

# AVIATION SUPPORTING INFORMATION



**IMAGINE**<sup>20</sup><sub>50</sub>  
transportation policy plan

# Regional vision

A prosperous, equitable, and resilient region  
with abundant opportunities for all to  
live, work, play, and thrive.

## Regional core values

Equity | Leadership | Accountability | Stewardship

## Regional goals

### **Our region is equitable and inclusive**

Racial inequities and injustices experienced by historically marginalized communities have been eliminated; and all people feel welcome, included, and empowered.

### **Our communities are healthy and safe**

All our region's residents live healthy and rewarding lives with a sense of dignity and wellbeing.

### **Our region is dynamic and resilient**

Our region meets the opportunities and challenges faced by our communities and economy including issues of choice, access, and affordability.

### **We lead on addressing climate change**

We have mitigated greenhouse gas emissions and have adapted to ensure our communities and systems are resilient to climate impacts.

### **We protect and restore natural systems**

We protect, integrate, and restore natural systems to protect habitat and ensure a high quality of life for the people of our region.



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## National and State Airport Classification

The National Plan of Integrated Airport Systems is constantly updated as state and local airport and system plans are completed and accepted by the Federal Aviation Administration. Table 1 indicates the current mix of airports for the region included in the 2023-2027 national plan and officially eligible for federal airport funding. Current national plan information is summarized below.

Table 1. Current mix of airports included in national plan

Airport	Hub Type	Role (FY23)	Development Estimate 2023-2027	Based Aircraft (CY21)
Buffalo		Local	\$2.9 Million	61
Cambridge		Local	\$1.8 Million	40
Faribault		Local	\$6.1 Million	39
Le Sueur		Local	\$2.9 Million	32
Princeton		Local	\$1.3 Million	36
Red Wing		Regional	\$4.0 Million	54
Rush City		Local	\$5.2 Million	43
St. Cloud	Non-hub		\$11.7 Million	108
Winsted		Basic	\$4.1 Million	22
Airlake		Regional	\$6.0 Million	102
Anoka Co.-Blaine		National	\$6.0 Million	359
Crystal		Regional	\$2.6 Million	111
Flying Cloud		National	\$4.6 Million	335
MSP International	Large		\$490.5 Million	178
Lake Elmo		Regional	\$2.9 Million	160
St. Paul Downtown		National	\$9.1 Million	44
So. St. Paul		Regional	\$7.2 Million	220
New Richmond		Regional	\$6.0 Million	204
Osceola		Local	\$3.1 Million	55

Other airports, in addition to those in the national plan, are part of the Minnesota State Aviation System Plan. Several nearby 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.

Additional information on National Plan of Integrated Airport Systems airports can be found at:

[https://www.faa.gov/airports/planning\\_capacity/npas](https://www.faa.gov/airports/planning_capacity/npas)

Additional information on Statewide Aviation System Plan airports can be found at: <https://mnsasp.org/>

The existing Regional Airport System Plan for the metropolitan area identifies key parts of the system involving the hub airport, reliever airports, and special purpose facilities.

## Regional Airspace

All 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 Aviation System Plan and the Minneapolis-St. Paul metropolitan regional aviation system plan. 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 restricted, as depicted in Figure 1. Figure 2 includes those areas within U.S. airspace in which unmanned aircraft systems, also commonly referred to as drones, can be operated.

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, which 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, including drone use. In addition, there is other airspace reserved for special purposes called special use airspace.

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

### Class A airspace

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

### Class B airspace

Class B airspace extends from the surface to 10,000 feet and out to 30 nautical miles and is structured like an upside-down wedding cake. Class B airspace surrounds the nation's busiest airports, such as Minneapolis-St. Paul International Airport. At the outer limits of the Class B airspace, from the surface to 10,000 feet mean sea level at MSP airport, there is a Mode-C & ADS-B Out Veil. This is an imaginary vertical surface that delineates where an aircraft must have a Mode-C transponder as well as ADS-B Out equipment. This equipment allows air traffic control to track their flight in the airspace.

Visual flight rules transition routes are specific designated flight paths used by air traffic control to route visual flight rules traffic through Class B airspace. Visual flight rules flyways are general flight paths through low altitudes for general aviation to fly from one ground-based radio beacon to another across the United States. It helps pilots plan flights into, out of, through, or near complex Class B terminal airspace, especially where instrument flight rules routes occur.

### Class C airspace

Class C airspace extends from the surface to 4,000 feet above ground level for a 20 nautical mile distance from the airport for the inner ring and from 1,200 feet above the airport to 4,000 feet above the airport for a 10 nautical mile distance outer ring. 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**

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 above ground level 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 air traffic control towers, and their airspace reverts to Class E airspace areas when the towers are not in operation.

### **Class E airspace**

Class E airspace includes all other controlled airspace in the United States 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 instrument flight rules operations, but no operating control tower. In the Twin Cities area, the Airlake Airport is such a facility.

### **Class F airspace**

Class F designated airspace is not used in the United States.

### **Class G airspace**

Class G airspace is uncontrolled; it includes all airspace in the United States not classified as Class A, B, C, D, or E. No air traffic control services are provided and the only requirement for flight is certain visibility and cloud clearance minimums. Most of the airspace below 1,200 feet above ground level is Class G airspace.

### **Special conservation area**

Special conservation area includes airspace surrounding national parks, monuments, recreation areas and wildlife refuges. In the Twin Cities region, the Minnesota Valley National Wildlife Refuge, St. Croix National Scenic Riverway, and the Carlos Avery State Wildlife Management Area are such areas, and pilots are requested to maintain a minimum altitude of 2,000 feet above ground level whenever possible. Objectives are to avoid bird strikes, minimize noise intrusion on wildlife, and maintain tranquility for users in protected natural settings. It is unlawful to land any aircraft or unmanned aircraft system within the boundaries of state parks, state recreation areas, and state waysides. This discourages the use of aircraft and unmanned aircraft system within these areas.

### **Special use airspace**

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

- Prohibited areas (for example, Camp David)
- Restricted areas (military activities including controlled firing areas)
- Warning areas (extends outward from three nautical miles off the coast).
- Military operations areas (established for military training activities)
- Alert areas (for example, established for areas with a high volume of pilot training)

### **Other airspace areas**

Other airspace areas are designated usually as temporary limitations for specific events and include:

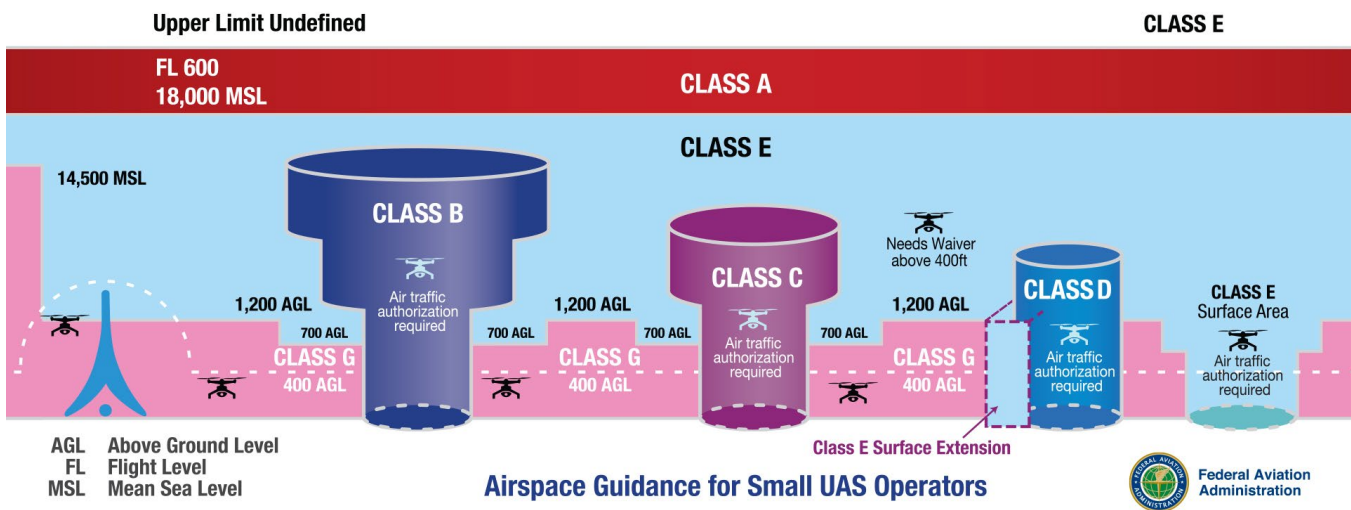
- Airport advisory areas

- Military training routes
- National security area
- Temporary flight restrictions

Figure 1. U.S. airspace at a glance<sup>1</sup>



Figure 2. Airspace for unmanned aircraft systems operators<sup>2</sup>



<sup>1</sup> Federal Aviation Administration.

<sup>2</sup> Federal Aviation Administration.



## Airport Capital Investment Review Process

The overall aviation planning process for the Twin Cities metro area is discussed in Chapter 9, “Aviation System Plan.” Additional details on the state statutes affecting aviation capital investment review process are provided in this section. The typical annual process and schedule for preparation and review of the Metropolitan Airports Commission capital improvement plan is also included.

### Statutory authority

As required under the following state statutes, the capital investments made at the region’s public-use airports are reviewed and commented upon, or under some conditions approved, by the Metropolitan Council.

The Metropolitan Airports Commission prepares a capital improvement program for the metro area airports that the commission owns and operates. The Met Council annually reviews the Metropolitan Airports Commission’s capital improvement program under the following key legislative authorizations:

### **MS 473.165, Metropolitan Council Review: Independent Commission, Board, Agency**

#### *Subd. 1*

The Metropolitan Council shall review all long-term comprehensive plans of each independent commission [Metropolitan Airports Commission], board, or agency prepared for its operation and development within the metropolitan area but only if such plan is determined by the Metropolitan 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 Metropolitan Council before any action is taken to place the plan or any part thereof, into effect.

### **MS 473.181, [Additional] Metropolitan Council review powers**

#### *Subd. 5. Airports*

The Metropolitan Council shall review Metropolitan Airports Commission capital projects pursuant to section 473.621, Sd6. The plans of the Metropolitan Airports Commission 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 Metropolitan Council.

### **MS 473.621, Powers of [Metropolitan Airports Commission] corporation**

#### *Subd. 6. Capital projects, review*

All Minneapolis-St. Paul International Airport capital projects of the commission requiring expenditure of more than \$5 million shall be submitted to the Metropolitan Council for review. All other capital projects of the commission requiring expenditure of more than \$2 million 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 Metropolitan Council shall not approve a proposed project unless the Metropolitan 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 Metropolitan Council must at a minimum determine that the commission:

- Provided adequate and timely notice of the proposed project to each affected municipality.

- Provided to each affected municipality a complete description of the proposed project.
- 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 considered the comments of each affected municipality.

#### ***Subd. 7 Capital projects***

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:

- The location of a new airport
- A new runway at an existing airport
- A runway extension at an existing airport
- Runway strengthening other than routine maintenance to determine compliance with Federal Air Regulation, Part 36
- Construction or expansion of passenger handling or parking facilities which would permit a 25% or greater increase in passenger enplanement levels
- Land acquisition associated with any of the above items, or which would cause relocation of residential or business activities

In addition to overall federal National Environmental Protection Act and state Minnesota Environmental Protection Act environmental requirements, the Metropolitan Airports Commission has the following state directives concerning preparation of environmental documentation in relation to development and implementation of capital improvements.

### **MS 473.614, Environmental Review**

#### ***Subd 1. 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. 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.

#### ***Subd 2. Capital Program; environmental assessment worksheets***

The commission shall prepare environmental assessment worksheets 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 \$5 million or more at MSP airport, or \$2 million 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 foreseen at the time it completed the worksheets.

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 environmental impact statement is not needed on exemptions of projects in state or federal rules. The commission is not required to prepare an environmental impact statement on an individual project, or to include a project in the scope of an environmental impact statement that the commission determines is needed if the project is shown in the worksheet to have trivial environmental effects or if an environmental impact statement on the project has been determined to be adequate under state law.

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

#### *Subd 2a. Environmental impact report*

Notwithstanding the provisions of subdivision 2, the commission shall prepare a report documenting the environmental effects of projects in the Minneapolis-St. Paul International Airport 2010 long-term comprehensive plan. 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 the Minneapolis-St. Paul International Airport.

#### *Subd 3. Procedure*

The environmental assessments required under subdivision 1 and the environmental assessment worksheet required under subdivision 2 must be prepared each year before the commission adopts its capital improvement plan and program.

The commission shall hold a public hearing on each environmental assessment and environmental assessment worksheet before adopting the capital improvement plan and program. The commission may consolidate hearings.

The initial environmental assessments and environmental assessment worksheets must be completed before the commission adopts its capital improvement program for calendar years 1989-1995.

#### *Subd.4. 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.

The following statute is not directly a part of the aviation capital improvement plan process but is included here to indicate the responsibilities of the Met Council to review applications for state and federal aid for aviation investments. This review authority is especially pertinent for grants to municipal owned or privately owned, public-use airports which are not included in the Metropolitan Airports Commission capital improvement plan. For investments at these airports the Met Council coordinates with MnDOT through its 5-year Aeronautics capital improvement program. This program is updated

annually and is used for identifying project eligibility and defining state and federal funding participation levels/schedule.

#### **MS 473.171, Metropolitan Council Review: Applications for federal, and state aid**

##### *Subd. 1. Federal*

The Metropolitan 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 United States 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 United States or any 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 United States 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.

##### *Subd. 2. State*

The Metropolitan 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.

#### **Capital improvement program review process materials**

The Metropolitan Airports Commission annually prepares a capital improvement program and the associated environmental documents (including an assessment of environmental effects, as well as any needed environmental assessment worksheets) as specified in the statutes quoted previously. These materials inform the policy bodies and facilitate coordination with standing committees, advisory groups, and the public. The Metropolitan Airports Commission process is depicted in schematic form in Figure 3, indicating the flow of various work /review elements to develop the capital improvement program and its review by Met Council and Environmental Quality Board.



Figure 3. Development of MAC Capital Improvement Program

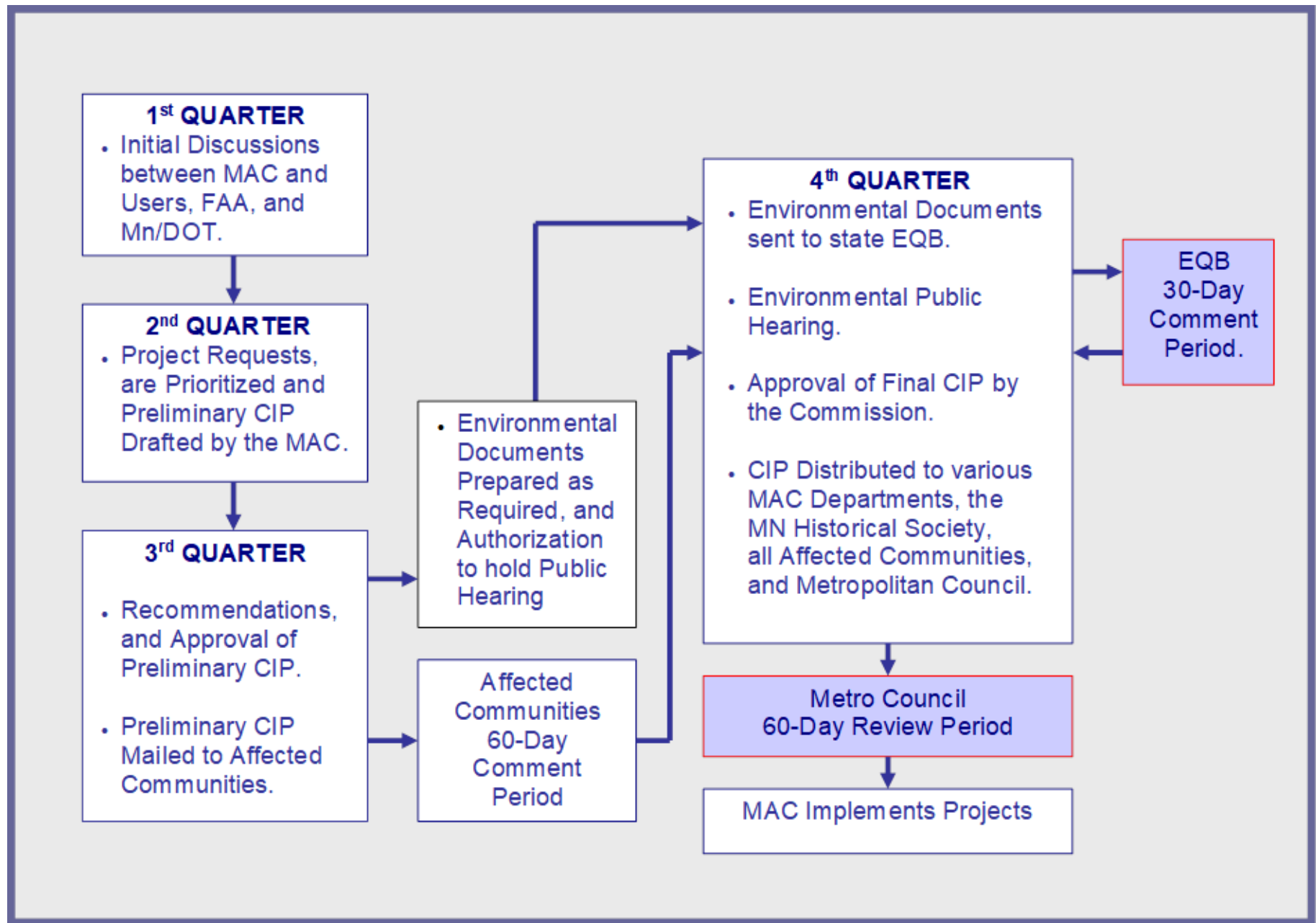


Table 2 indicates the actual review schedule that was programmed for calendar year 2023. This same process is repeated annually with a slight variance to the dates involved for specific actions. Figure 4 shows the capital improvement program review process in graphic form as conducted for the 2024-2030 capital improvement program. The review dates for the Met Council's Technical Advisory Committee and the Transportation Advisory Board (TAB) are also included.

The Metropolitan Airports Commission capital improvement program is reviewed for consistency with Met Council plans for the region and in relation to each airport's current long-term comprehensive airport development plan, environmental evaluation or required environmental assessment worksheet or environmental impact statement, and the project criteria as defined in the statutes.

**Table 2. Annual Capital Improvement Program review and implementation process<sup>3</sup>**

	<b>Metropolitan Airports Commission capital improvement program</b>	<b>Responsibility</b>	<b>2023 schedule</b>
<b>Projects Definition</b>	Initial capital improvement program discussions	Airport Development	January
	Requests for capital improvement program projects to airport development	Departments	Jan. 1 – May 15
	Develop project scopes/cost/prioritization	Departments/Airport Development/Consultants	Feb. 1 – July 31
	Develop draft preliminary capital improvement program	Airport Development	Feb. 15 – August 31
<b>Projects Environmental Review</b>	Prepare assessments of environmental effects and environmental assessment worksheets as required	Environment	July 31-Sept. 30
	Notice of project development and environment meeting mailed to affected communities	Airport Development	August
	Project development and environment recommendation of preliminary capital improvement program to Metropolitan Airports Commission for environmental review/authorization to hold public hearing on assessments of environmental effects and environmental assessment worksheets.	Airport Development	September 6
	Project development and environment minutes of September meeting and notices of September commission meeting mailed to affected communities	Airport Development	September
	MAC approval of preliminary capital improvement program for environmental review/authorization to hold public hearing on assessments of environmental effects and environmental assessment worksheets	Airport Development	September 18
	Preliminary capital improvement program mailed to affected communities	Environment	September

<sup>3</sup> Note: 1) All dates are respective for the 2023 process and subject to annual changes. 2) PD&E = Metropolitan Airports Commission Planning, Development and Environment Committee. 3) AOEE = Assessment of Environmental Effects. 4) EAW = Environmental Assessment Work Sheet. 5) EQB = Minnesota Environmental Quality Board

Metropolitan Airports Commission capital improvement program		Responsibility	2023 schedule
	Assessments of environmental effects and environmental assessment worksheets to Environmental Quality Board Public Hearing Notice published in EQB Monitor, starting 30-day comment period	Environment	October 10
	Minutes of September commission meeting mailed to affected communities	Airport Development	October
	Public hearing on assessments of environmental effects and environmental assessment worksheets at November Finance Development and Environment Committee meeting	Environment	November 6
	30-day comment period on assessments of environmental effects and environmental assessment worksheets ends	Environment	November 17
	Metropolitan Council - TAC Planning committee	Met Council - TAC Planning	November 9
	Final Date for Affected Communities Comments on Preliminary CIP to MAC	Affected Communities	November 13
	Metropolitan Council - TAB Technical Advisory Committee (TAC)	Technical Advisory Committee	December 6
	Notice of December Finance Development and Environment Committee mailed to affected communities	Airport Development	November 30
	Recommendation by Finance Development and Environment Committee to commission on final capital improvement program	Airport Development	December 4
	Minutes of December Finance Development and Environment Committee and notice of December commission meeting mailed to affected communities	Airport Development	December
	Metropolitan Council - Transportation Advisory Board (TAB)	Transportation Advisory Board	December 20
	Approval of final capital improvement program by commission	Airport Development	December 18
Projects Planning and Financial	Notification of commission action to Environmental Quality Board	Airport Development	December 19
	Capital improvement program distributed to MAC departments, Met Council, State Historical Society and affected communities	Airport Development	December 19
	Met Council – Transportation Committee	Transportation Committee	January 8 (Next Year)
	Met Council	Met Council	January 24 (Next Year)
	Minutes of December commission meeting mailed to affected communities	Airport Development	January (Next Year)

When the TAC Planning committee begins its review of the draft capital improvement program in November, the Metropolitan Airports Commission 30-day public review and comment period is just

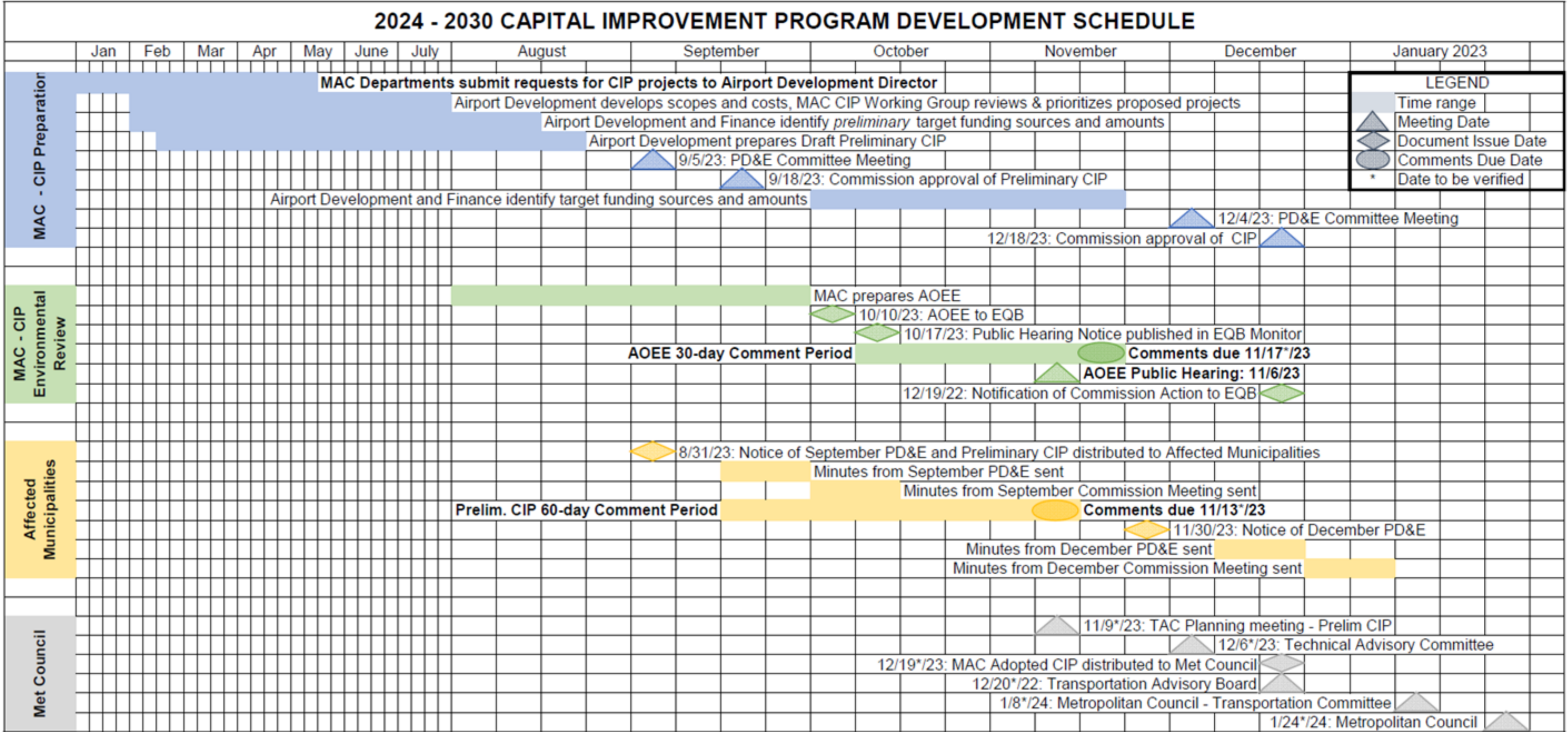
ending and proposed capital improvement program funding information is not completed and acted upon by the Commission.

Therefore, the latest capital improvement program changes are addressed verbally at the full Technical Advisory Committee if they are different than the initial action item submitted for review. Final action by the Commission's Planning, Development & Environment Committee (PD&E), including any changes different from the information provided to the TAC, are reported to the full Transportation Advisory Board, and addressed in its review. Comments/recommendations made by the TAB are forwarded for consideration by the Met Council's Transportation Committee who then reports to the full Met Council for action.



Table 3 is the form designed to reflect the statutory criteria used to determine if Met Council approval of a project in the capital improvement program is necessary. Table 4 and Table 5 display projects that are planned to begin construction in the first year of the capital improvement program and their environmental review status. These tables aid the Met Council and other reviewers in determining if a proposed project requires an environmental review and the status of those reviews, including documenting potential impacts. The Met Council does not officially review the Metropolitan Airports Commission's annual operating budget or bonding proposals but may use information from these documents to help clarify capital improvement program proposals and their implementation.

Figure 4. Metropolitan Airports Commission (MAC) public participation process<sup>4</sup>



<sup>4</sup> Notes: All dates are tentative and subject to change. Affected Communities are defined in Minnesota Statutes § 473.621, Subd. 6, as amended.

Table 3. Projects meeting statutory review criteria and requiring approval

2024 Capital Improvement Program projects, by airport	Long-Term Comp Plan Reviews/ Actions	AOEE Actions: <ul style="list-style-type: none"><li>Environmental assessment/ worksheet prepared</li><li>Environmental impact statement reviewed</li><li>National Pollutant Discharge Elimination System approved</li><li>Legislative requirement</li><li>Regulatory requirement</li><li>Legal requirement</li></ul>	Capital Review Criteria (A): Project meets dollar threshold at: MSP = \$5 million Relievers = \$2 million	Capital Review Criteria (B): Location of a new Airport	Capital Review Criteria (C): New Runway at an Existing Airport	Capital Review Criteria (D): A Runway Extension at an Existing Airport	Capital Review Criteria (E): Runway Strengthening other than Routine Maintenance	Capital Review Criteria (F): New or Expanded Passenger Handling or Parking Facilities for 25% or more capacity Increase.	Capital Review Criteria (G): Land Acquisition associated with the other criteria, or that would cause relocation of residential or business activities	Capital Review Criteria (H): Project information made available by the MAC to affected cities for review
MSP International Airport 2024 Program	2030 long-term plan Update Approved in 2010, 2040 long-term plan to be reviewed in Jan 2024		Several projects, see business item	N/A	N/A	N/A	N/A	N/A	N/A	N/A
St. Paul Downtown Airport (STP)	2025 long-term plan Approved in 2010, update anticipated to begin in 2024		Customs and Border Protection general aviation facility, Runway 14-32 Reconstruction	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flying Cloud Airport (FCM)	2025 long-term plan Approved in 2010, 2040 long-term plan to be reviewed in 2024	MAC-City Agreement concluded; FAA review of Agreement & R.O.D. on final environmental impact statement completed as part of MAC/airline agreement.	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crystal Airport (MIC)	2035 long-term plan Approved in 2017	FAA Issued Finding of No Significant Impact in July 2019	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anoka County-Blaine Airport (ANE)	2025 long-term plan Approved in 2010, update anticipated to begin in 2025		Airport Rd and GA Blvd Pavement Reconstruction, Equipment Storage and Maintenance Building	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lake Elmo Airport (25D)	2035 long-term plan Approved 2016	FAA issues Finding of No Significant Impact for Environmental Assessment in Aug 2018	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Airlake Airport (LVN)	2035 long-term plan Approval in 2018	Runway 12-30 improvements environmental assessment/worksheet currently underway	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A

If an assessment of environmental effects or environmental assessment worksheet is required for projects in the annual capital improvement program, the form in Table 4 or Table 5 indicates the types of environmental categories that are examined and whether it has an environmental effect or cumulative effect for a particular airport. The assessment of environmental effects or environmental assessment worksheet, along with the capital improvement program, provide more detailed information that is required if the project has an environmental effect.

Table 4. Projects requiring an Assessment of Environmental Effects (AOEEs) and environmental categories affected, MSP Airport

Project Description	Are the effects of the project addressed in an approved environmental assessment worksheet, environmental assessment or environmental impact statement?	Air Quality	Compatible Land Use	Fish Wildlife and Plants	Floodplains and Floodways	Hazardous Materials, Pollution Prevention and Solid Waste	Historical, Architectural, Archaeological and Cultural Resources	Light Emissions and Visual Effects	Parks & Rec. Areas and Trails	Noise	Water Quality (Storm, Waste and Ground Water)	Wetlands	Infra-structure and Public Services	Farmland	Erosion and Sedimentation
T1 Baggage Claim/Ticket Lobby Improvements	MSP 2020 Improvements environmental assessment/worksheet	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Terminal 2 North Gate Expansion	MSP – Concourse G Infill – Pod 2-3 environmental assessment worksheet														
Concourse G Infill – pod 2-3 Phase 2															

Table 5. Projects requiring an Assessment of Environmental Effects (AOEEs) and environmental categories affected, reliever airports

Project Description	Are the effects of the project addressed in an approved environmental assessment worksheet, environmental assessment or environmental impact statement?	Air Quality	Compatible Land Use	Fish Wildlife and Plants	Floodplains and Floodways	Hazardous Materials, Pollution Prevention and Solid Waste	Historical, Architectural, Archaeological and Cultural Resources	Light Emissions and Visual Effects	Parks & Rec. Areas and Trails	Noise	Water Quality (Storm, Waste and Ground Water)	Wetlands	Infra-structure and Public Services	Farmland	Erosion and Sedimentation
No projects for 2024	N/A	None	None	None	None	None	None	None	None	None	None	None	None	None	None



## Long-Term Comprehensive Plans

### Plan context

The 20-year long-term comprehensive airport plan 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. Stand-alone long-term comprehensive plans for airports are required for MAC-owned airports. For municipally owned airports, these requirements may be satisfied with an expanded aviation element within their community comprehensive plans, which also cover a 20-year planning period and allow the community to integrate aviation and land use planning into a single document. Municipal airports may also complete Airport Master Plans separate from this process, but those documents must be integrated into the community comprehensive plan update to meet this requirement.

Plans should be reassessed every five years and updated according to the review schedule defined later in this section. The reassessment involves reviewing the new forecasts against prior forecasts and actual airport activity, checking the progress of implementation efforts (for example, 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 long-term comprehensive plan 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 FAA-approved airport layout plan with associated data tables as described in FAA SOP 2.0 and AC 150/5070-6B.

#### 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 Minnesota Statutes 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 and airspace surface obstructions, as described in FAA AC 150/5070-6B.
- The FAA Runway Protection Zone and MnDOT Clear Zone are trapezoidal shaped land use control zones, on the ground, that begin 200 feet from the end of the paved runway, extending out along the runway centerline. They are open space, clear of incompatible objects and land uses, with the goal of protecting people and property on the ground under aircraft approach and departure paths. Prohibited land uses include residences and places of public assembly (in other words, churches, schools, hospitals, office buildings, shopping centers, and other uses with similar concentrations of persons).
- 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. Flight tracks and traffic pattern figures are not a required component of an airport layout plan.

#### **Airport and aircraft environmental capability**

- 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 day-night average noise/sound 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. 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 areas.
- 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 spill prevention, control and countermeasure and stormwater pollution prevention plan) that could affect surface water quality. Proposed mitigation measures and facilities (during construction and long-term) to avoid off-site flooding and minimize polluting of surface waters. A description of measures to mitigate the potential impact or compensate for the loss or alteration of wetlands.
- 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 groundwater, including description of the Metropolitan Airports Commission and private operator's 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 Metropolitan Airports Commission 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 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 20 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 long-term comprehensive plan is to be prepared on a regular basis for each affected airport. The document should be prepared to meet the plan content information discussed previously. If a change to the plan cannot be accommodated during its scheduled update the long-term comprehensive plan, or parts thereof, should be amended, if necessary. Proposed amendments are assumed to have required planning and environmental work substantially in progress. An amendment should be prepared and reviewed by the Met 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 the Minneapolis-St. Paul International Airport, and \$2 million at reliever airports
- Changes requiring an update to FAA airport layout plan
- Runway changes
- Projects having potential off-airport effects

### **Reliever airport nonaviation 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 long-term comprehensive plan reviews. Met Council review objectives are:

- To monitor such parcel changes for purposes of maintaining its overall land use database.
- To know the location and use of the parcels in relation to the approved long-term comprehensive plan.

- 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 nonaviation land use change proposals.

**Table 6. Update schedule for airport long-term comprehensive plans**

<b>Metro Area Public Use Airports</b>	<b>Plan Status</b>
Minneapolis-St. Paul Int'l	2040 long-term plan approved May 2024
St. Paul Downtown	2030 long-term plan approved April 2010
Anoka County-Blaine	2030 long-term plan approved April 2010
Flying Cloud	2030 long-term plan approved April 2010
Airlake	2035 long-term plan approved March April 2018
Crystal	2035 long-term plan approved October September 2017
Lake Elmo	2035 long-term plan approved October August 2016
South. St. Paul Municipal	Community comprehensive plan update approved September 2020 Airport master plan approved June 2015
Forest Lake Municipal	Community comprehensive plan update approved March 2020 Airport master plan approved January 2021
Lino Lakes Seaplane Base	Community comprehensive plan update approved November 2020
Wipline Seaplane Base	Inver Grove Heights Community comprehensive plan update approved October 2019



## Land Use Compatibility Guidelines

The regional land use compatibility guidelines for aircraft noise have been prepared to assist communities in preventative 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 requires all local government units to prepare a comprehensive plan for submittal to the Met Council for review; updated plans in the next cycle will be due in December 2028. The new plans will reflect the Imagine 2050 vision, and the 2025 metropolitan systems statements. The following overall process and schedule applies:

- In 2025, after adoption of the new 2050 Transportation Policy Plan, the Met 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 2050 Transportation Policy Plan. If an amendment is needed, the community prepares a plan amendment and submits it to the Metropolitan Council for review.
- Each community affected by aircraft noise and the 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 the 2028 comprehensive plan update if deemed necessary.
- Owners/operators of system airports should include their part of the noise program in preparation or update of each airport's long-term comprehensive plan. See Table 7, Noise Impacted Communities, for a listing of noise-impacted communities.
- Met Council reviews community plan submittal and approves or requires a plan modification.
- Airport owner submits long-term comprehensive airport plan or plan update for Met Council review and approval.

### Airport noise

The airport section of the land use compatibility guidelines assumes:

- Federal and manufacturers' 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 Met Council noise policy area map (from the most recently approved long-term comprehensive plan) for the facility under consideration - the noise policy 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 and comprehensive plans, and individual airport long-term comprehensive plans. Both the airport and community plans should be structured around an overall scheme of preventive and corrective measures. Table 8 and Table 9 depict the current land use measures adopted in conjunction with development of the MSP noise compatibility programs.

The status of noise compatibility programs at other system airports, in relation to the land use measures adopted at Minneapolis-St. Paul International, 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 reliever system airports. The level and extent of noise impacts vary widely between the airports and therefore not all land use measures may be appropriate for each specific airport. In addition, the level of noise abatement emphasis may need to be different for neighborhoods within the same community.

The compatibility guidelines indicate that some uses should 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 within the overall preventive and corrective land use guidelines (contained in Table 8 and Table 9) 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 8, Land Use Compatibility Guidelines for Aircraft Noise, 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 each category based upon the acoustic properties of typical land uses by the standard land use coding manual. The Met Council has prepared a builder’s 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.

Table 7. Noise-impacted communities

Airport	Community
MSP International <sup>5</sup>	Minneapolis, Bloomington, Richfield, Mendota Heights, Mendota, Eagan, Burnsville, Fort Snelling
St. Paul Downtown	St. Paul
Anoka County- Blaine	Blaine
Flying Cloud	Eden Prairie
Crystal	Crystal, Brooklyn Park, Brooklyn Center
Airlake	Eureka Twp., Lakeville
South St. Paul	South St Paul, Inver Grove Heights
Lake Elmo	Baytown, West Lakeland, Lake Elmo

<sup>5</sup> As defined under Minn. STAT. 473.621, subdivision 6. <https://www.revisor.mn.gov/statutes/cite/473.621>

Table 8. Current preventive land use measures

Measure	MSP International Airport Communities	Other Regional Airport Communities
Amend local land use plans to bring them into conformance with regional land use compatibility guidelines for aircraft noise.	Yes	Yes
Apply zoning performance standards	Yes	Yes
Establish a public information program	Yes	Yes
Revise building code	Yes/MS 473.192	Yes/MS 473.192
Fair property disclosure policy	Yes/Usually applied by developer or builder.	Yes/Usually applied by developer or builder.
Dedication of aviation easements/releases	Yes	Yes
Transfer of development rights	No	No
Land banking (acquisition of undeveloped property)	No	No

Table 9. Current corrective land use measures

Measure		MSP International Airport Communities	Other Regional Airport Communities
Airport Developed Property	Within runway protection zones	Yes	Yes
	Within MnDOT safety zones	Yes	FCM & STP
	Within day-night average sound level 70	Yes	All Airports
	Part 150 sound insulation program	Yes	No
	Property purchase guarantee	No	No
Creation of Sound Barriers	Walls	Yes	Yes
	Berms	Yes	Yes
	Ground runup enclosures	Yes	Yes

**Table 10. Land use compatibility guidelines for aircraft noise levels<sup>6</sup>**

Land Use Category	New Development or Major Redevelopment					Infill Development or Additions to Existing Structures				
	1 DNL 75+	2 DNL 74-70	3 DNL 69-65	4 DNL 64-60	Buffer Zone*	1 DNL 75+	2 DNL 74-70	3 DNL 69-65	4 DNL 64-60	Buffer Zone *
Residential										
Single / Multiplex with Individual Entrance	INCO	INCO	INCO	INCO		COND	COND	COND	COND	
Multiplex / Apartment with Shared Entrance	INCO	INCO	COND	PROV		COND	COND	PROV	PROV	
Mobile Home	INCO	INCO	INCO	COND		COND	COND	COND	COND	
Educational, Medical, Schools, Churches, Hospitals, Nursing Homes	INCO	INCO	INCO	COND		COND	COND	COND	PROV	
Cultural/Entertainment/Recreational										
Indoor	COND	COND	COND	PROV		COND	COND	COND	PROV	
Outdoor	COND	COND	COND	COND		COND	COND	COND	COMP	
Office/Commercial/Retail	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Transportation-Passenger Facilities	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Transient Lodging	INCO	COND	PROV	PROV		COND	COND	PROV	PROV	
Other medical, Health & Educational	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Other Services	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Industrial/Communication / Utility	PROV	COMP	COMP	COMP		PROV	COMP	COMP	COMP	
Agriculture Land/Water Areas / Resource Extraction	COMP	COMP	COMP	COMP		COMP	COMP	COMP	COMP	

<sup>6</sup> NOTE: COMP = Compatible; PROV = Provisional; COND = Conditional; INCO = Incompatible

### **New development: major redevelopment or infill and/or reconstruction**

New development refers to a relatively large, undeveloped tract of land proposed for development, for example, a residential subdivision, industrial park, or shopping center.

Major redevelopment refers to a relatively large parcel of land with old structures proposed for extensive rehabilitation or demolition and different uses. Examples include 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 refers to an undeveloped parcel or parcels of land proposed for development similar to or less noise-sensitive than the developed parcels surrounding it. Examples are 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 of additions to existing structures refers 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 8 are explained as follows:

**COMP/Compatible** – Uses 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 Minnesota Statute 473.192 (Metropolitan Area Aircraft Noise Attenuation Act). Structures built after December 1983 shall be acoustically constructed to achieve the interior sound levels described in Table 8. Each local government 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 8.

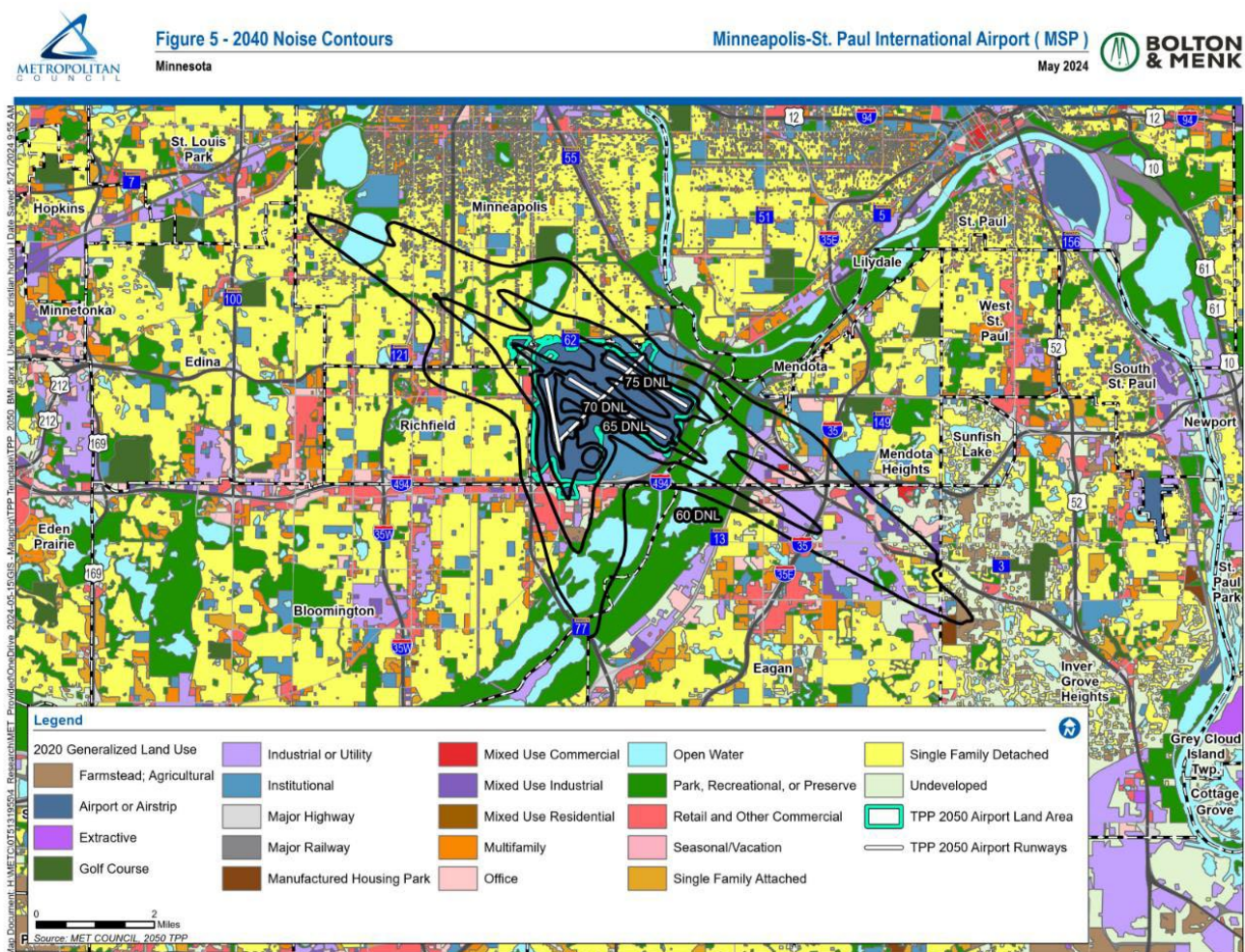
**INCO/Incompatible** – Land uses that are not acceptable even if acoustical treatment were incorporated in the structure and outside uses restricted.

### **Noise policy areas**

A noise policy area is defined for each system airport and includes aircraft noise exposure zones, an optional buffer zone, and the preventative and corrective land use measures that apply to that facility. 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 long-term comprehensive plan reviewed and approved by the Met Council. The following maps depict noise contours over the 2020 generalized land use as defined by the Met Council. An airport noise study was not completed as a component of the 2021 Forest Lake Airport Master Plan.



Figure 5. 2040 preferred alternative contours, Minneapolis-St. Paul International Airport







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Figure 7. 2035 preferred alternative contours, Airlake Airport

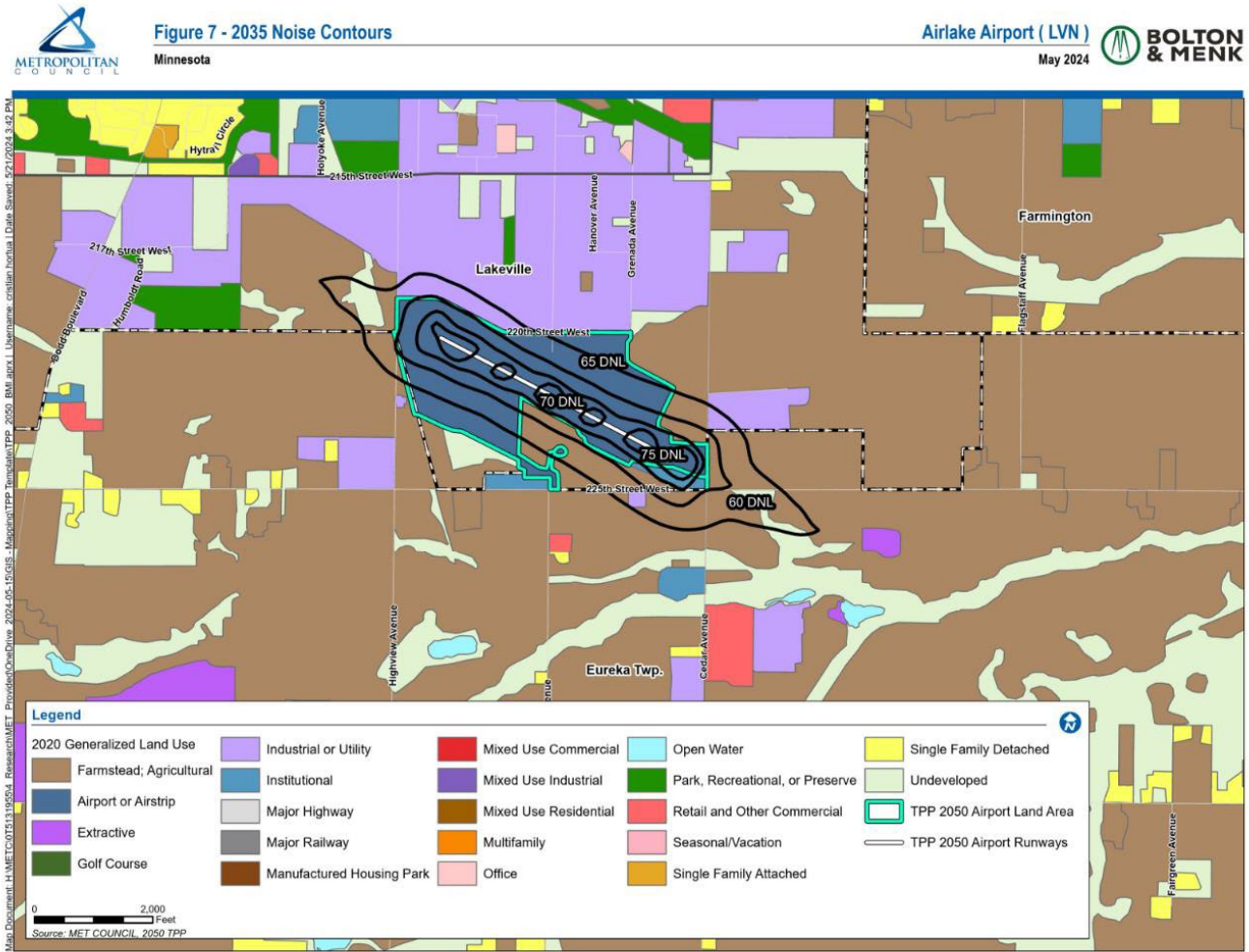




Figure 8. 2025 preferred alternative contours, Anoka County – Blaine Airport

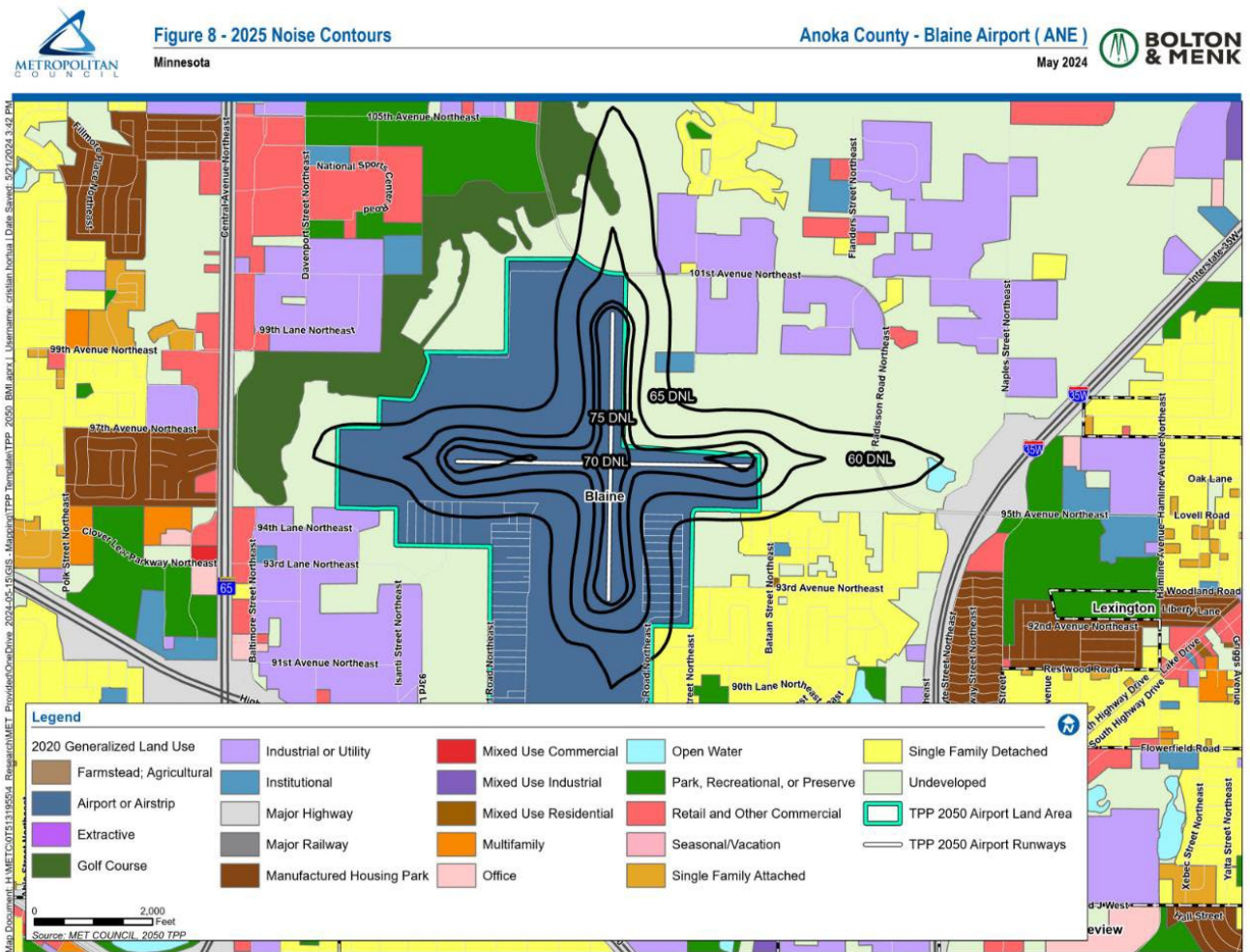


Figure 9. 2035 preferred alternative contours, Crystal Airport

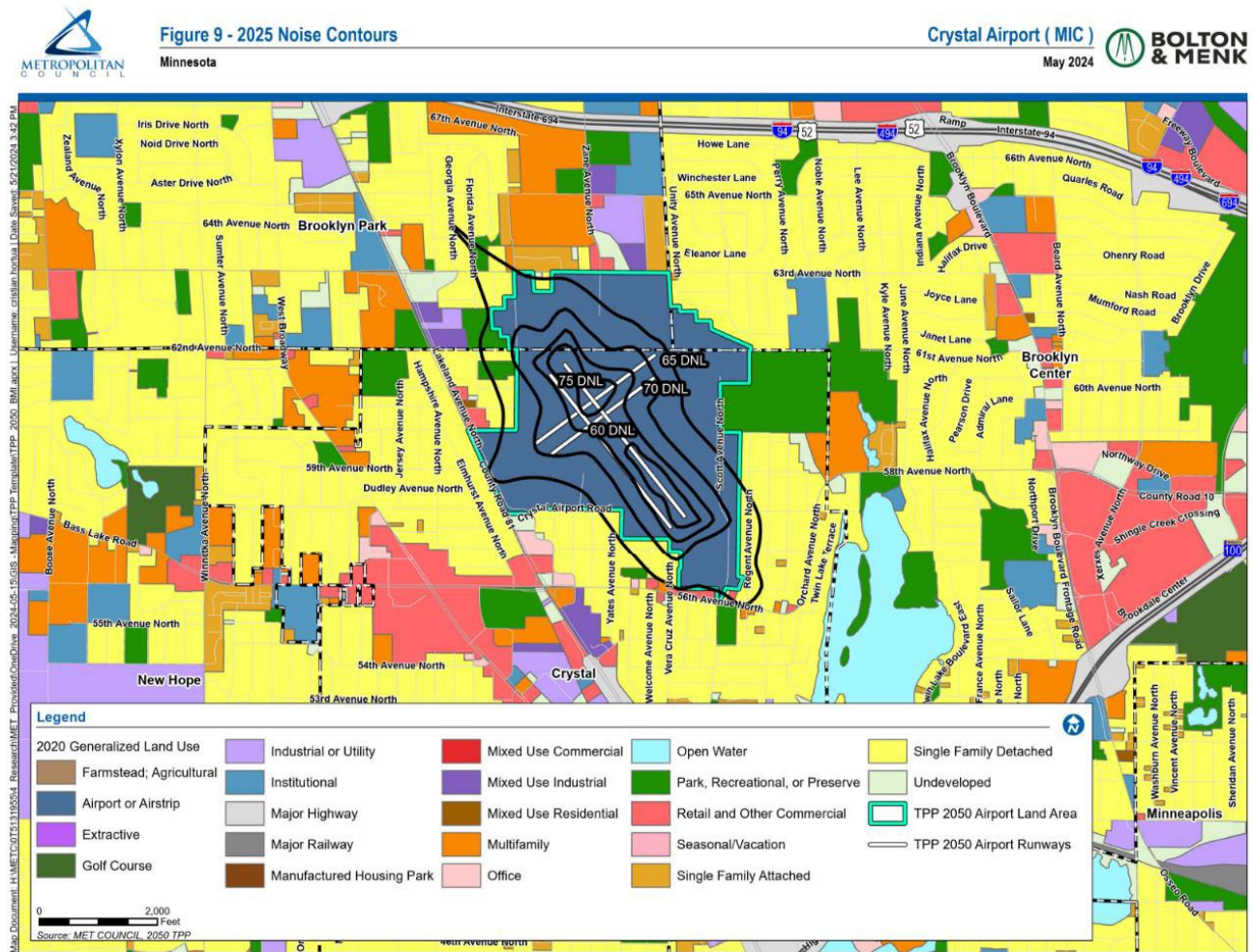
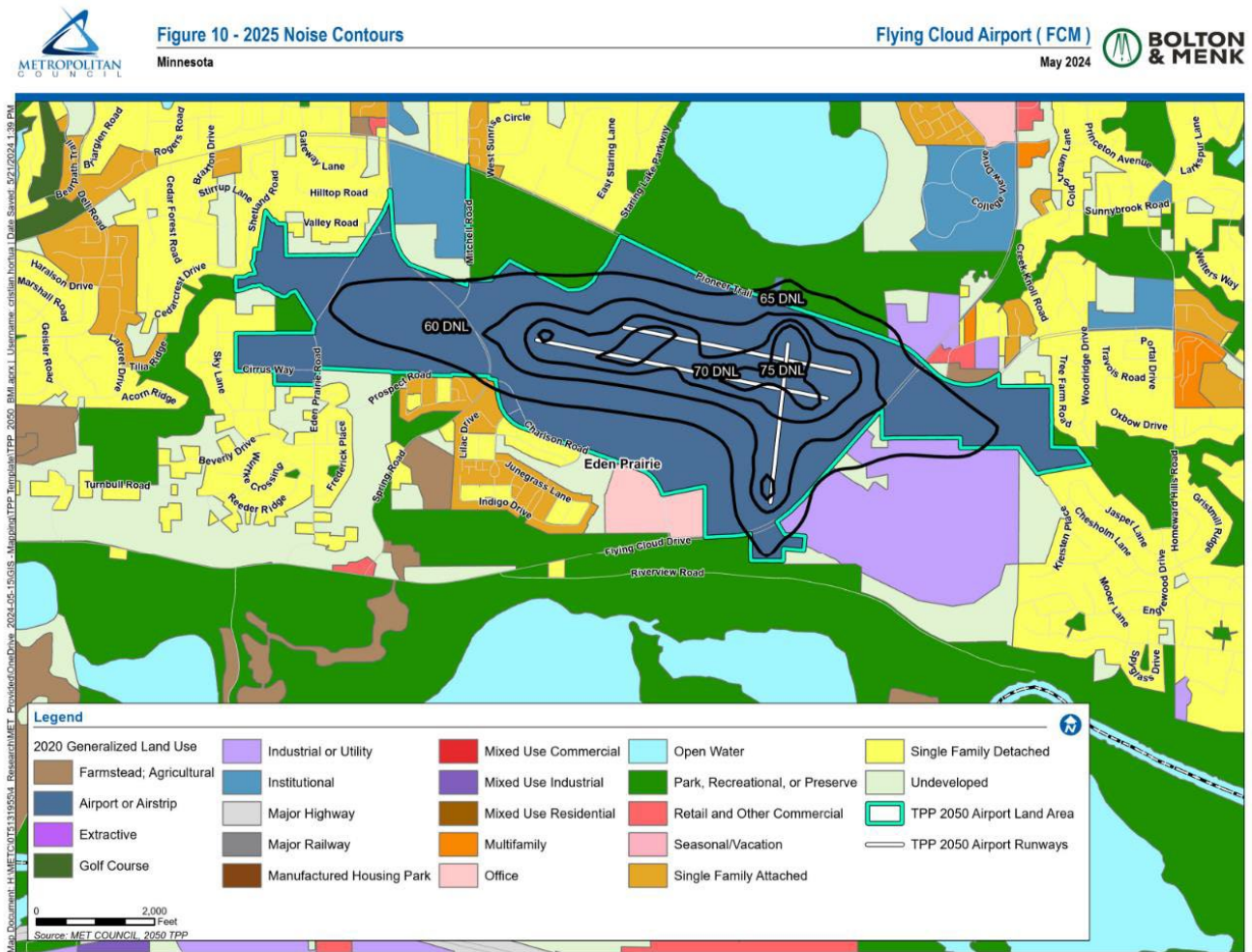




Figure 10. 2025 preferred alternative contours, Flying Cloud Airport





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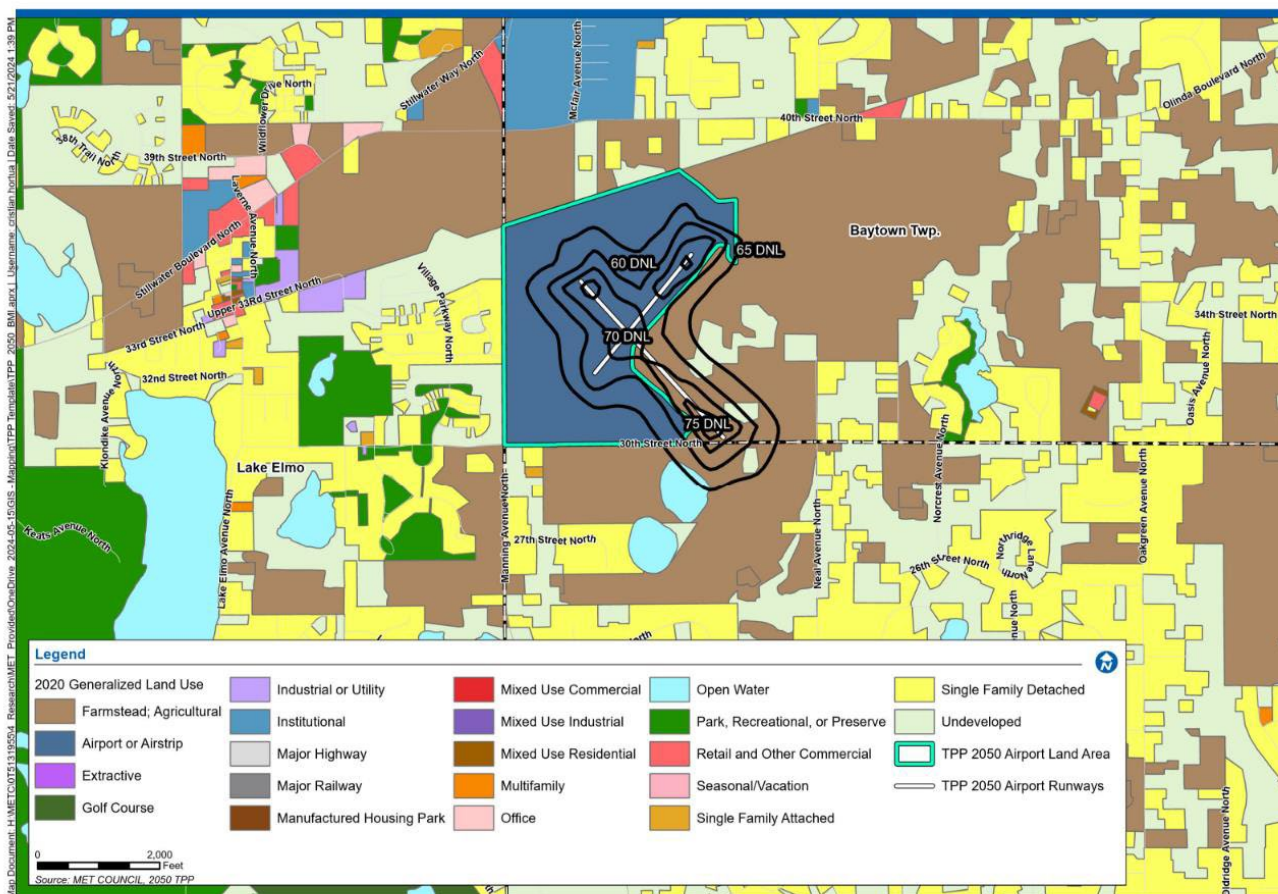




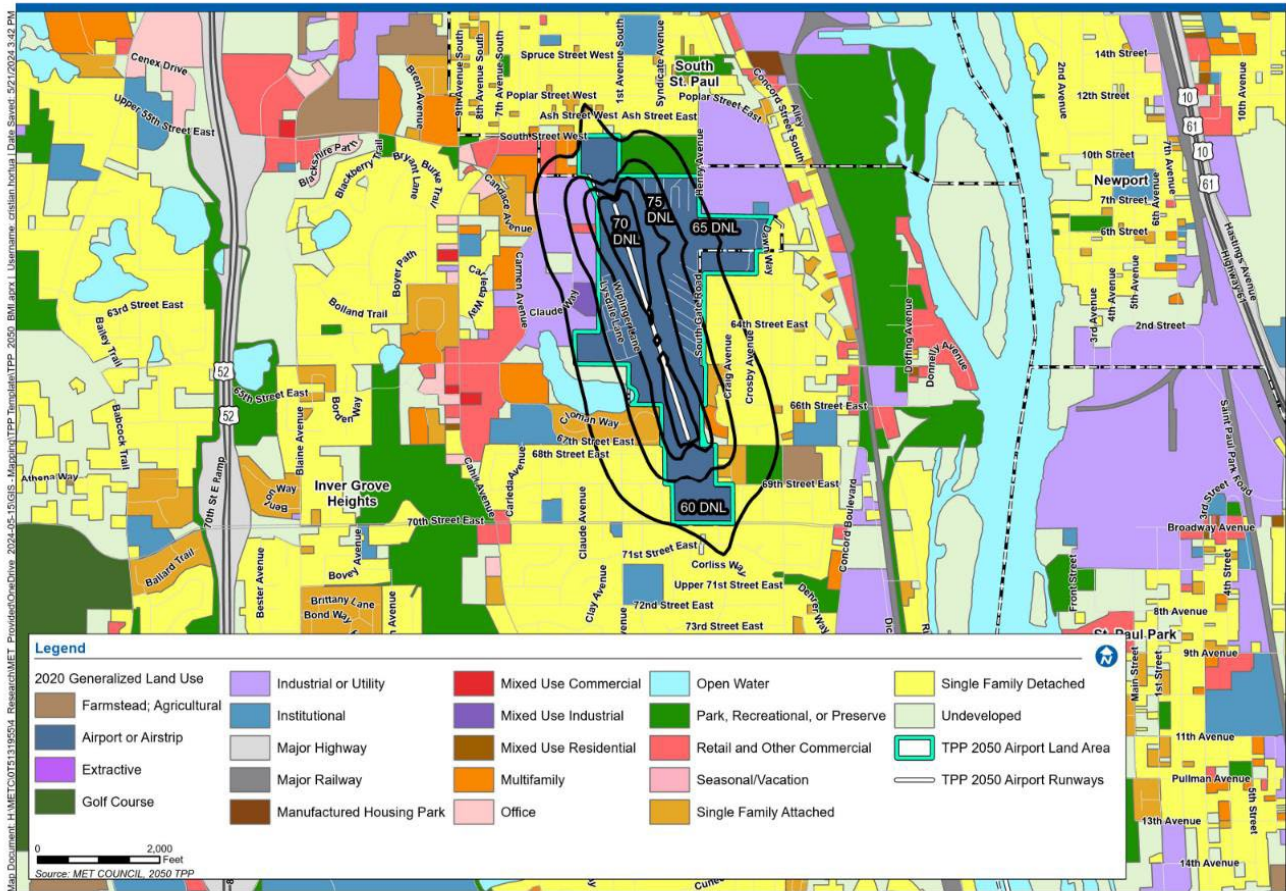
Figure 12. 2035 preferred alternative contours, South St Paul Airport (Fleming Field)



Figure 12 - 2032 Noise Contours  
Minnesota

South St Paul Municipal Airport / Richard E Fleming Field (SGS)

May 2024



## 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 the 75 day-night average noise level. 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, nonsensitive 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 day-night average noise level 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 day-night average noise level range. In addition to the intensity of the noise, the 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 transition area where noise exposure might be considered moderate. Noise levels are in the 60 to 64 day-night average noise level 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 areas that can be protected at the 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 day-night average noise level 60 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 the 55 day-night average noise level, is optional at those reliever airports with noise policy areas outside of the Metropolitan Urban Services Area.

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