involves the type, number, orientation of the runway system, includes runway holding pads, and taxiways. It reflects the aircraft fleet mix, operational and instrumentation considerations.

Landside- Capacity vs Demand: Comparison of the number of gates and hangar spaces available with the number estimated or forecast. This element includes aircraft parking aprons/areas, passenger terminals and hangar building areas.

Ground Accessibility: Adequacy of highway access and parking for airport employees and users, including transit (both rubber tire and rail) if applicable. This element includes all types of roads immediately adjacent to the airport providing direct connection to the local or regional road system; it also includes all those roads within its service area that provide direct connections to the regional road system. Both surface and structure parking facilities are included, along with transit stations.

Environmental Compatibility: Includes planned land use and existing land use determined incompatible with aircraft noise in the approved community comprehensive plan; wetland issues, surface and groundwater issues, and air quality issues. This element involves adoption of guidelines, implementation of pollution prevention programs, mitigation programs, permits and regulatory requirements of other governmental units.

Infrastructure and Utilities: Airport and community plans provide appropriate levels of service and protection for sewer, water, fire and security, and utilities. This element involves provision of adequate public and private infrastructure and services to airport users, commensurate with airport development/operational needs, and consistent with environmental requirements.

Safety: Adherence to FAA Part 77 airspace surfaces, Mn/DOT airspace zoning and runway safety zoning. This element involves protection of airport-area airspace including runway approach zones, airport zoning reflecting both federal and state requirements. It not only addresses height and land use, but also visual or electronic interference to airport and aircraft operations. Region-wide airspace and navigation issues are addressed elsewhere in the TPP.

Air Service: Adequacy of the airport facilities to provide the air-service access designated for its system role and function (airline, regional, charter, air-taxi, corporate/business, general aviation, air cargo, mili-tary and/or personal use and recreational).

Economic Impact: Impact on the region including direct and indirect effects. Established economic plan. **Fiscal:** Ability of airport owner to provide funding for needed improvements and long-term operation and maintenance.

Regional System Airports

Major Airport - Minneapolis-St. Paul International Airport

	Minneapolis-St. Paul International Airport							
System Evaluation Criteria	Status in 2000	Status in 2010	2015 Forecast vs. LTCP	2020 Forecast vs. LTCP	2030 Forecast vs. LTCP			
Airside – capacity vs. demand	U	S	S	Q Pk. Hr. Issues, NextGen projects and ground control status, Twy's	Q Crossover Twy. End around Twy. Rwy capacity			
Landside – capacity vs. demand	Q	Q	Q Agreements	Q Gate #'s, Gate siz	ing, Gate use issues			
Ground accessibility	Q	Q	S I-494/34th Avenue So.	Q Funding Parking & Term.2 Rds.	Q Post Rd./TH55 Glumack Dr./TH55			
Environmental compatibility	Q	Q	S Complete Mit. Prog. NPDES permits	Q Depends on # Ops' & Part 150	Q Depend on # Ops' & nighttime ops'			
Infrastructure and Utilities	S	S	S	Q Depends on STAR	Q Depends on Hub Ops' & Fueling			
Safety	Q	Q	S ANOMS upgrades imp's Radar shadow- ing	Q Ops' & NextGen in place	Q Depends upon Ops' & NextGen thru-put			
Air service	Q	Q Small Cities	S Connections	Q Econ & Fcsts'	Q Delay Costs			
Economic impact	S	Q Mergers	Q U.S. economy	Q Hub Status	S Enpl. #'s			
Fiscal	S	Q Revenues	Q PFCs,	Q Debt	Q Funding			
S-Satisfactory Q-Questionable	U–Unsati	sfactory ?U	nknown					

Status in 2000 – Many of the problems identified in 1990 were examined in development of the MSP 2010 LTCP. In 1996 the Minnesota Legislature approved Council and MAC dual-track recommendations to provide major airport capacity by expanding MSP. Additional detailed evaluations of the MSP LTCP

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were conducted in preparing the Plan's Environmental Impact Statement (EIS).

Various mitigation efforts and capital improvement projects were initiated throughout the 1990s, and several problem areas were improved; others are still in process. Generally, overall progress was made in each category. The improvements were adequate through 2010. The FAA indicated a continued strong growth in air traffic and the MSP EIS adopted the 1993 high range forecasts for 2010/2020. The Council completed a review of the 1993 forecasts and a joint agency effort to prepare new forecasts was initiated for the 2000 system update.

Status in 2010 – Economic recession and the 9-11 terrorist attacks significantly changed the outlook from the 2000, historical high, air traffic activity. Because of economic conditions completion of the new runway 17/35 was delayed until Oct. of 2005. Activity in passenger traffic and operations have decreased from the historical high. A legal settlement in the noise mitigation program extends residential mitigation to the DNL 60 noise contour with completion in 2014.

A 2015 Terminal Expansion Draft EA was prepared for initiation of a first phase of gate expansion at MSP but was put on hold due to airline industry economic conditions. As part of the 2015 EA the 2020 Concept Plan for future development, adopted as part of the Dual track planning process, was dropped as a planning option. Northwest airlines went into Chapter 11 Bankruptcy in 2005, reorganized and exited in May 2007; other airlines serving MSP were also in bankruptcy proceedings. Since that time fuel costs have increased substantially, and Northwest, including its subsidiaries, merged with Delta Airlines at the end of 2008.

All airlines are cutting back on the number of flights, parking older inefficient aircraft, and laying off personnel. A number of airlines have recently gone out of business and there are concerns of liquidity for several large domestic carriers to remain solvent; United and Continental have recently agreed to merge. New parking facilities were completed since demand is still high and they provide an important source of revenue. Fuel costs are tied to the low value of the U.S. currency, political instability in oil-producing/refining areas, and poor overall economic conditions.

Of MSP- based airlines, Mesaba Airlines was acquired by NWA and a new wholly-owned subsidiary, Compass Airlines, was created; both were subsequently sold by Delta, Champion Air charter operator has gone out of business, and Sun Country is out of bankruptcy. Aircraft maintenance work is increasingly outsourced and NWA/Delta merged headquarters is located in Atlanta. The MAC has the 2030 LTCP Update for MSPexpansion.

	St. Paul Downtown Airport (Primary Reliever)						
System Evaluation Criteria	Status in	Status in	2015 Fore-	2020 Fore-	2030 Fore-		
	2000	2010	cast vs. LTCP	cast vs. LTCP	cast vs. LTCP		
Airside – capacity vs. demand	S	S	S	S	S		
Landside – capacity vs. demand	Q	Q	S	Q Hangar consoli- dation	Q Storage limits		
Ground accessibility	S	S	S	S	S		
Environmental compatibility	S	S	S	S	S		
Infrastructure and Utilities	U	S flood pro- tection	S	S	S		
Safety	S	Q	S	S	S		
Air service	Q	Q	S	S	Q Not Part 139 certified & MSP Ops'		
Economic impact	S	S Activity	Q Econ. recovery	Q # Ops'	Q # Ops'		
Fiscal	S	Q	Q reliever funding	Q sustainability	Q sustainability		
S-Satisfactory Q-Questionable	U–Unsatis	factory ?-I	Unknown				

Intermediate Airport - St. Paul Downtown Airport

Status in 2000 – Parts of the 1977 development plan were implemented during the 1980s with completion of a new main-wind runway and taxiways, and initial phase of a raised hangar building area. The military hangar and operational apron areas were upgraded. In 1992 a LTCP was completed for the airport. It reaffirmed most of the earlier plan, with implementation lighting and precision landing system, new air – traffic control tower, continued development of the elevated building area, agreements for improved FBO services, and new rates-and-charges in the 1990s for improvements and agreement to improve the cost/revenue situation, and minor changes for flood control.

The MAC initiated an update of the LTCP in 1999 and a public hearing was held on February 28, 2001. Completion of the LTCP review/approval process was on hold by the MAC until FAA concerns with runway safety, and MAC continuing concerns with flood protection, were addressed.

Status in 2010- The airport has seen a number of improvements to runway safety, installation of an ILS, provision of flood control measures including a dike for 100 yr flooding levels. Continued hangar development has occurred in the raised hangar area and redevelopment to higher-end users has occurred in the other hangar areas. Urban encroachment is a continuing issue with community redevelopment in the airport environs, including expansion of the Lafayette Bridge.

A major change in MAC reliever airport funding has been put in place to make the reliever airport system as self-sufficient as possible, and included potential non-aviation land use development on-airport. Activity levels have declined from historical highs and runway use is less than 50% of runway capacity. The MAC has completed a LTCP Update a 2025 planning horizon. No major changes to the airport are planned, the seaplane base has been decommissioned and the second riverside hangar has been sold to 3M. . Zoning of the airport to meet state requirements is underway; approval of a zoning ordinance may occur in 2010.

	Airlake Airport (Reliever)						
System Evaluation Criteria	Status in Status in 2015 Fore-		2020 Fore-	2030 Fore-			
	2000	2010	cast vs. LTCP	cast vs. LTCP	cast vs. LTCP		
Airside – capacity vs. demand	Q	S Utility , no crosswind	S Rwy length	S Cedar Ave. Relocation	S Rwy Extension		
Landside – capacity vs. demand	S	Q	Q Hangar needs & Pvt. Funding	Q Pvt. Funding	Q Bus. Demand		
Ground accessibility	S	Q	Q	S	S		
Environmental competibility	Q	S	Q Land use &	0	S		
			jurisdiction issues	Q			
Infrastructure and I Itilities	U	0	Q Sewer and	0 sewer/water	s		
			water service	Q bowen/nator	5		
Safety	S	c	Q Increasing	S	S II S+		
Salety	0	0	development, JZB	0	01201		
Air service	S	S	S	S	Q		
Economic impact	Q	S	Declining activity	S	S		
Fiscal	S	Q	Q reliever funding	Q funding	Q sustainability		
S-Satisfactory Q-Questionable U-Unsatisfactory ?-Unknown							

Minor Airport - Airlake Airport

Status in 2000 – The MAC updated the LTCP in 1996. The plan reaffirmed earlier evaluations concerning the runway layout; it was refined to reflect a 4,600-foot length for the main-wind runway, a 3,200-foot crosswind runway (4/22), and associated taxiways. Railroad and roadways are serious physical constraints to extension of the main runway. The proposed crosswind runway would require acquisition of about eighty acres of land. New demand forecasts indicated the need for an additional [south] building area to be constructed on the existing airport site.

Status in 2010- The airport airside development has been focused upon acquisition of private in-hold-

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ings to meet FAA design requirements for the parallel taxiway. Taxiway alley and other building area preparation for a new southwest hangar area were initiated but not implemented. A cross-wind runway was also not implemented. Issues with sewer service still remain. Urban growth continues in Lakeville and the industrial parks are also expanding east and west of the airport.

A major change in MAC reliever airport funding has been put in place to make the reliever airport system as self-sufficient as possible. Capital funding is a continuing issue and areas of the airport may become non-aviation use areas for supplemental revenue generation. Activity levels have declined from historical highs and runway use is less than 50% of runway capacity. In 2007 the MAC adopted an airport 2025 LTCP update that eliminated the crosswind runway and land acquisition proposal from the plan, recommended that the southwest building area be completed, and that extension of the main-wind runway to 5,000' be maintained for the long-term.

	Anoka County - Blaine Airport (Reliever)					
System Evaluation Criteria	Status in 2000	Status in 2010	2015 Forecast vs. LTCP	2020 Forecast vs. LTCP	2030 Forecast vs. LTCP	
Airside – capacity vs. demand	Q	S	S	S	S # MSP Ops"	
Landside – capacity vs. demand	Q	S	S	S	S	
Ground accessibility	Q	S	S	S	S	
Environmental compatibility	Q	S	S	S	Q Rwy Cap.	
Infrastructure and Utilities	Q	S	S	S	S	
Safety	Q	S	Q JZB, ordi- nance	S	S ILS+	
Air service	Q	Q Dev. NW bldg area and services	Q Eco. Recovery	Q # Ops'	Q Bus. Ops'	
Economic impact	S	Q Declining activity	Q Econ. recovery	Q	S	
Fiscal	S	Q	Q Non-Avia. Dev.	Q Reliever Funding	Q sustain- ability	
S Satisfactory O Questionable II Uppetief	potony 2 LL	nknown				

Minor Airport - Anoka County - Blaine Airport

U-Unsatisfactor

Status in 2000 – In May 2000 a settlement was reached between the City of Mounds View, MAC and the Council concerning litigation on the 1986 stipulation agreement. The LTCP was resubmitted for Council review and approved, with a number of conditions, on August 30, 2000. The 1999/2000 legislature limited all Minor airport runways to a maximum of 5,000' – this was included in the settlement agreement.

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The agreement is in effect until Dec. 31, 2020. A major shift in the system assessment ratings occurred between 2003 – 2007 as projects are completed.

Status in 2010 – Most of the 2015 plan elements have been implemented. Improvements include a new runway approach lighting system and installation of a precision instrument landing system (ILS). The northwest hangar building area and extension of the east/west runway to 5,000' have been accomplished through a private public partnership involving the City of Blaine, Anoka County and private investors. Large parts of the airport are being used for recreational and other governmental purposes. Urban growth has occurred with development occurring in sod farms adjacent to the airport.

A major change in MAC reliever airport funding has been put in place to make the reliever airport system as self-sufficient as possible. Some areas of the airport have been identified as non-aviation use areas for supplemental revenue generation. Activity levels have declined from historical highs and runway use is less than 50% of capacity. The airport LTCP has been updated to a 2025 planning horizon. New runway development is not justified in this planning period. Several hangar building areas can be developed if demand warrants. Capital funding is a continuing issue. An airport joint zoning board will be proposed for establishment by 2011.

	Crystal Airport (Reliever)					
System Evaluation Criteria	Status in	Status in	2015 Fore-	2020 Fore-	2030 Fore-	
	2000	2010	cast vs. LTCP	cast vs. LTCP	cast vs. LTCP	
Airside – capacity vs. demand	S	S	S	S	S	
Landside – capacity vs. demand	U	Q	Q Hangar Types	Q Re-Dev. Bldg Areas	Q # Ops'	
Ground accessibility	S	Q	S TH 81 dev.	S	S	
Environmental compatibility	Q	S	S	S	S	
Infrastructure and Utilities	Q	S	S	S	S	
Safety	ç	Q	Q JZB and revised	s	S	
Galety	0		ordinance.	0	9	
Air service	Q	S	Q FBO & services	Q	Q	
Economic impact	S	S Declining	O Non-Avia Dev	O Econ Recovery	0	
	0	activity	Q Non And. Dev.		Q	
Fiscal	S	Q	Q Non-Avia. Dev.	Q Reliever funding	Q sustainability	
S-Satisfactory Q-Questionable U-Unsatisfactory ?-Unknown						

Minor Airport - Crystal Airport

Status in 2000 – The City of Crystal comprehensive plan was reviewed by the Council in January 1994. The Council determined that the community plan could not be put into effect until it was modified to address airport-related issues. A key result of the Crystal community plan review process was that the MAC commit to preparation of a LTCP, since there was no plan adopted for the airport. An LTCP was prepared in 1994 and a public hearing held in June 1995. The public hearing report, and LTCP, was reviewed by the MAC Planning and Environment Committee in September 1995. The P&E Committee recommended that the Commission: adopt the hearing officers report; adopt the Crystal LTCP; authorize forwarding of LTCP to Metropolitan Council for review/approval; and request that Met Council initiate an airport system economic study.

In October 1995 the MAC appointed an "Obstruction Committee," and throughout 1996/97 the committee met with the Crystal Airport Tri-City Airport Commission to resolve the airport safety ordinance and other issues. In early 1997 the MAC CIP included \$450,000 for removal of obstructions—primarily trees—many on private property. The Council completed a regional economic study in 1998, including data for Crystal Airport. In August of 1999 the MAC completed removal of all tree obstructions in the runway approaches. A Crystal LTCP has still not been submitted for Council review. The Council reviewed the city comprehensive plan on June 26, 2000. The city continues to desire that the airport be closed in the 2020 time period and does not want to participate in any noise mitigation program or land use compatibility programs.

Status in 2010 - The airports runway configuration has been in place since the early 1960's, hangar area development and taxiway improvements have been made over the years. Adjacent airports have improved their individual capabilities relative to Crystal. During 2008 the MAC completed a 2025 LTCP Update which was reviewed and approved by the Council. The plan proposes to eliminate the turf crosswind runway and turn one of the parallel main-wind runways into a taxiway. No new hangar areas are proposed since sufficient vacant hangars are currently available on-site. A major change in MAC reliever airport funding has been put in place to make the reliever airport system as self-sufficient as possible. Some areas of the airport may be developed as non-aviation use areas for supplemental revenue generation. Capital funding is a continuing issue. Activity levels and based aircraft numbers have declined from historical highs and runway use is less than 50% of capacity. The airport is fully encroached by urban development. Airport safety zoning will need to be revised by the joint airport/community zoning board to meet state standards and reflect the runway changes. Adjacent communities have agreed with the runway reductions, but still want the airport to be closed.

Minor Airport - Flying Cloud Airport

	Flying Cloud Airport (Reliever)					
System Evaluation Criteria	Status in 2000	Status in 2010	2015 Forecast vs. LTCP	2020 Forecast vs. LTCP	2030 Forecast vs. LTCP	
Airside – capacity vs. demand	Q	S	S	S	S	
Landside – capacity vs. demand	U	Q	Q Hangar needs and Pvt. Funding	S	S	
Ground accessibility	Q	S	S	S	S	
Environmental compatibility	Q	S	S	Q mitigation	Q #Ops	
Infrastructure and Utilities	U	Q	Q	S	S	
Safety	Q	S cross rwy	Q JZB, ordi- nance	S	S	
Air service	U	Q	Q	S	S	
Economic impact	S	Q Declining activity	Q	S	Q # Bus. Ops'	
Fiscal	S	S	Q Non-Avia. Dev.	Q Reliever funding	Q sustain- ability	
S-Satisfactory Q-Questionable U-Unsatisfa	actory ?_	Unknown				

Status in 2000 – Ratings in 2000 reflect the 1992 [Amended] LTCP, 1994 FCM Stormwater Pollution Prevention Plan, and the 1999 FCM Expansion Plan DEIS. The development plan is essentially the same as the preferred alternative initially proposed in 1988. Since a FEIS/ROD is not completed the proposed development was not in place as of 2000. Therefore airside and landside capacity deficiencies remained, although land acquisition for the new building area indicates improvement. Ground access was better defined but implementation not completed. EIS is in process, and LTCP approval conditions not yet implemented. Land acquisition for runway approaches is well under way and expected to be satisfactory before 2010. Air service will remain deficient until lengthened runway is operational. Economic impact is improved with information for Flying Cloud available from regional economic study. Fiscal is improved with MAC adoption of new rates-and-charges for their general aviation airports.

Status in 2010 - A FEIS and federal record of decision (ROD) was completed. An Agreement between the City of Eden Prairie and the MAC is in place for addressing land use issues, noise mitigation, utility services, and airport/aircraft operational limits. Sewer service was provided to the north in 2008, and to south and east hangar areas in 2002. A major change in MAC reliever airport funding has been put in place to make the reliever airport system as financially self-sufficient as possible. Some areas of the airport may be developed in non-aviation use areas for supplemental revenue generation. Capital funding is

a continuing issue. The approved LTCP includes extension of the parallel main-wind runways, and a new south-west hangar building area. The north parallel was extended to 3,900' in 2008 and the south parallel to 5,000' in 2009. An update of the LTCP to a 2025 planning horizon was completed in 2008. A joint airport/community zoning board will need to prepare airport zoning that reflects the new runway extensions and LTCP update projects. Activity levels and based aircraft numbers have declined from historical highs and runway use is less than 50% of capacity. The crosswind runway is being shifted slightly north and extended, including zoning, and a new south hangar building area is also being developed. The VOR has been moved and the FAA ATCT is proposed to be moved over the long-term. Road access and security gates have been improved. Efforts are being made to prevent runway incursions. Adjacent airports have not improved their capabilities and a private, multi-aircraft airport in Carver Co. is being lost to urban development.

	Lake Elmo Airport (Reliever)						
System Evaluation Criteria	Status in 2000	Status in 2007	2015 Fore- cast vs. LTCP	2020 Fore- cast vs. LTCP	2030 Fore- cast vs. LTCP		
Airside – capacity vs. demand	S	S	S	S	Q crosswind Rwy extension		
Landside – capacity vs. demand	Q	Q	Q Hangar needs and Pvt. Funding	Q	Q		
Ground accessibility	S	S	S	S	S		
Environmental compatibility	S	S	Q Noise and land use	Q	S		
Infrastructure and Utilities	U	Q	Q Sewer and water service	Q	S		
Safety	S	S	Q JZB and ordinance	Q land use controls	S		
Air service	S	S	Q Runway length	Q	S		
Economic impact	S	Q Declining activity	Q Econ. Recov- ery	Q	Q # Ops'		
Fiscal	S	Q	Q Reliever Funding	Q Reliever funding	Q sustainability		
S-Satisfactory Q-Questionable U-Unsatisfactory ?-Unknown							

Minor Airport - Lake Elmo Airport

Status in 2000 – Ratings are based upon the 1992 long-term comprehensive plan (LTCP); it was approved by the Council in 1994. The 1992 plan indicated that demand was less than earlier forecasts, and in the 10-year time-frame extension of the main-wind runway to 3,300', along with a non-precision VOR approach, should be sufficient. A supplement to the LTCP was prepared in 1993 concerning stormwater and groundwater management. During the 1990s continued growth in general aviation has almost filled capacity of existing hangar areas and capacity is questionable unless a new building area is opened. Sewer and water service issues with individual users have been addressed, and longer-term issues with potential central services are included in the new MAC policy on services at its reliever airports. Economic impact was identified in the 1998 Regional Economic Impact Study. Fiscal status improved with MAC adoption of new rates and charges for their general aviation airports.

Status in 2010 - No major airside improvements implementing the approved 1992 LTCP has occurred. The MAC transferred all ground water monitoring and mitigation responsibilities for the TCE contamination in the vicinity of the Lake Elmo Airport to the MCPA with the discovery of a major ground water contamination source on the eastern edge of the City of Lake Elmo that impacts the down-gradient ground water for the community and airport areas to the east. An EAW was prepared in 2001 for a potential new east hangar building area. A major change in MAC reliever airport funding has been put in place to make the reliever airport system as self-sufficient as possible. Capital funding is a continuing issue. Urban growth and airport encroachment is still an issue. Central sewer and water service may become available in the near term. In 2007 the MAC completed a draft 2025 LTCP Update. It proposes keeping the planned 3,900' new main-wind runway in the plan for long term growth potential, but in the short term to extend the cross-wind runway to 3,300', and develop a new east hangar area. A joint airport/community Airport zoning board will need to revise the airport zoning ordinance to reflect the LTCP proposal. Some areas of the airport may be developed as non-aviation use areas for supplemental revenue generation. Activity levels and base aircraft numbers have declined from historical highs and runway use is at about 25% of capacity. Adjacent airports have improved their individual capabilities relative to Lake Elmo.

South St. Paul Municipal Airport (Reliever)					
System Evaluation Criteria	Status in 2000	Status in 2010	2015 Forecast vs. LTCP	2020 Forecast vs. LTCP	2030 Forecast vs. LTCP
Airside – capacity vs. demand	S	S	S	S	S
Landside – capacity vs. demand	Q	S	S	S	S
Ground accessibility	Q	S	S	S	S
Environmental compatibility	?	Noise contours dated	S	S	S
Infrastructure and Utilities	Q	S	S	S	S
Safety	Q		Q REIL's	S	S
Air service	S	S	S	S	S
Economic impact	S	S	S	S	Q
Fiscal	U	?	Q Local funding	Q Econ. Recov- ery	Q sustainability
S-Satisfactory Q-Questionable U-Unsatisfactory ?-Unknown					

Status in 2000 – Ratings in 2000 reflect the City of South St. Paul's 1999 Comprehensive Plan and draft airport layout plan (ALP), as well as the Council's 1998 Regional Economic Impact Study. Airside capacity is satisfactory. Sale of property in Inver Grove Heights, included in the 1976 master plan for future building area improvements, substantially affected long-term growth options. Continued development of the south building area occurred to meet demand. ALP update identified new hangar areas in east and west portions of the airport for future development. Landside capacity still questionable until ALP approved by the FAA. Ground access improved with connection to Hwy. 52, and new signage. Adequacy/ availability of documentation on environmental compatibility unknown. RPZ protection and obstruction removals still an issue; airfield fencing improved safety situation. Airspace operational interaction with STP and MSP needs continuous monitoring. Airside pavement and lighting improvements satisfactory; still need improvement in navigational aids. Air service has improved dramatically with provision of self-fueling and construction of an air terminal and services. Economic impact for SSP was identified in the regional evaluation. The City has identified economic development goals for the airport. Fiscal has improved with hiring of full-time airport manager; capital funding remains an important issue.

Status in 2010 – The City has improved the taxiway system and opened a new west-side forty-seven hangar building area with separate access road. Spillover effect of lease rate increases at MAC airports is a potential growth factor in activity levels. The 2010 Metro System Plan Update to 2030 has indicted a need for installation of runway end identification lights; this development needs to be coordinated with the Mn/DOT 5-year capital improvement plan.

Minor Airport - Forest Lake Airport

	Forest Lake Airport (Municipal)						
System Evaluation Criteria	Status in 2000	Status in 2010	2015 Forecast vs. LTCP	2020 Forecast vs. LTCP	2030 Forecast vs. LTCP		
Airside – capacity vs. demand	Q	Q	Q Condition and utility of runway	Q Extension	Q Paving		
Landside – capacity vs. demand	Q	Q	S Relocated building area	Q	S		
Ground accessibility	Q	Q	S access rd. relocated	S	S		
Environmental compatibility	Q	S	S	S	S		
Infrastructure and Utilities	Q	S	S	S	S		
Safety	Q	S	Q Obstructions	Q Obstructions	Q		
Air service	Q	Q	Q Design -aircraft needs	Q	Q # Ops'		
Economic impact	?	Q	Q Level of Activity	Q New activity	Q # Ops'		
Fiscal	Q	U Local funding only	Q Econ. Recovery	Q in NPIAS	Q sustainability		
S-Satisfactory Q-Questionable U-Unsatisfactory ?-Unknown							

Status in 2000 – The ratings for 2000 are based upon information listed previously, the 1996 Airport Acquisition Feasibility Study prepared by Forest Lake Township, and the Comprehensive Plans prepared by the City and Township of Forest Lake. The airport study investigated the possibility of public purchase of the private facility; it included assessing future development opportunities for the airport, defining the amount of land required by FAA and Mn/DOT standards to satisfy existing and proposed development, and ultimate revenue streams and operating costs that could be expected from the airport. The study did not include any aviation forecasts for determining facility demand or specific timing for development phasing. In 1999 there were 20 based aircraft at the airport. Assumptions on development needs were based upon meeting federal and state design standards; therefore, most of the ratings go from "unknown" to "questionable." These categories remain as questionable until specific evaluations occur, funding programmed, and projects implemented. The airport zoning was approved by Mn/DOT.

Status in 2010 – The airport has been making progress in its land acquisition and land use safety efforts over the past few years with assistance from Mn/DOT Aeronautics. A new access road and new hangar area are under development for 28 conventional hangars and 15 T-hangars including paved alleyways. All leaseholds are served with water, sewer, electricity and natural gas. A paved taxiway is completed and paving of the runway to 2,700' is planned with eventual extension to 3,300' when power line obstruction is removed. Future CIP projects are programmed in state 5-year CIP Regional system plan supports change in role from a Special Purpose facility to a designated Minor airport. The community will seek to apply for NPIAS status.

	Surfside Seaplane Base (Private - Lino Lakes)					
System Evaluation Criteria	Status in 2000	Status in 2010	2015 Fore- cast vs. LTCP	2020 Fore- cast vs. LTCP	2030 Fore- cast vs. LTCP	
Airside – capacity vs. demand	?	S	Q Water levels	Q	Q	
Landside – capacity vs. demand	S	S	S Storage capa- bilities	S	S	
Ground accessibility	S	S	S	S	S	
Environmental compatibility	?	S	S	S	S	
Infrastructure and Utilities	S	S	S	S	S	
Safety	?	S?	S RPZ areas	S	S	
Air service	?	S	?	?	?	
Economic impact	?	S?	S Econ. Eval.?	S	S? # Ops'	
Fiscal	?	? Private funding	S Econ. Recov- ery	S	S	
S-Satisfactory Q-Questionable	S-Satisfactory Q-Questionable U-Unsatisfactory ?-Unknown					

Special Purpose Airport - Surfside Seaplane Base (located on Rice Lake in Lino Lakes)

Status in 2000 – Ratings in 2000 reflect information in the 1998 Lino Lakes comprehensive plan update. New general aviation forecasts were prepared as part of the Aviation Policy Plan Update 2000 – 2020; projections of fixed-wing aircraft growth were included, but a separate assessment of seaplanes was not prepared. The status of airside capacity has not changed since 1990. Landside capacity is estimated to have become more constrained in the last 10 years. Status of most other categories has remained unknown. Urban development is expected to continue and put additional pressures on the private airports in the metro region.

Status in 2010 - Preliminary ratings for 2010 have not changed based upon the 2008 Lino Lakes CPU. Some reduction in activity reflects current trends in G.A. Projections of G.A. fixed-wing aircraft growth as determined in the 2030 Metro system plan forecasts; A second building area and access has been added. Status of airside and landside capacity is essentially unchanged since 2000. Land use compatibility with nearby residential development and regional park reserve/watershed district do not appear to be an issue, although long term urban development and park use may increase. Future activity is unknown due primarily to private ownership and that most "based" aircraft are straight-float equipped, and the dirt runway is not available for regular operations or easily expandable.

Special Purpose Airport * - Benson Airport

		ar Township)			
System Evaluation Criteria	Status in 2000	Status in 2010	2015 Forecast vs. LTCP	2020 Forecast vs. LTCP	2030 Forecast vs. LTCP
Airside – capacity vs. demand	?	S Restricted Use	Q Runway length	Q	Q
Landside – capacity vs. demand	?	S	S Hangar Size changes	S	S
Ground accessibility	S	S	S	S	S
Environmental compatibility	?	?	S	S	S
Infrastructure and Utilities	?	?	S	S	S
Safety	U	?	S Restricted	S	S
Air service	?	S	Q restricted	Q	Q
Economic impact	?	?	?	?	?
Fiscal	?	?	? Private Funding	?	?
S-Satisfactory Q-Questionable U-Unsatisfactory ?-Unknown					

Status in 2000 – White Bear Township became owner of the Benson Airport in 1996. Under terms of the owner's estate, the 62-acre airport will be operated for at least 40 years by the Benson Airport Association. The Township received 19 acres for parkland and another four acres to locate a new water tower. Many of the ratings have remained unchanged since 1990; it is anticipated that this will change soon due to three key items:

- The preparation of an updated comprehensive plan by the Township that is to include aviation information (the plan was still not submitted for Council review as of June 2001).
- The FAA- change to the MSP International Airport Class-B airspace, did have a dramatic effect upon sailplane operations, the Red Wing Soaring Association relocated to the Osceola, WI airport having a direct impact on Benson Airport use.
- The possibility of changes in state aeronautics rules/regulations that would set licensing standards, based upon runway length of 2,000', for airports designated as "special purpose." This new designation would be the same as currently used in the regional aviation system plan.

Status in 2010 – The Red Wing Soaring Association moved to Osceola, WI and air traffic activity is down as a result. Some new conventional hangars are being developed but a number of existing T-hangar facilities are being removed, so overall landside capacity for aircraft storage is essentially unchanged. Airside capabilities have been downgraded by removal of the runway lighting. The turf runway remains the same; no improvement to approach hazards or safety zoning has occurred. The airport management

association does not appear to encourage ultralights, homebuilts or light-sport aircraft. This facility, under new state rules could conceivably be a "Special Purpose" licensed facility; however, it appears there is no desire either by the Township or the airport association to promote the airport to try and eventually become eligible for federal or state capital funding. Given these conditions the Council assumes that the facility closure sunset date of 2036 is highly likely and therefore will not include this airport in the metro system, but will continue to monitor the facility in relation to operations at the other system airports. It is possible that some of Benson's airport users and private airstrips in the area under urban development pressures may elect to move to the Forest Lake Airport due to its on-going planned improvements.

Note: This airport is not in the system, but may have a future impact and is included here to recognize potential forecast impacts and to present an example of issues to be examined for including potential facilities into the regional system plan.

Appendix O: Air – Transportation Glossary

ACA (airport compatibility area)	The general geographic area around an airport that encompasses the major arena of aircraft operational and development interaction between an airport and its surrounding land uses. The area is defined as a radius area 3nm off the physical ends of existing and planned runways of the nearest system airport to the affected community (see Table 10-25). Size of an ACA varies according to the airport's role and function.
AGL (above ground level)	usually used in reference to defining height of potential air obstructions above ground level at the site, not in reference to elevation of the site to sea level.
AIP (airport improvement program)	federal funding program administered by FAA for airport development and planning.
Air access	refers to provision of open competition for air service to an airport.
Air Cargo	freight, parcels and mail carried in the belly-hold of passenger aircraft, on an all-freight airline, or express carrier.
Air Carrier	a scheduled, certificated airline that provide commercial passenger and cargo services.
Air operation	Either a landing or takeoff movement.
Air transportation	mode of travel provided for rapid movement of freight and people through the air over long distances verses moving on the ground or using surface water to travel.
Aircraft fleet	all the aircraft operated by a particular airline or otherwise delineated by type, geographical location, etc.
Aircraft mix	generally denotes type of aircraft in a fleet, aircraft operating at a airport, etc.
Airfield	that part of the airport containing the runways, taxiways, and safety areas associated with aircraft operations; also called "airside" area.

Airline agreement	the main legal document between an airline or group of airlines and the airport owner/authority outlining such things as responsibilities, rates and charges, operating conditions, etc.
Airport	identifies a defined property area for land based aircraft operations with turf or paved runways, as dis- tinct from seaplane bases with water lanes, or heliports.
Airport capacity	the number of aircraft movements the runways of an airport can process within a specified period of time with the average delay to aircraft kept to an acceptable limit. Usually defined on an annual or peak period basis.
Airport functional classification	methodology used to categorize an airport for purposes of determining its role and functions in a sys- tem.
Airport service area	an area around an airport, usually defined as a ground travel time in minutes on the roadway system, normally accessible by auto. It applies to airport users either working at the airport, basing their aircraft at the airport, or using air services at the airport; conversely, it also defines the general accessibility of someone flying into the airport to local businesses, etc.
Airport sponsor	defines airport owner, airport operator, or other legal entity authorized as eligible by the FAA to enter into agreements for federal funding of projects.
Airports system plan	A plan, normally multi-county in scope that identifies the functional roles of all existing and proposed aviation facilities over time. A system plan includes policies, forecasts and capacity analysis and a generalized development program. Used to determine need and coordinate overall planning, funding and implementation priorities for system facilities
Airspace	that portion of the nation's air resource available for air navigation and landing and takeoff of aircraft. Usually defined by imaginary surfaces in height control ordinances/maps, air traffic control and naviga- tional fixes.
Airstrip	describes a single runway, usually a turf runway, usually a privately-owned property with operating restrictions, most often without services and allowed under a conditional use permit from the local gov- ernmental unit.
Airway	generally defined as an imaginary low or high altitude flyways established along defined compass headings and altitudes.
ALP (airport layout plan)	a specific set of required drawings documenting the airport facility in sufficient detail for FAA approval of project level decision making.

Ambient noise	existing background noise reflecting normal daily activities within a certain area and defined time period. Serves as a base for comparison of non-typical external noise source impacts introduced to the area.
AMSL (above mean sea-level)	method of defining elevation of a particular site, usually in relation to other sites, all using the same base elevation from sea level.
Apron	a paved or hard surface area available for temporary aircraft parking or servicing activity. Usually found at an FBO, hangar area, or terminal.
ASV (airport service volume)	The theoretical number of aircraft operations that can be handled by an airport in a year. This measure- ment depends upon runway layout (number, type, direction), instrument landing capability, average weather conditions, the presence of an air traffic control tower and related factors.
ATC (air traffic control)	positive control of aircraft flight activities through human or automated direction using electronic aids to maintain safety and efficient movement of aircraft.
ATCT (air traffic control tower)	a facility on-airport used by ATC to control arriving and departing air traffic to/from a specific runway, airport and associated airspace.
Aviation	definition used in this guide to define all elements of air transportation besides airports, to include air- craft industry, airspace resources, aircraft, pilots, users, air traffic control and navigation system, air- lines, air service, airport facilities, etc.
Avigation easement	an airspace easement over a particular area usually for purposes of aircraft overflight or safety enhancement.
Based aircraft	Aircraft that are stored, hangared or tied-down at one particular airport, usually for at least a continuous 6-mounth period, and use the airport as their primary base of operations.
Code sharing	A practice whereby airlines use the same computer reservation codes to provide "seamless" ticket/price services, usually to take advantage of economies in hub airport connections.
Commercial air carrier airport	facility providing for scheduled air passenger and air cargo services.
Corporate aircraft	Aircraft used for the transportation of corporate executives and general business needs.
Cross-wind runways	Runways constructed to allow an airport to be used when the wind speed blowing across the main-wind runway is more than specified operational limits.
dBA	A dB is a unit of sound pressure (decibel) measured on the "A" scale.

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Delay	terminology defining a constriction of time in performance of all or parts of an air trip. It can be a delay in accessing the airport, parking, terminal processing, gate unavailability, aircraft taxiing, runway queu-ing, air traffic control, airspace congestion, weather issues, etc.
EAS (essential air service)	federal program to subsidize air service to small communities where local demand is usually not suffi- cient to attract sustainable and reliable service.
Enplanements	The total number of passengers at a specific airport boarding an aircraft.
EQB (environmental quality board)	a state board that defines which projects require what level of environmental review and coordinates what agencies, groups, citizens need be involved in the particular review.
FAA (federal aviation administration)	federal part of DOT that deals with the air transportation mode and all aspects of pilot licensing, airport certification, aircraft certification, aviation rules and regulations, safety, operation, air traffic control, navigational system, fees and taxes, security, airline operations, etc.
FAR (federal air regulation)	rules and regulations issued by the FAA in administration of its regulatory functions, these regulations carry the force of law and are binding on all aviation activities within FAA purview.
FAR Part 77	establishes criteria and defines "objects affecting navigable airspace," serving as a means to protect airspace needed for safe flights.
FAR Part 150	defines noise control and compatibility planning for airports in accordance with FAA criteria and funding requirements.
FBO (fixed base operator)	usually a private leasehold business providing facilities and services on the airport (e.g. fuel, mainte- nance, hangaring, etc.) for aircraft based at the airport and transient users.
FCC (federal communications commission)	controls communications facilities, frequencies and power output of electronic transmissions for radio, TV and microwave services. These facilities/activities share the airspace with aviation and FAA review is required prior to implementation.
FIS (federal inspection services)	portions of international airports are designated for international arrivals and departures, the inspection facilities allow for federal services in processing of passengers and goods.
FY (fiscal year)	federal 12 month period starting in October versus calendar year (CY) with 12 month period starting in January. Affects funding, planning schedules, and data collection/definitions.
G.A. (general aviation)	All aviation activity other than that of the scheduled air carriers and the military. G.A. includes single- and twin-engine aircraft with gross weights ranging from 2,000 to 60,000 pounds.

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Gate	usually an enclosed seating area and associated jetway for multiple, daily passenger loading and unloading to an aircraft.									
Global alliance	groupings of airlines providing connectivity on a global scale; current groupings include Star, Oneworld, and SkyTeam.									
Going Green	expression for efforts to improve environmenta airports, etc.	expression for efforts to improve environmental sustainability into all aspects of the airline industry, airports, etc.								
GPS (global positioning system)	a federal government sponsored and operated, satellite based, navigation system providing real-time geographical referencing for all modes of transportation on a global basis.									
Ground Access	term for describing pathways, typically road and rail, for all rubber or steel-wheel vehicles' providing service to the airport.									
Helicopter	A heavier-than-air rotorcraft that depends principally for its support in flight on the lift generated by one or more rotors, not fixed wings									
Heliport	An identifiable area including facilities on land or on a structure used or intended for the exclusive use of helicopter landings or takeoffs. The facilities may include services, can be freestanding or located within an airport.									
Helistop	An identifiable area used or intended to be use only in dropping off or picking up passengers of	ed for the la or cargo.	ndings or take	eoffs of helicop	ters engaged					
Hub	A hub is a geographical area-Standard Metropolitan Statistical Area (SMSA) - and may have more than one airport in it. (This definition of hub should not be confused with the definition being used by the airlines in describing their "hub and spoke" route structure.) The classification scheme used for hubs by the FAA is defined in the following table:									
	Hub Classification	Large	Medium	Small	Non-hub					
	Percent of National Total Enplaned Passengers 1	.00 or more	0.25 to 0.9999	0.05 to 0.249	Less than 0.05					
IFR (instrument flight rules)	rules as prescribed by Federal Air Regulations ditions, visibility or ceiling fall below those pres rated to fly in IFR conditions and aircraft must operations under IFR rules.	for flying b cribed for \ have requir	y instruments /isual Flight R ed on-board e	. Often used w ules. Pilots m equipment to b	hen weather con- ust be instrument e able to perform					

ILS (instrument landing system)	a non-visual, precision approach to a runway utilizing electronic equipment at the airport to provide lat- eral guidance to the runway centerline and to give positive vertical reference from the glide path to the runway end.
INM (integrated noise model)	a computer software program specifically designed for calculating and displaying acoustic information on individual aircraft operations or entire annual operations of a large airport. The FAA designated model for use in its Part 150 noise compatibility program.
Instrument approach	An electronically-aided landing approach to a runway, often used under marginal or poor weather conditions. The approach to an airport's runway is flown primarily by reference to instruments to a prescribed "decision height." At this height, the pilot makes positive visual reference to the airport, or its approach lights, or terminates the approach and begins climbing back to a higher altitude (missed approach).
Intermediate airport	an airport whose metro system designated role is to provide facilities and services primary to corporate- business users of aircraft usually weighing less than 75,000 lbs.
Intermediate heliport	a heliport equipped with such amenities as lighting and communications, limited navigational aids, fuel, maintenance and passenger-related facilities. Some hangar or tie down space is available. This type of heliport is intended for corporate and charter helicopter services.
Itinerant aircraft	aircraft that is not based at a particular airport but is visiting or passing through from another facility usually more than 20 nm away.
JZB (joint zoning board)	terminology used in Minnesota statutes that allows an airport authority in an urban setting to form a board between the authority and airport-affected communities to address height control and land use type/density off-airport for safety of persons flying and persons on the ground within prescribed areas around an airport.
LCC (low-cost carrier)	recent popular term describing primarily new entry airlines since de-regulation that have cost structures and airfares lower than the legacy air carriers, thereby spurring competition and often lower fares.
Ldn (level-day-night)	a method of measuring and plotting the amount of noise in a community, and includes an additional penalty for nighttime noise. The Ldn is normally averaged over a one-year period.
Legacy air carrier	terminology used to describe those airlines in existence at the time of national airline de-regulation in 1978 (e.g. United, American, Delta).
LFN (low-frequency noise)	the (C) scale of the sound spectrum defining low level noise frequencies from jet engines, often referred to by onlookers as a "rumble" or "vibration".

Local flight operations	 Refers to those activities by aircraft that: 1. Operate in the local traffic pattern or within sight of the airport; 2. Execute simulated instrument approaches or low passes at the airport (i.e., "touch and goes"); 3. Arrive from or depart to a local practice area located within a 20-mile radius of the airport. (Most instructional/training operations are local.)
LSA (light sport aircraft)	a new category of general aviation aircraft certified by the FAA, limited to 1,320 lbs gross weight, a maximum stall speed, and maximum cruise speed. Normally associated with the new sport-pilot license and limited to VFR operating conditions.
LTCP (long-term comprehensive [airport] plan)	Overall plan for an individual airport. It integrates information pertinent to planning, environmental con- siderations, developing and operating an airport. Also includes forecasts of aviation demands, facility requirements, and general recommendations for development over a 20-year period.
MAC (Metropolitan Airports Commission)	an airport authority established for the Twin Cities area by the state legislature in 1943 to promote avia- tion in and through the area, operate a system of public airports and ensure provision of air passenger and cargo services.
Main-wind runway	a runway that is aligned with the prevailing winds and often designated as a primary runway for opera- tions when multiple runways exist at the airport.
Major airport	an airport whose primary air service access area is international and national in scope. Its designated role in the metro airport system is to provide facilities and services primary to air carrier and regional commuter users. Also called a commercial-service airport.
Major heliport	a full-service facility complete with landing and navigational aids, refueling capabilities and hangar, maintenance and passenger terminal facilities. This heliport is designed for all forms of helicopter ser- vices.
Minor airport	An airport whose metro system designated role is to provide facilities and services primarily to per- sonal, business and instructional users.
Minor heliport	A small-scale facility with minimal amenities that do not include refueling capabilities, navigational aids or tie down spaces.
MSP (Minneapolis-St. Paul International airport)	a three-letter designator used on a national basis to identify a particular airport (e.g. DFW = Dallas-Fort Worth)
Nautical mile	distances for air or sea travel are usually defined in terms of nautical, rather than statute miles (e.g. air nautical mile is 6,070.097 ft.).

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NextGen (next generation)	term used by FAA for its next generation of air traffic control.
Nighttime	usually a defined period for noise modeling and/or noise mitigation, curfews and enforcement pur- poses.
Noise abatement	The attempt to reduce the amount and level of noise on and around airports, especially during takeoffs and landings, partly through special operational restrictions and proper land use planning for areas affected by aircraft noise.
Open Skies	a governmental policy of the U.S. to guide airline de-regulation with other countries or regions of the world. Usually includes a specific agreement for removing barriers and improvement of air services.
Out-sourcing	recent term used to describe airline practice of sending former in-house work (e.g. aircraft mainte- nance) to an outside contractor, whether domestic or foreign.
PFC (passenger facility charge)	a domestic charge allowed by the U.S. at commercial service airports, funds used primarily for capital projects at the specific airport.
Private heliport	A heliport facility for the exclusive use by the owner or other persons having prior authorization to use the facility
Privately owned, public- use airports	These airports are privately owned, but available for public use without needing prior permission to land.
Public heliport	A heliport facility available for the takeoff or landing of helicopters with no prior authorization required to use the facility
RASP (regional airport system plan)	a system plan where geographical or operational scope includes large urban areas that are multi- county or multi-state in size and interaction.
Reliever airport	an airport whose primary purpose is to serve general aviation and at the same time relieve congestion at a major airport having a high density of scheduled certificated airline traffic. It performs this function by providing services that attract and divert G.A. activity away from the major airport.
RJ (regional jet)	term associated with jet powered aircraft usually with 50 seats or less; since de-regulation this defini- tion is blurring, as new aircraft (e.g. EMB 195) are coming into service with up to 110 seats, the current bottom-end of airlines "mainline" sized aircraft.

ROD (record of decision)	final federal determination documentation on environmental impact statement and related analysis needed prior to funding and implementation of a project.
RPZ (runway protection zone)	a federally defined clear area beyond the end of a runway, under control of the airport owner, in which the presence of structures or other obstructions are controlled to permit safe flight for takeoff and land- ing operations.
Run-up	usually an engine testing procedure conducted at an engine maintenance facility or an on-aircraft test performed at a specific site on the airport to minimize effects of full engine power applications.
Runway	any prepared landing and takeoff surface of an airport.
Runway incursion	an unauthorized physical presence on a runway surface by a person, vehicle of aircraft as a violation of rule, ordinance or air traffic control procedures/approval.
RUS (runway use system)	an air traffic control method for operating an airport in a safe and efficient manner while still meeting aircraft noise operation abatement objectives.
SASP (state airport system plan)	a plan of each airports role, inclusion in the NPIAS, data files, development program, funding agree- ments, and implementation measures required by FAA for airports normally within the boundary of each state.
Search Area	a planning tool used to identify geographical areas meeting certain criteria as potential locations for new aviation facilities in event of need.
Special-Purpose aviation facility	a metro system designated role for a facility open to public-use, including heliport, seaplane base or airport landing area whose primary geographic and service focus is normally state and metropolitan in scope. Personal, business and instruction uses are accommodated at these facilities. Gliders have been mostly accommodated at private-use airports in the Metropolitan Area.
Statute mile	a measure of distance for ground travel defined as 5,280 feet.
TSA (transportation security administration)	transportation security unit under the overall department of homeland security. Established as a department of U.S. federal government as a result of terrorism act in N.Y. city, Nov. 11, 2001.
UNICOM	radio communications equipment mostly used at uncontrolled G.A. airports. Allows pilots to communi- cate with each other in vicinity of the airport, activate airport runway lights, and provide air-to-ground communications.
Visual flight rules (VFR)	"See-and-be-seen" flight rules. Used during good weather conditions under which an aircraft can be operated by visual reference to the ground, to other aircraft and distances from clouds.

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VLJ (very light jet)	recent new category of personal business jet aircraft certified by FAA. Aircraft weighs less than 11,000 lbs maximum weight and seats 6 or less persons.
VOR (very high frequency omni-directional radio)	a ground radio station that provides a pilot of a properly equipped aircraft with his or her location in reference to that station.
VOR approach	A landing approach to a runway using the VOR as a reference point and directional guidance to the runway

Appendix P: Captial Investment Review Process

The overall aviation planning process for the Twin Cities metro area is discussed in the planning process section of the TPP Chapter 10. In Figure 10-21 the various local planning elements are depicted by shading, and include the capital improvement plan. Additional detail on the local capital investment agency review process is provided in this appendix.

AUTHORITY

As defined under state statutes for the Council and the MAC, the capital investments made at the region's public-use airports are reviewed and commented upon, or under some conditions require approval, by the Metropolitan Council. For municipal or privately-owned, public-use airports the Council coordinates with Mn/DOT Aeronautics through their 5-year capital improvement program (CIP). This program is updated annually and is used in for identifying project eligibility and defining state and federal funding participation levels/schedule in the STIP. For the Metropolitan Airports Commission (MAC), they prepare a CIP for the metro area airports they own and operate.

The Council reviews annually the MAC CIP under the following key legislative authorizations:

• MS 473.165, Council Review: Independent Commission, Board, Agency

<u>Sd1</u>

The Metropolitan Council shall review all long-term comprehensive plans (LTCP's) of each independent commission [MAC], board, or agency prepared for its operation and development within the metropolitan area but only if such plan is determined by the Council to have an area-wide effect, a multi-community effect, or to have a substantial effect on metropolitan development. Each plan shall be submitted to the council before any action is taken to place the plan or any part thereof, into effect.

• MS 473.171, Council Review: Applications for Federal, and State Aid

Sd1 Federal

The Council shall review all applications of a metropolitan agency, independent commission, board or agency, and local governmental units for grants, loans or loan guarantees from the U.S. or agencies thereof submitted in connection with proposed matters of metropolitan significance, all other applications by metropolitan agencies, independent commission, boards and agencies and local governmental units for grants, loans, or loan guarantees from the U.S. or ant agency thereof if review by a regional agency is required by federal law or the federal agency, and all applications for grants, loans or allocations from funds made available by the U.S. to the metropolitan area for regional facilities pursuant to a federal revenue sharing or similar program requiring that the funds be received and granted or allocated or that the grants and allocations be approved by a regional agency.

Sd2 State

The council shall review all applications or requests of a metropolitan agency, independent commission, board or agency, and local governmental units for state funds allocated or granted for purposed matters of metropolitan significance, and all other applications by metropolitan agencies, independent commissions, boards, agencies, and local governmental units for state funds if review by a regional agency is required by state law or the granting state agency.

MS 473.181, [Additional] Council Review Powers

Sd5 Airports

The Council shall review Metropolitan Airports Commission capital projects pursuant to section 473.621, Sd6. The plans of the MAC and the development of the metropolitan airports system by the commission shall, as provided in sections 473.611, Sd5 and 473.655, be consistent with the development guide of the Council.

MS 473.621, Powers of [MAC] Corporation

Sd6 Capital projects; review

All Minneapolis-St. Paul International Airport capital projects of the commission requiring expenditure of more than \$5,000,000 shall be submitted to the Metropolitan Council for review. All other capital projects of the commission requiring expenditure of more than \$2,000,000 shall be submitted to the Metropolitan Council for review. No such project that has a significant effect on the orderly and economic development of the metropolitan area may be commenced without the approval of the Metropolitan Council.

In addition to any other criteria applied by the Metropolitan Council in reviewing a proposed project, the council shall not approve a proposed project unless the council finds that the commission has completed a process intended to provide affected municipalities the opportunity for discussion and public participation in the commission's decision-making process. An "affected municipality" is any municipality that (1) is adjacent to a commission airport, (2) is within the noise zone of a commission airport, as defined in the Metropolitan Development Guide, or (3) has notified the commission's secretary that it considers itself an "affected municipality."

The council must at a minimum determine that the commission:

a) provided adequate and timely notice of the proposed project to each affected municipality;

b) provided to each affected municipality a complete description of the proposed project;

c) provided to each affected municipality notices, agendas, and meeting minutes of all commission meetings, including advisory committee meetings, at which the proposed project was to be discussed or voted on in order to provide the municipalities the opportunity to solicit public comment and participate in the project development on an on-going basis; and,

d) considered the comments of each affected municipality.

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Sd7 Capital project

For purposes of this section, capital projects having a significant effect on the orderly and economic development of the metropolitan area shall be deemed to be the following:

a) the location of a new airport,

b) a new runway at an existing airport,

c) a runway extension at an existing airport,

d) runway strengthening other than routine maintenance to determine compliance with Federal Air Regulation, Part 36,

e) construction or expansion of passenger handling or parking facilities which would permit a 25 percent or greater increase in passenger enplanement levels,

f) land acquisition associated with any of the above items or which would cause relocation of residential or business activities.

• MS 473.614, Environmental Review

In addition to overall NEPA and MEPA environmental requirements the MAC has the following state directives concerning preparation of environmental documentation in relation to development and implementation of capital improvements.

Sd1 Capital Plan; environmental assessments

The commission shall prepare an assessment of the environmental effects of projects in the commission's seven-year capital improvement program and plan at each airport owned and operated by the commission to be consistent with MS 473.614. The assessment must examine the cumulative environmental effects at each airport of the projects at that airport, considered collectively. The commission need not prepare an assessment for an airport when the capital improvement program and plan for that airport has not changed from the one adopted the previous year or when the changes in the program and plan will have only trivial environmental effects.

Sd2 Capital program: environmental assessment worksheets

a) The commission shall prepare environmental assessment worksheets (EAW's) under chapter 116D, rules issued pursuant thereto, on the environmental effects of projects in the commission's capital improvement program at each airport owned and operated by the commission. The scope of the environmental assessment worksheets required by this section is limited to only those projects in the program for an airport that meet all of the following conditions:

- The project is scheduled in the program for the succeeding calendar period.
- The project is scheduled in the program for the expenditure of \$5M or more at MSP, or \$2M or more at any other airport.

• The project involves (i) the construction of a new or expanded structure for handling passengers, cargo, vehicles, or aircraft; or (ii) the construction of a new or the extension of an existing runway or taxiway.

After adopting its capital program, the commission may amend the program by adding or changing a project without amending or redoing the worksheets required by this subdivision, if the project to be added or the change to be made is one that the commission could not reasonably have fore-seen at the time it completed the worksheets.

b) For the purpose of determining the need for an environmental impact statement, the commission shall consider the projects included in the scope of a worksheet as a single project and shall assess their environmental effects collectively and cumulatively. The commission's decision on whether an environmental impact statement is needed must be based on the worksheet and comments. The commission may not base a decision that an EIS is not needed on exemptions of projects in state or federal rules. The commission is not required to prepare an EIS on an individual project, or to include a project in the scope of an EIS that the commission determines is needed, if the project is shown in the worksheet to have trivial environmental effects or if an EIS on the project has been determined to be adequate under state law.

c) The commission may incorporate into worksheets information from the commission's log-term plans, environmental assessments prepared under subdivision 1, or other environmental documents prepared on projects under state or federal law.

Sd2a Environmental impact report

Notwithstanding the provisions of subdivision 2, the commission shall prepare a report documenting the environmental effects of projects in the MSP 2010 LTCP. Environmental effects of and costs associated with, noise impacts, noise mitigation measures, and land use compatibility measures must be evaluated according to alternative assumptions of 600,000, 650,000, 700,000 and 750,000 aircraft operations at MSP.

Sd3 Procedure

a) "The environmental assessments required under subdivision 1 and the Environmental Assessment Worksheets required under subdivision 2 must be prepared each year before the commission adopts its capital improvement plan and program" to be consistent with MS 473.614.

b) "The commission shall hold a public hearing on each Environmental Assessment and Worksheet before adopting the capital improvement plan and program. The commission may consolidate hearings" to be consistent with MS 473.614.

c) "The initial Environmental Assessments and Worksheets must be completed before the commission adopts its Capital Improvement Program for calendar years 1989-1995" to be consistent with MS 473.614. D

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Sd4 Other environmental review

"Nothing in this section limits the responsibility of the commission or any other governmental unit or agency, under any other law or regulation, to conduct environmental review of any project, decision, or recommendation, except that the environmental assessment worksheets prepared under subdivision 2 satisfy the requirements under state law or rule for environmental assessment worksheets on individual projects covered by worksheets prepared under subdivision 2" to be consistent with MS 473.614.

REVIEW MATERIALS

The MAC and the Council prepare various materials for their respective policy bodies and to facilitate coordination with standing committees, advisory groups and the public. The MAC process is depicted in schematic form in Figure P-1, indicating the flow of various work /review elements in development of the capital improvement program and relationship of Metro Council and EQB reviews.



Figure P-1: Development of MAC Capital Improvement Program

Figure P-2 indicates the actual review schedule that has been programmed for calendar year 2011. This same process is repeated annually with some slight change to the dates involved for specific actions. The review dates for the Council's Technical Advisory Committee (TAC) and the Transportation Advisory Board (TAB) are also included. The MAC CIP is reviewed within the capital review process in relation to the current long-term comprehensive airport development plan (LTCP), environmental evaluation or required environmental assessment worksheet or environmental impact statement, and project criteria as defined in the statutes.

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Figure P-2: ANNUAL CAPITAL IMPROVEMENT PROGRAM REVIEW AND IMPLEMENTATION PROCESS

METROPOLITAN AIRPORTS COMMISSION CAPITAL IMPROVEMENT PROGRAM	RESPONSIBILITY	2011 SCHEDULE
PROJECTS DEFINITION		
Initial Capital Improvement Program (CIP) Discussions	MAC Airport Development	 January 2010
Requests for CIP Projects to Airport Dev	MAC Departments	 Feb. 1 – June 1
Requests for on Projects to Airport Dev. Dev. Project Scones/Costs/Prioritization	MAC Departments/Airport	• Feb. 1 – July 31
	Development/Consultants	
Develop Draft Preliminary CIP	Airport Development	• Feb. 1 – July 31
PROJECTS ENVIRONMENTAL AND AFFECTED COMMUNITIES REVIEW		
	Environment	July 31-Oct. 15
Prepare AOEEs and EAWs as required,	Airport Development	 September 1
 Notice of FD&E Meeting mailed to affected Communities, EDAE D <l< td=""><td>Airport Development</td><td> September 8 </td></l<>	Airport Development	 September 8
FD&E Recommendation of Preliminary CIP to MAC for Environ. Review/Authorization to hold P.H. on AUEE's & EAW's.	Airport Development	 September 17
FD&E Minutes of Sept. Meeting and Notice of Sept. Commission Meeting mailed to Affected Communities	Airport Development	 September 20
MAC Approval of Preliminary CIP for Environmental Review/Authorization to hold P.H. on AOEE's and EAW'S	 Airport Development 	 September 24
Preliminary CIP Malled to Affected Communities,	Environment	 October 11
AOEE's and EAW's to Environmental Quality Board (EQB) Dublic Hearing Notice Dubliched in EOP Monitor, storting 20 Day Commont Deried	Environment	October 18
Minutes of Sent Commission Meeting mailed to Affected Communities	Airport Development	 October 27
Initiality of Sept. Commission Meeting maneu to Anecled Committee Moeting Dublic Hearing on ACEE's and EAW's at New ED&E Committee Meeting	Environment	November 3
 Fublic frequency of AOEE's and EAW's at Nov. FD&E Committee Meeting. Thirty Day Comment Period on AOEE's and EAW's ends 	Environment	November 17
Metro Council - TAC - Aviation Advisory Task Force	Metropolitan Council	November 19
Final Date for Affected Communities Comments on Preliminary CIP to MAC	 Affected Communities 	 November 23
Metro Council -Technical Advisory Committee (TAC)	Tech. Advisory Committee	December 1
Notice of December FD&F Meeting mailed to Affected Communities	 Airport Development 	 December 2
Recommendation by FD&E to Commission on Final CIP	 Airport Development 	December 8
Minutes of December FD&F Meeting and Notice of Dec. Commission Meeting mailed to Affected Communities	 Airport Development 	 December 15
Metro Council - Transportation Advisory Board	 TAB – Policy Committee 	 December 15
Metro Council -TAB	Transp. Advisory Board	 December 15
PROJECTS PLANNING and FINANCIAL REVIEW		
Approval of Final CIP by Commission	Airport Development	December 20
Notification of Commission Action to EQB	Airport Development	December 23
CIP Distributed to MAC Departments, Met Council, State Historical Society and Affected Communities	Airport Development	December 23
Metropolitan Council – Transportation Committee	Iransportation Committee	 January 10, 2011
Metropolitan Council	Metropolitan Council	• January 12, 2011
Minutes of December Commission Meeting mailed to Affected Communities	Airport Development	• January 21, 2011

Note: 1) All dates are tentative and subject to change. 2) Shaded items represent actions/dates which pertain to the Affected Communities as defined in Minnesota Statutes § 473.621, Sd. 6 as amended. 3) MAC = Metropolitan Airports Commission. 4) FD&E = MAC Finance, Development and Environment Committee. 5) AOEE = Assessment of Environmental Effects. 6) EAW = Environmental Assessment Work Sheet. 7) EQB = [MN] Environmental Quality Board

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The Council does not officially review the MAC annual operating budget or bonding proposals, but may use information from these documents to help clarify CIP proposals and their implementation. Table P-3 is the form designed by the Council to directly reflect those statutory criteria and is used by the TAC Aviation Advisory Task Force in its initial review of the CIP. This is an initial review in that final comments by affected communities may not have been received or addressed by the MAC prior to mailing to the TAC advisory task force. In most instances the MAC 30-Day review comment period is just ending, and proposed CIP funding information is not completed and acted upon by the Commission. Comments on the AOEE's and EAW's are addressed administratively by staff letter to the MAC during the 30-Day EQB review period. The latest CIP changes to come out of the review process at this time are often addressed verbally at the full TAC if they are different than the initial action item submitted for review. Final action by the Commission's Finance, Development & Environment Committee (FD&E), including any changes different from the information provided to the TAC, are addressed in reviews by the TAB Policy Committee and the full Transportation Advisory Board. Comments/recommendations made by the TAB are the forwarded for consideration by the Council's Transportation Committee report to the full Council for action.

2009 CIP*	Prior Revie	ws / Actions		Capital Review Criteria *						
	LTCP	AOEE***	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)**
PROJECT LISTINGS BY AIRPORT	• Approved (Yes/No) • Current [?]	•EA-EAW – Prepared •EIS - Reviewed •NPDES – Approved •Legislative Requirement •Regulatory Requirement	Project meets the dollar threshold at: MSP = \$5M Relievers = \$2M	Location of a New Airport	New Runway at an Existing Airport	Runway Extension at an Existing Airport	Runway Strengthen- ing Other than Routine Maintenance	New or Expanded Passenger Handling Or Parking Facilities for > 25% capacity increase.	Land acquisition associated with the other criteria or that would cause relocation of residential or business activi- ties.	Project infor- mation made available by the MAC to affected municipali- ties for their review.
MSP International										
St. Paul Downtown										
Anoka County-Blaine										
Flying Cloud										
Crystal										
Lake Elmo										
Airlake								1		
* Criteria as defined und	er MS 473. **	Requirements de	fined under MS	473. *** Se	e AOEE 2008	3-2014 Sumn	nary Environme	ntal Assessment	– Table 2 Attached	1

Table P-3: CIP Review Criteria

If an AOEE or EAW are required for projects in the annual Capital Improvement Program the following form in Table P-4 indicates the types of environmental categories that are examined and whether it has an environmental effect or cumulative effect for a particular airport. The AOEE or EAW, along with the CIP, provide more detailed information that is required if the project has an environmental effect.

	Table P-4: Summary of Environmental Assessment														
			Environmental Categories Affected by the Project												
Project Description	Are the Effects of the Project Addressed in an Approved EAW, EA, or EIS?	Air Quality	Compat- ible Land Use	Fish, Wildlife and Plants	Flood- plains and Flood- ways	Hazardous Materials, Pollution Prevention and Solid Waste	Historical, Archi- tectural, Archaeo- logical and Cultural Resources	Light Emis- sions and Visual Effects	Parks, recreation Areas and trails	Noise	Water Quality (Storm, Waste and Ground Water)	Wet- lands	Infrastruc- ture and Public Services	Farm- land	Erosion and Sedi- mentation
MSP Projects													•		
Project X	Yes2010 LTCP FEIS, May 1998	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
Reliever Airpo	ort Projects														
Airport X	Yes Expansion FEIS June 2004	Effect*	Effect*	No Effect	No Effect	No Effect	Effect*	No Effect	No Effect	Effect*	Effect*	No Effect	No Effect	No Effect	No Effect
Airport Y															
Airport Z															
* All required m	nitigation is being cor	mpleted as	part of the pr	oject											

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Appendix Q: Airport Capacity Criteria

Airport airside capacity is the single most important element for the regional airport system. The efficient use of the airport capacity is affected by the level of delay that is experienced for each aircraft operation on an annual basis. The Council's Metro Development Framework has adopted a delay benchmark for MSP as an indicator of how the overall system is performing. In addition, the Council, as part of its system planning utilizes various FAA planning guidelines for assessing system needs. These FAA guidelines were used in review of the MSP 2030 LTCP Update. The following material describes how the guidelines are being applied in the regional aviation planning process prior to 2020.

Application of FAA Order 5090.3c Planning Guidelines

Chapter 3 of this Order identifies types of fundamental airport development and activity levels for planning capacity development to meet the requirements of the *National Plan of Integrated Airports* (NPIAS). Minneapolis-St. Paul International Airport (MSP) is included as a primary commercial airport in the NPIAS and must meet it's requirements.



Figure Q-1: Minneapolis - St. Paul International Airport Layout

Fundamental Development is the basic configuration recommended for an airport in the national system. This development would include, but not be limited to, land acquisition, aircraft movement areas (runways, taxiways), landing and navigation aids and aircraft parking areas.

The MSP 2030 LTCP has been prepared with a fundamental airfield configuration as depicted in Figure Q-1; **"additional runway capacity is not recommend"**. Some minor airfield improvements to taxiways, etc. may be needed in later phases of the proposed plan assuming the demand forecasts materializes.

The main focus of the LTCP update is to provide more passenger gates, additional vehicle parking, and improved ground access.

Activity Levels for planning capacity at a NPIAS airport, for runways and most other airport/airfield development, is identified at two key levels:

• At 60% of the airport's total annual capacity; an additional runway or supplemental airport planning process should begin.

• At 75% of the airport's total annual capacity; development programming should be in-place so implementation can be initiated.

Capacity estimates for the MSP LTCP development phases, in relation to the forecasts, are depicted in Table Q-2 below. Essentially all levels of activity are over the 60% criterion, and most are above the 75% criterion.

Air Domand		Estimated	MSP Capaci	ty Levels ¹
All Demand		723,000 ²	640,000 ³	583,000 ⁴
2030 Forecast Scena	rios		Ann. Op's	
#3 - High Economic Growth	688,431	(95.2%)	(>100%)	(>100%)
#2 - Low Fuel Cost	697,815	(96.5%)	(>100%)	(>100%)
Base Case	630,837	(87.2%)	(98.6)	(>100%)
#4 - Low Connecting Ratio	571,934	(79%)	(89%)	(98.1%)
#1 - High Fuel Cost	514,042	(71%)	(80%)	(88.1%)
MSP Historical High Op's	541,093	(75%)	(84%)	(92.8%)
2009 Actual Operations	432,604	(60%)	(67%)	(74.2%)

Table Q-2: Aircraft Operational Demand vs Percent of Airside Capacity Used

1 - Total Annual Operations assumed in preparing 2030 LTCP capacity estimates.

2 - MSP 2015 Terminal Expansion Environmental Assessment, by MAC in 2005. (annual average delay per operation 12.7 minutes).

3 - Major Airport Dual-Track Planning Strategy – MSP LTCP for 2010 (Approved 1996) (annual Delay 10 minutes)

4 - MSP Part 150 for 2007 Noise Contour.

With numerous demand/capacity ratios over 80% in the above comparisons it appears that MSP development alternatives beyond 2020 would need to be evaluated immediately. Such evaluations, however, can be moved from the short term (2010-2015) to the mid-term (2015-2020) because of the following factors:

- · Five-year continuous operational declines and actual level of operations,
- Poor performance of the U.S. Economy and projected slow growth in the short-term,
- MSP 2030 capacity estimates **do not** include potential benefit of proposed NextGen program (questions of actual future throughput still remain to be answered),
- Capacity improvements with Runway 17/35 are in-place for more than historical high operations activity,
- FAA use of 90% threshold (for single air-service airport metro areas) for **implementing** development alternatives; see FAA *Future Capacity Needs in the National Airspace System, 2004*,
- FAA has not indicated a need for new capacity at MSP until 2025 unless, assumed benefits of Air Traffic Control improvements, and reduced delays at other [hub] airports do not occur; see FAA *Future Capacity Needs in the National Airspace System, 2007* (Appendix C1 [Table Q-3] is attached,

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it identifies some of the NextGen improvements expected at MSP, and are items to be monitored as part of the capacity/delay portion of the airport alternatives issue).

Results of the Future Airport Capacity Task (FACT) team efforts conducted an assessment of the future capacity of the Nation's airports and metropolitan areas. The goal of FACT was to determine which airports and metropolitan areas have the greatest need for additional capacity.

The most recent report, FACT 2, conducted an analysis to identify U.S. airports that can be expected to require additional capacity in the future if demand reaches forecast levels. MSP was not mentioned in the 2007 or 2015 planning horizons as an airport that requires capacity enhancements. In 2025, MSP benefits from "ATC improvements and reduced delays at other airports" according to the FACT 2, 2007 analysis. Therefore, MSP and the metropolitan area are not identified as an area in need of airside capacity improvements.

Given the above situation it appears that implementing Development Phases I and II at MSP is appropriate, assuming no major legislative changes to the planning process, and the following planning activities are executed:

- MC completes TPP Update in 2010.
- Mn/DOT Aeronautics Updates the SASP in 2011-2012.
- MAC Updates the MSP LTCP in 2015.
- MC Updates TPP in 2018.

If by 2018 a mid-course [2020] correction does not appear warranted, for Major-Airport Capacity at MSP, development Phases III and IV of the 2030 MSP Concept Plan would likely be continued. The Council approval of the MSP 2030 LTCP, indicated that the MAC should initiate a capacity study in advance of the airport reaching 540,00 annual operations.

If a mid-course correction appears warranted it will likely require also looking at a number of alternative airport development approaches to meet system capacity needs.

- The FAA has identified a number of approaches for potential further investigation:
- New Runways
- New Commercial Service Airports
- Regional Solutions
- Congestion Management
- · High-Density Corridors and Multimodal Planning
- NextGen Improvements

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Table Q-3: Capacity Assumptions – OEP Airports : Detailed Improvements Modeled in 2015 and 2025

	Atlanta	Boston	Baltimore	Cleveland	Charlotte	Cincinnati	Regan Nat'l	Denver	Dallas	Detroit	Newark	Ft Lauderdale	Honolulu	Dulles Int'l	Houston Int'l	NY - JFK	Las Vegas	Los Angles	NY - LGA	Orlando	Midway	Memphis	Miami	MSP	O'Hare	Portland	Philadelphia	Phoenix	Pittsburg	San Diego	Seattle	San Francisco	Salt Lake City	St. Louis	Tampa
Reduced Separation Standards																																			
use visual separation in MMC	х	х	x	х	х	х	х	х	х	х	х	х	х	х	х	х*	х	х	х	х	v	х	х	х	х	х	х	х	х	х	х	х	х	х	х
use 2/3/4/5 NM in IMC																					×														
Improved threshold delivery accuracy	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	0	\diamond	\$	0	0	0	0	\$	\$	\$	\$	\$	\$	0	\$	\diamond	\diamond	\diamond
1.5 NM Departure/Arrival separation (IMC)	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
spacing <2500 ft or same runway	X	×	×	×	X	X	X	X	X	X	X	X	X	×	×	×	X	X	X	×	x	X	×	×	X	X	X	X	X	*	X	*	×	×	x
Independent parallel approaches (IMC)												v																v			v				
spacing 2500-4299 ft												х														X		X			X				
Triple independent Parallel approaches (IMC)										х				\$						\$					\diamond								х		
"Mixed triple" independent/dependent parallel					v																														
Approaches (IMC)					X																														
Paired approaches, e.g. SOIA		_									^															_					^				
MMC (spacing 700-2499 ft)	X	V									~						X	X					x			V					~				
IMC (spacing 1200 – 2499 ft)		х																																	
Dependent Approaches																																			
MMC/IMC (700 – 2500 ft spacing)											v							v		v			v									v		~	v
1.5 NM diagonal behind Small, Large											x							X		x			x									x		V	X
wake vortex sep. behind B757/Heavey																																			
LAHSO (all weather) if > 7000 ft to intersection													х				х						х												
Simultaneous Converging Approaches (IMC)																	х							х											
Standard Departure/Departure separations		v										v					v									v				v		v	~		
(no departure constraints)		^										^				~	^									^				^		^	^		
Independent parallel departures (IMC)																																			
no wake vortex separation behind											х						х			х			х									х		\$	х
Small/Large (700 – 2500 ft spacing)																																			
New/extended runways		_										^		\$											^		^				^				
(since 2002)		Ŷ	X		X			х	х			\lor		x	x										\lor		V				Ŷ				х
Included in 2006 capacity	x \	/isu:	al se	nara	ation	s an	nliec	l in \	/MC	and		1C ()	2025	5)*					CAPACITY NEEDS IN THE NATIONAL AIRSPACE SYSTEM:																

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Visual separations applied in VMC (2015)* \diamond

Future Airport Capacity Task (FACT) 2

May 2007 PLANNED IMPROVEMENTS

2025 capacity improvement

2015 capacity improvement

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