2050 Regional Aviation System Plan

Info Item: TPP Amendment #2

TAC Planning

METROPOLITAN COUNCIL

5/8/2025

2050 Regional Aviation System Plan

Agenda

1. Met Council Role in Regional Aviation
2. Connecting to the Regional Development Guide
3. Aviation Industry Trends and Key Takeaways
4. Regional Aviation System Plan Content and Updates
5. Next Steps

Met Council Role in Regional Aviation

Minnesota Statute 473.165, 473.611 & 473.621

- Aviation not federally mandated system, state statute tasks the Council to plan for the regional aviation system
- Council must prepare Regional Aviation System Plan (within TPP)
- Requires regional airports to produce and update Long Term Comprehensive Plans
  - Met Council must review and determine if airport comprehensive plans conform to regional systems and are consistent with regional policy
- Review MAC's Capital Improvement Program and review and approve major capital projects that have a significant effect on the orderly and economic development of the region
- Met Council **does not** provide or allocate direct funding for aviation or operate regional aviation facilities

Transportation Policy Plan

The TPP is the region's long-range transportation plan

- Federally-required metropolitan transportation plan (for surface transportation)
  - Investment plan that directs major transportation investments and guides regional transportation policies
- State-required system plan (for aviation)
- Regional Aviation System Plan: Readopting plan following more thorough review and update

Connecting to the Regional Development Guide

Regional Vision & Goals

Vision

“We envision a healthy, just, and resilient region where future generations thrive and experience new opportunities supported by planning that results in economical services, housing affordability, clean water, thriving ecosystems, and safe, accessible transportation throughout the region.”

“We envision an equitable future where our region’s residents, communities, and economy thrive. Through collaborative leadership and innovative planning, we will deliver of equitable and affordable services and infrastructure; we will confront challenges, including those related to equity and climate change; and we will seize opportunities to ensure the wellbeing of our natural and built environments.”

Goals

Our Region is Equitable and Inclusive
Racial inequities and injustices experienced by historically marginalized communities have been eliminated; and all residents and newcomers feel welcome, included, and empowered.

Our Communities are Healthy and Safe
All our region’s residents live healthy, productive, and rewarding lives with a sense of security, dignity, and wellbeing.

Our Region is Dynamic and Resilient
Our region meets the opportunities and challenges faced by our communities and the economy including issues of choice, accessibility, and affordability.

We Lead on Addressing Climate Change
We have mitigated greenhouse gas emissions and have adapted to ensure that 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 our region.

Aligning Regional Policies

Key Element of Aviation System Plan – Reviewing and Updating Regional Policies to Align with 2050 Vision

Established small policy review teams made up of local communities and aviation stakeholders

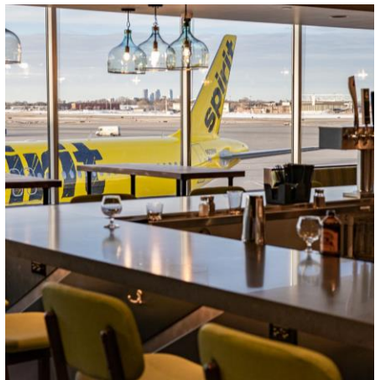
- Held three meetings with both teams:

1. Review existing policies
2. Draft/review updated policies
3. Draft/review supporting actions

In addition, presented to regional industry groups and communities and solicited feedback when requested.

Teams consisted of representatives from:

- Local communities adjacent to regional airports
- MAC
- MnDOT Aeronautics
- FAA
- Other airport operators
- Industry stakeholders
- Met Council staff



Draft Regional Aviation System Policies

Draft 2050 Policy Language

Goal Area: Our Region is Equitable and Inclusive

Policy 1: Conduct public engagement activities in a way which promotes public participation and awareness of aviation issues in the region and promotes opportunities in the regional aviation industry.

Goal Area: Our Region is Healthy and Safe

Policy 2: Maintain and improve, as feasible, airport safety standards that meet FAA and MnDOT standards by addressing safety requirements and land use compatibility with local ordinances, policies and planning.

Policy 3: Conduct planning, development, and operation of regional airports to minimize impacts to adjacent communities. Local land use compatibility policies and other mitigation efforts should be reviewed and updated as warranted to reflect the latest guidance to mitigate noise and other impacts to residents from aviation activities.

Policy 4: Work to reduce emissions from aviation activities that negatively impact air quality for adjacent communities. (new policy)

Draft Regional Aviation System Policies

Draft 2050 Policy Language

Goal Area: Our Region is Dynamic and Resilient

Policy 5: Maintain and improve connections between the region's aviation facilities and the surface transportation system while taking into account local context. Plan for multimodal options to be available for regional airports as necessary and provided according to each airports role in the system.

Policy 6: Coordinate planning and investments that promote aviation access to the state, nation and world from the Twin Cities metro. Ensure regional airports continue to support local economies and businesses.

Policy 7: Regularly review and update regional aviation system information to maintain consistency with state and federal planning. (new policy)

Policy 8: Consider and plan for land use implications from aviation facilities which are not located within a regional airport or aviation activity which does not originate from a regional airport. This includes existing facilities like helipads and private air facilities in addition to Unmanned Aerial Systems, Advanced Air Mobility and any other emerging aviation technologies. (new policy)

Draft Regional Aviation System Policies

Draft 2050 Policy Language

Goal Area: We Protect and Restore Natural Systems

Policy 9: Implement policies, programs and plans which protects and mitigates impacts on the region's natural resources from the ongoing operation of the region's aviation system.

Goal Area: Not specific to regional goal

Policy 10: Prepare long-term comprehensive plans for MAC owned airports or expanded aviation elements of local comprehensive plans for each airport following FAA requirements and guidance in the Aviation System plan based on an airport's classification.

*Full list of corresponding actions found in the Aviation Supporting Information section

Emerging Aviation Issues and Opportunities for the Region

Emerging Aviation Issues and Opportunities

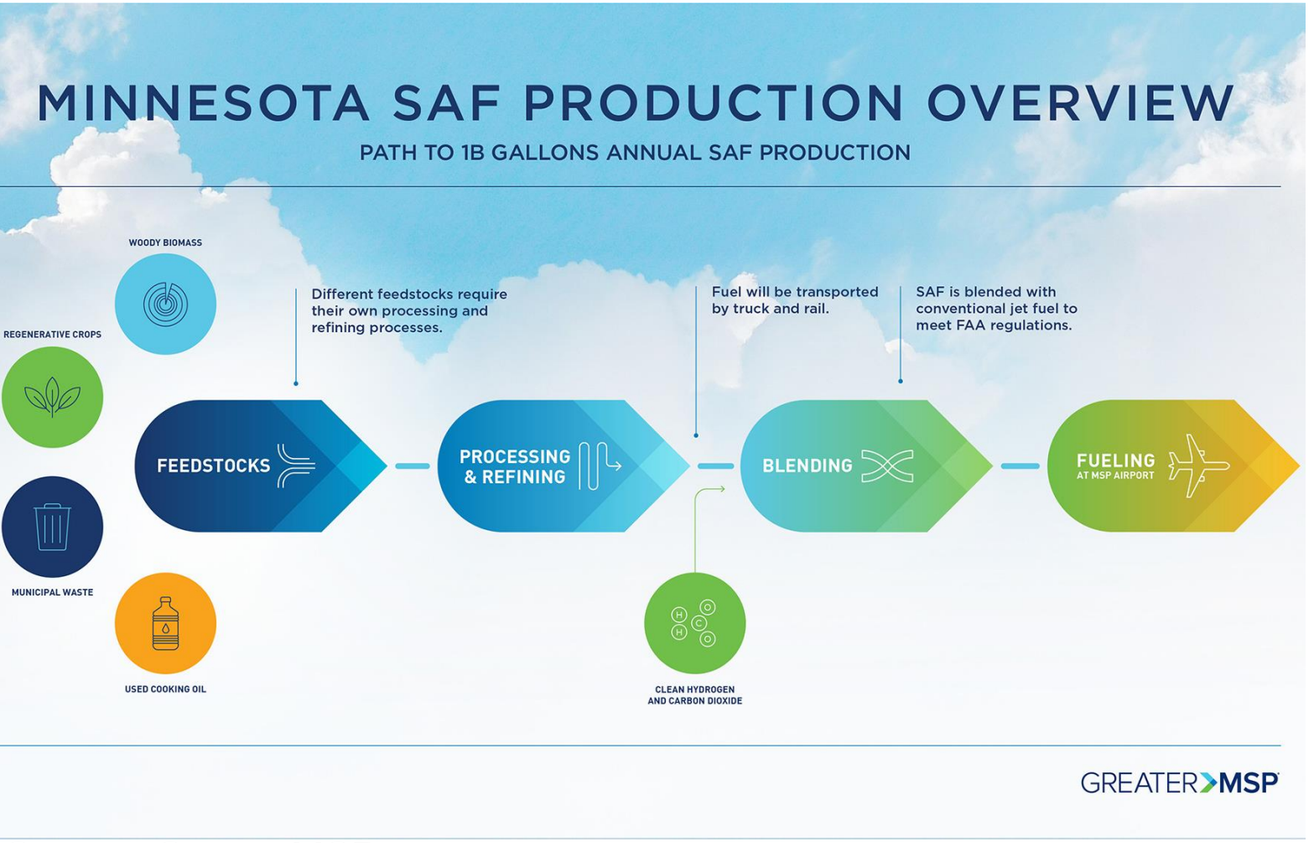
Aviation Industry Trends and Analysis

Emerging trends in the industry were analyzed to monitor for regional planning considerations

- Aviation Fuels and Alternative Power Sources
- Advanced Air Mobility
- Unmanned Aerial Systems (UAS)
- Airport Classifications
- Aircraft Noise
- FAA, MnDOT and Industry Changes

Full papers here: 2050 Aviation Plan Update - Metropolitan Council

Aviation Fuels and Alternative Power Sources



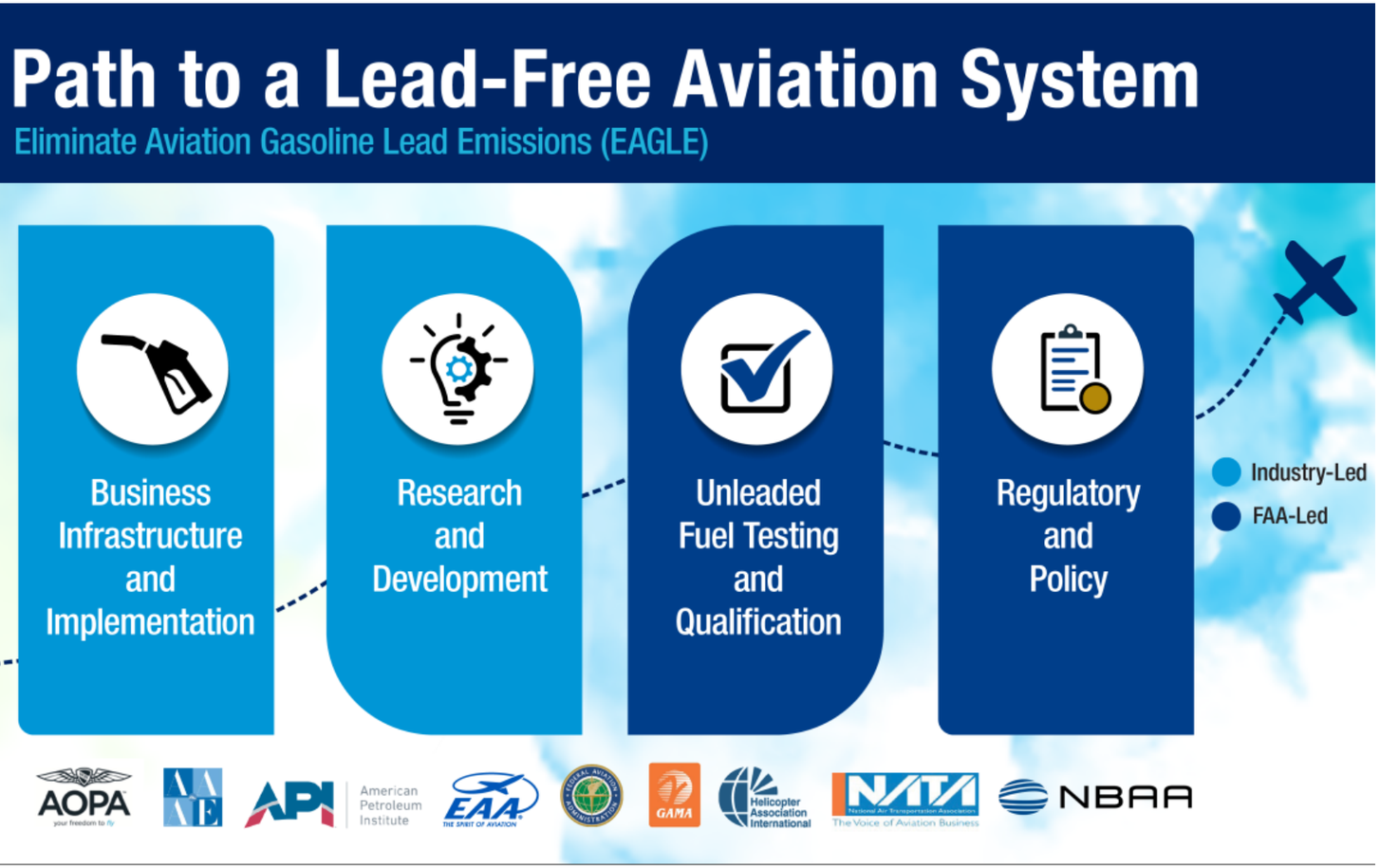
Source: GreaterMSP

Aviation Fuels

Sustainable Aviation Fuel (SAF) Aviation emissions are a relatively small but growing portion of transportation related GHG emissions. Government and industry initiatives are being implemented to expand the use of SAF.

- Delta planning to utilize SAF for operations at MSP
  - 10% of fuel use by 2027
  - 50% of fuel use by 2035
- State and regional push to invest in and implement SAF hub at MSP
- Incorporating SAF initiative into policies and plan

Aviation Fuels and Alternative Power Sources



Source: FAA

Aviation Fuels

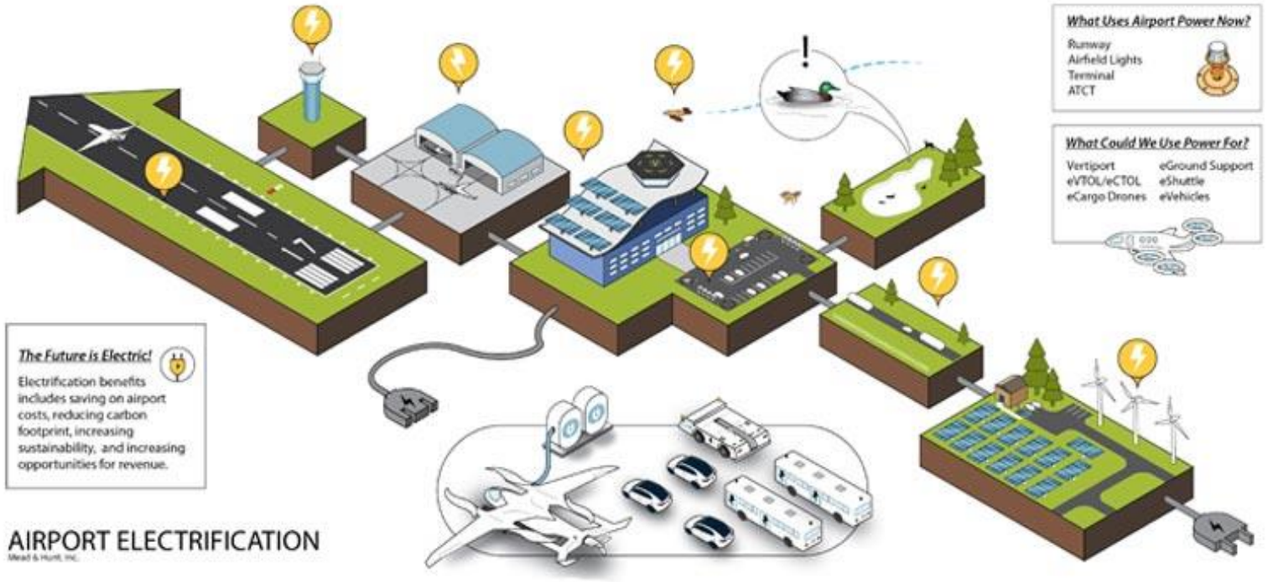
Leaded Aviation Gas The majority of small GA aircraft continue to utilize aviation gasoline containing lead. Aviation is the last industry using leaded fuel. Government and industry initiatives are working to develop an unleaded fuel(s) safe for GA aircraft.

- Lead to be found unsafe at any level by EPA
- FAA require leaded fuel use to 2030
  - Bans planned after FAA requirements expire in several locations around the country
  - Incorporating language into actions to encourage transition in region

Aviation Fuels and Alternative Power Sources

Alternative Power Sources

- **Electric Aircraft** Small all-electric aircraft are being designed and manufactured for entry into GA aviation with pilot training in mind. Advancements in electrification technology and charging infrastructure are aimed at reducing cost, emissions, and noise.
  - MnDOT Aeronautics MEAN Plan
    - Plan update will incorporate plan findings
  - State GHG emissions reduction targets: Explore ways to reduce GHG and other emissions from airport and aircraft operations
    - Consider ways to incorporate targets into plan

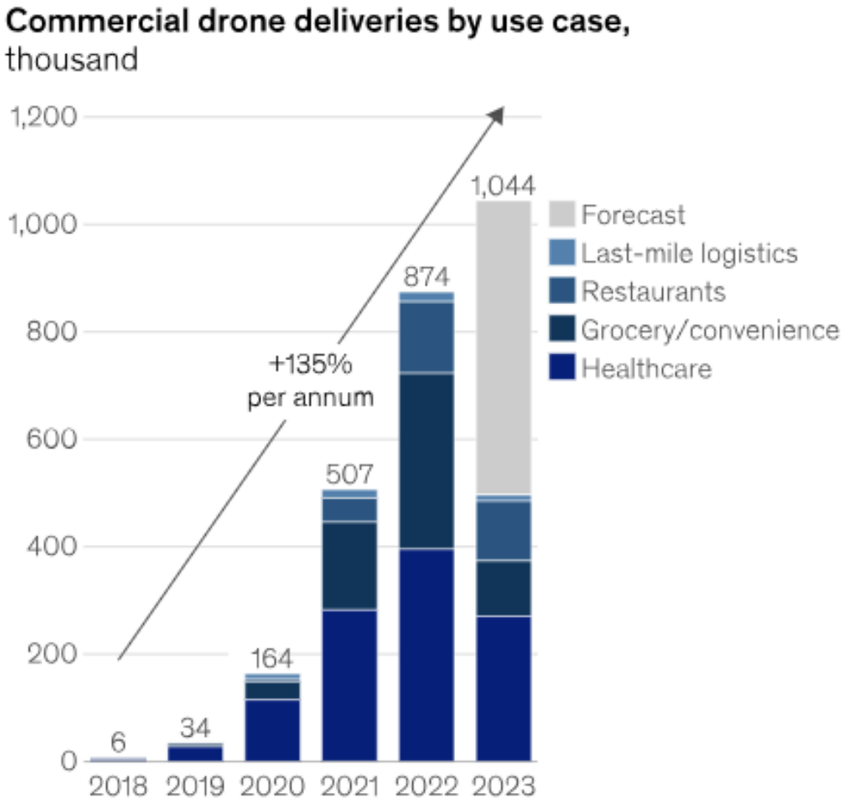


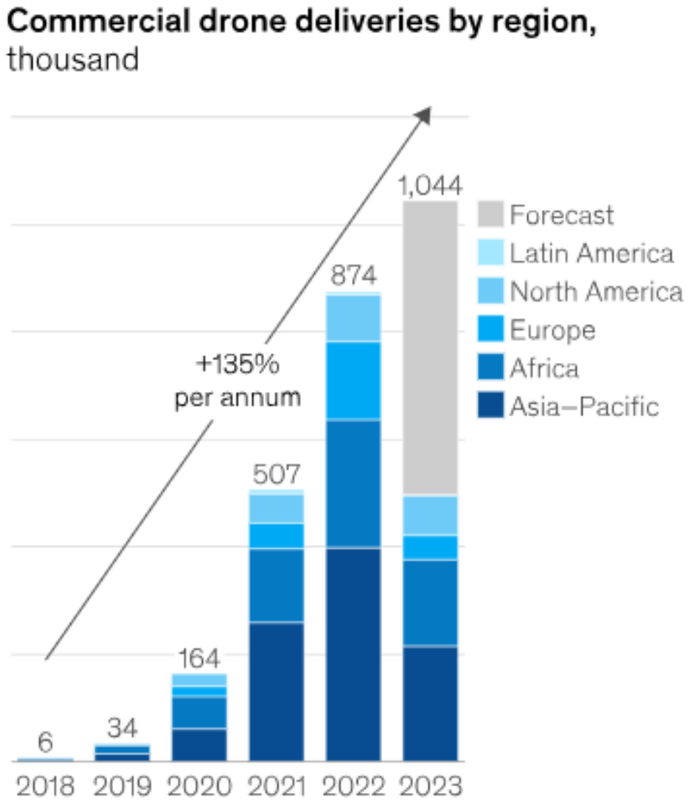
Source: Mead & Hunt

Unmanned Aerial Systems (UAS)

Trends seen in UAS Industry

- UAS is the fastest growing segment of aviation in the United States.
- Technological advancements in battery systems, smartphones, and camera sensors have made UAS readily accessible to a wide segment of the population.
- Logistics/Shipping and energy sector industries are anticipated to be the main drivers of UAS growth in the U.S. with the integration of Beyond Visual Line of Sight (BVLOS) regulations.
  - The FAA's Reauthorization Act of 2024 identified need to publish rules on BVLOS operations within the NAS.





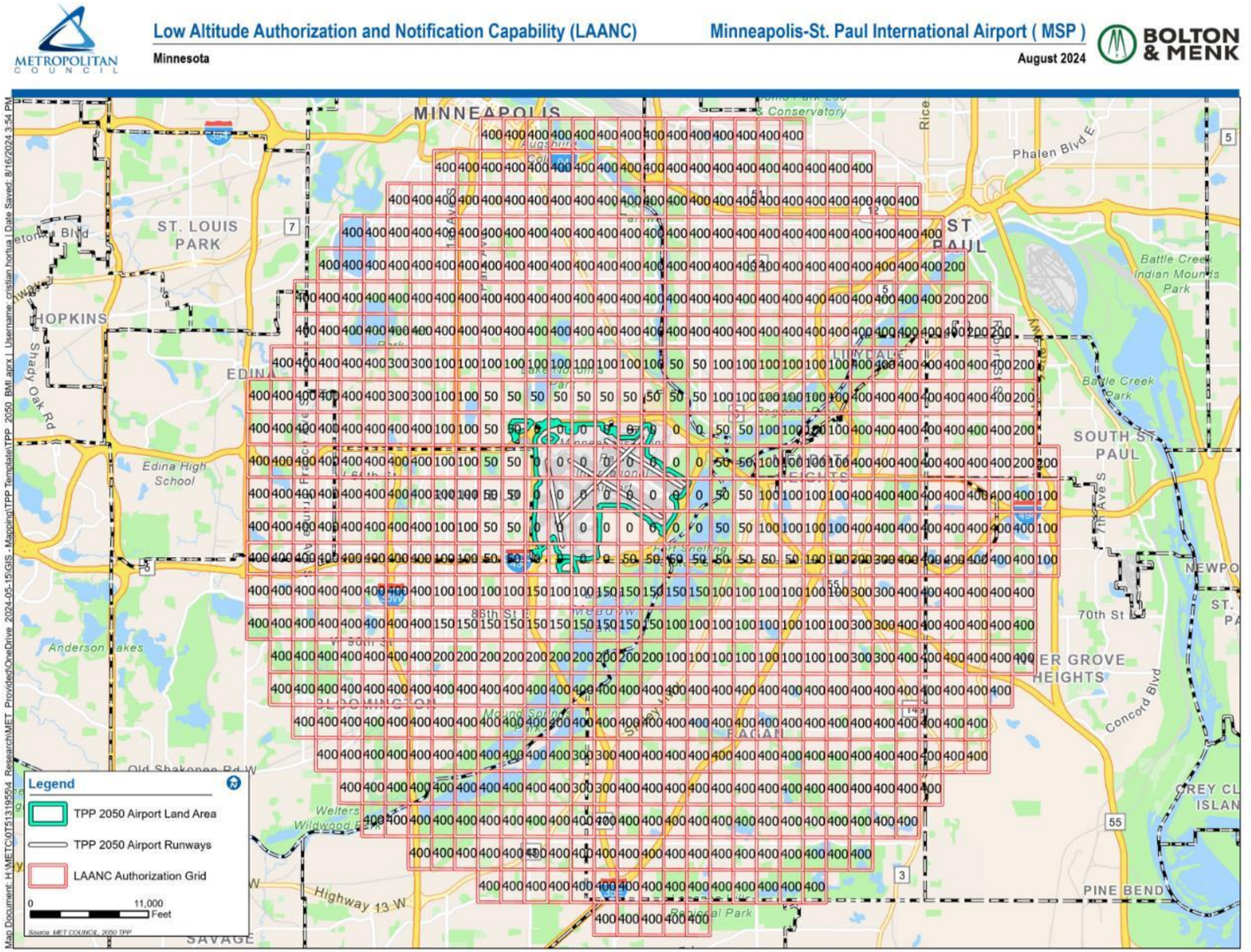
Source: McKinsey & Company

Metropolitan Council

Unmanned Aerial Systems (UAS)

UAS Trends and Regulatory Framework

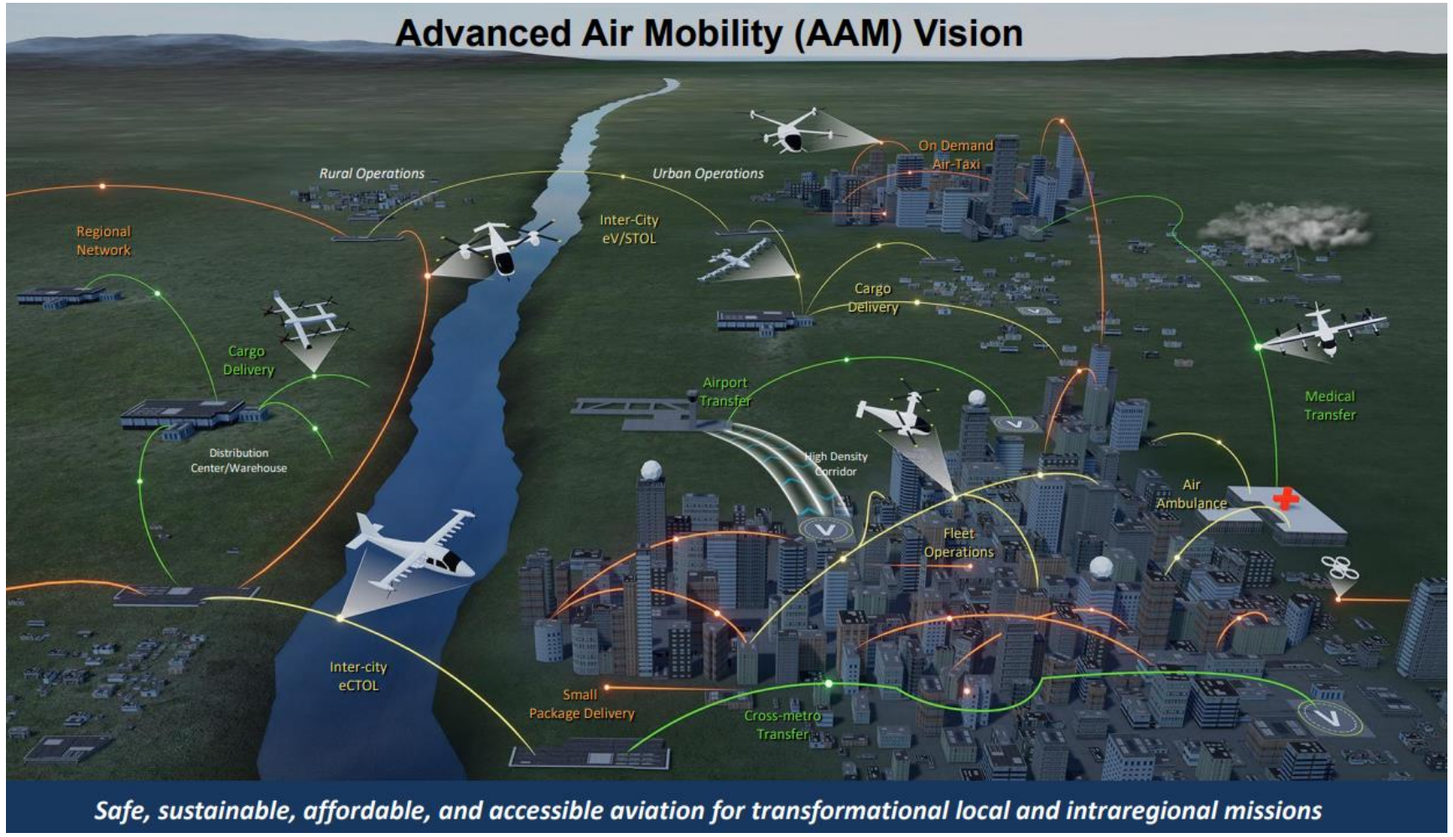
- FAA's development of the Part 107 framework established the rules for safe commercial operations of UAS within the National Airspace System (NAS). 2017 development of the LAANC system allows for UAS to operate within controlled airspace.
  - Has contributed to the increase in UAS operations.
  - For towered airports only
- Incorporating LAANC maps into plan – will provide for local comprehensive planning assistance



Advanced Air Mobility (AAM)

AAM Trends

- Advancing technology and need to reduce GHG emissions leading to innovative new methods of transportation.
- AAM are aircraft designed for VTOL operations from designated vertiports, powered by electricity leveraging advancements in automation for flight controls.
- Anticipated AAM uses include passenger and freight transportation within and between urban areas. Aircraft manufacturers are currently developing and testing multiple new designs for AAM aircraft.
  - Multiple AAM aircraft anticipated to be certified for operations by 2027

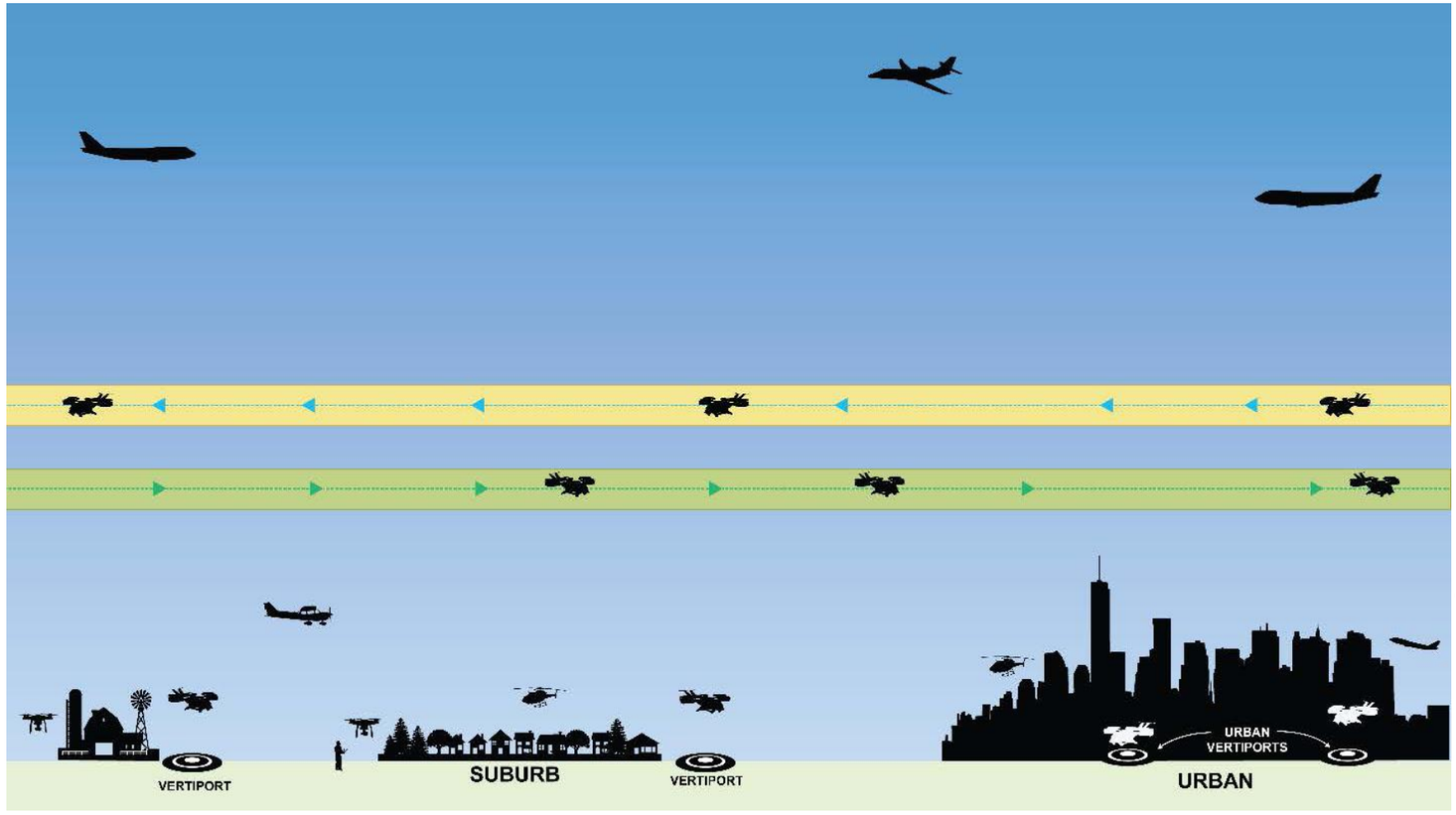


Source: NASA NTRS

Advanced Air Mobility (AAM)

AAM Regulation/Development

- Interim guidance on Vertiport design has been provided by the FAA. The FAA Reauthorization Act of 2024 directs the agency to publish final Vertiport design standards by 2025.
- Proactive integration of AAM into the NAS is a core focus of government and industry initiatives.
- AAM planning is taking place throughout country at local, state and federal level
    - Local – zoning/land use integration
    - State – policy and development
    - Federal – airspace regulations



Source: FAA

Aircraft Noise

- **Aircraft Noise** Unwanted sound resulting from aircraft operations. Considered on of the most harmful environmental impact from aviation and often the main contributing factor of a negative community response to the operation and expansion of airports.

Regulatory Noise Framework

- **FAA Regulation/Industry Changes**
  - In 2016 the FAA has implemented regulations prohibiting the operation of older, noisy aircraft in the U.S. that do not meet more stringent noise requirements.
  - Advancements in satellite navigation has allowed FAA to implement dispersed instrument departure procedures to mitigate aircraft noise. (RNAV process underway at MSP)
- **FAA Noise Evaluation** The FAA is in the process of reviewing and/or updating the Civil Aviation Noise Policy as well as the Noise Control and Compatibility Planning Advisory Circular. This process includes the metric(s), noise thresholds, and land use compatibilities that are used to identify and mitigate aircraft noise.

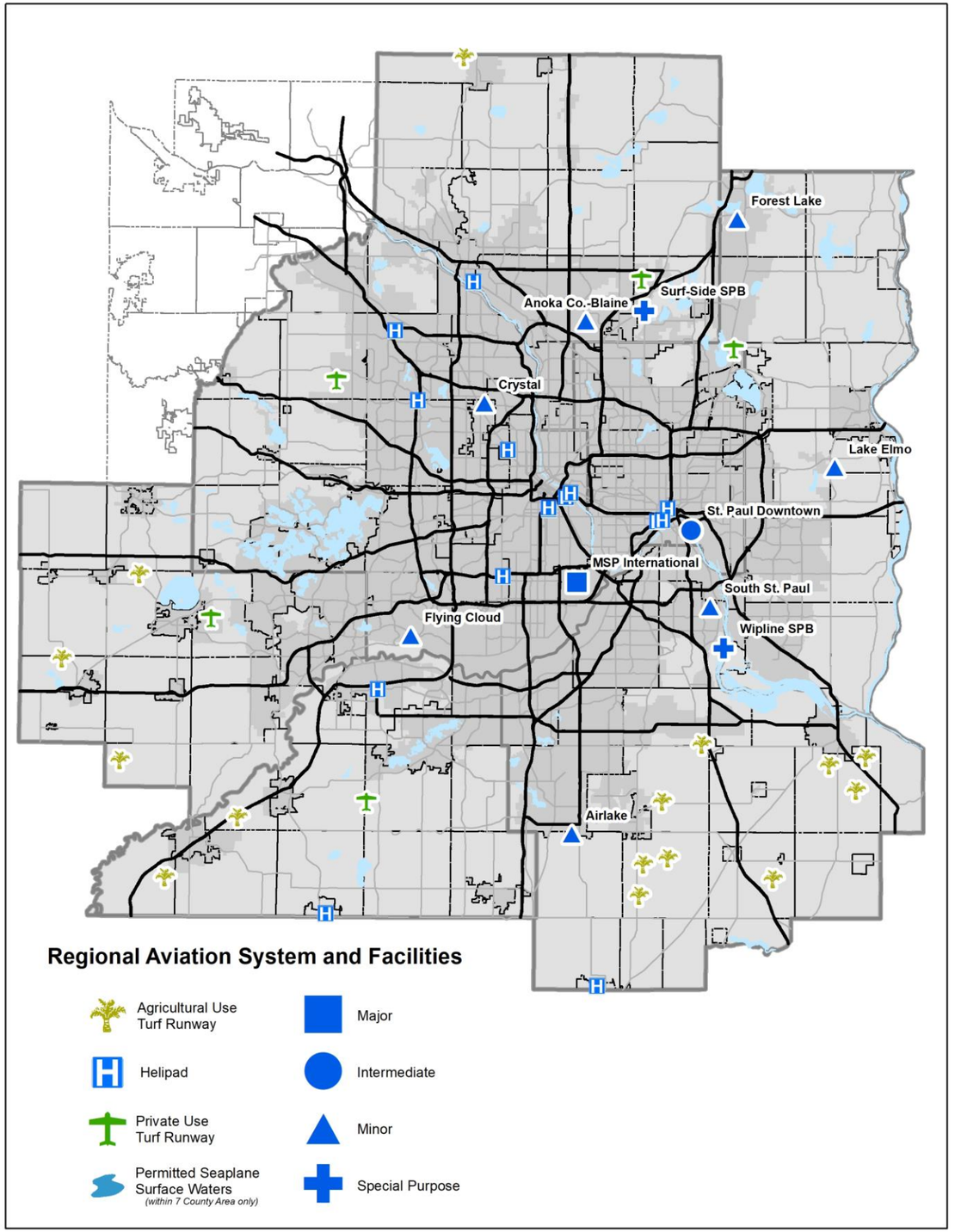
Regional Aviation System Plan Content

Aviation System Plan Content(1)

Regional Airport System - Mature system with limited changes

Aviation system in the region is built out and major changes are not expected

- Nine regional public use airports
  - MSP International Airport
  - Eight relievers to MSP
  - Two seaplane bases
  - All facilities projected to be able to meet forecast demand
- Additional aviation facilities (not regional system) identified in the region
  - Helipads
  - Private turf runways
  - Agricultural use runways
  - Certain lakes and rivers
    - Special Purpose = seaplane base



Aviation System Plan Content(2)

Airport Classifications

Identifying an airport's role in a system, infrastructure needs, facility improvements, airspace integration and safety, and environmental impacts and noise mitigation, requires a classification framework to prioritize investment and system improvement.

FAA Classifications

- The Federal Aviation Administration (FAA) classifies all airports that are a part of the National Plan of Integrated Airport Systems (NPIAS)

MnDOT

- The Minnesota Department of Transportation (MnDOT) Aeronautics branch classifies all public airports within the state, including those that are part of the NPIAS

Metropolitan Council

- As a part of it's regional planning responsibility, The Metropolitan Council is required to classify the metropolitan airports
- 8 of the 9 regional airports are NPIAS airports and all are classified by MnDOT

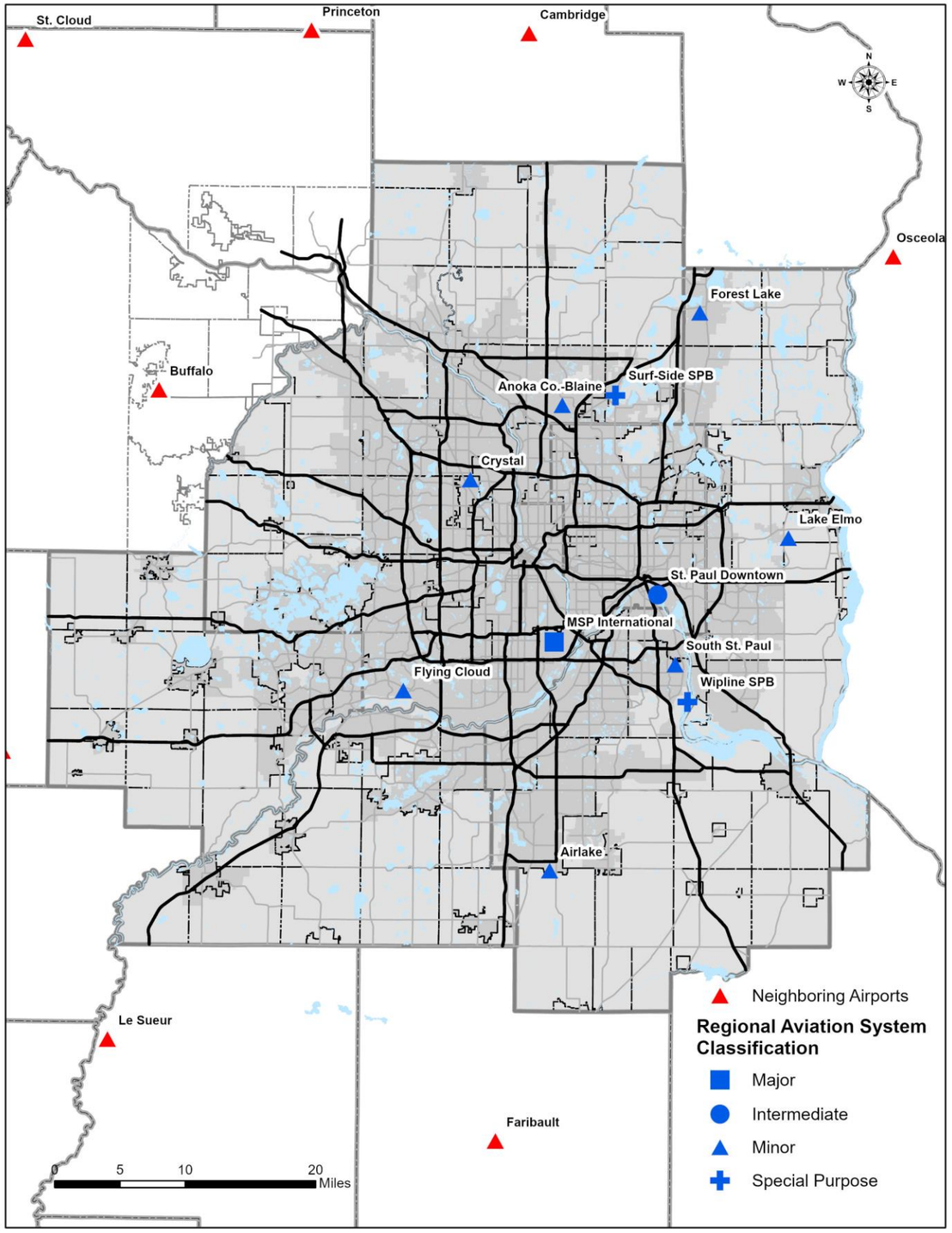
Aviation System Plan Content(3)

Regional System – existing airport classifications

The aviation system has three distinct classification types

- FAA: National Plan of Integrated Airport Systems (NPIAS)
- State: Updated classifications in recent State Aviation System Plan
- Regional: Regional Aviation System Plan

Airport (code)	Federal (NPIAS)	State (MNSASP)	Regional
Minneapolis-Saint Paul International (MSP)	Commercial Service - Primary	Key Commercial Service	Major
St Paul Downtown (STP)	National - Reliever	Key General Aviation	Intermediate
Flying Cloud (FCM)	National - Reliever	Key General Aviation	Minor
Anoka-Blaine (ANE)	National - Reliever	Key General Aviation	Minor
Airlake (LVN)	Regional - Reliever	Intermediate - Large	Minor
South St. Paul (SGS)	Regional - Reliever	Intermediate - Large	Minor
Crystal (MIC)	Regional - Reliever	Intermediate - Small	Minor
Lake Elmo (21D)	Regional - Reliever	Intermediate - Small	Minor
Forest Lake (25D)	N/A	Intermediate - Small	Minor



Aviation System Plan Content(4)

Reviewing and Maintaining the Classification System for the Region

Establishing, reviewing and updating regional airport classifications is one of the roles that fall under the purview of the Met Council

Existing classification system established in 1977

Has seen limited and minor updates from previous regional plan updates

- Last review of the system was done for 2030 TPP in 2008
- Recommendations were not adopted

State law dictates that Minor Airports must have runways at a maximum of 5,000 feet

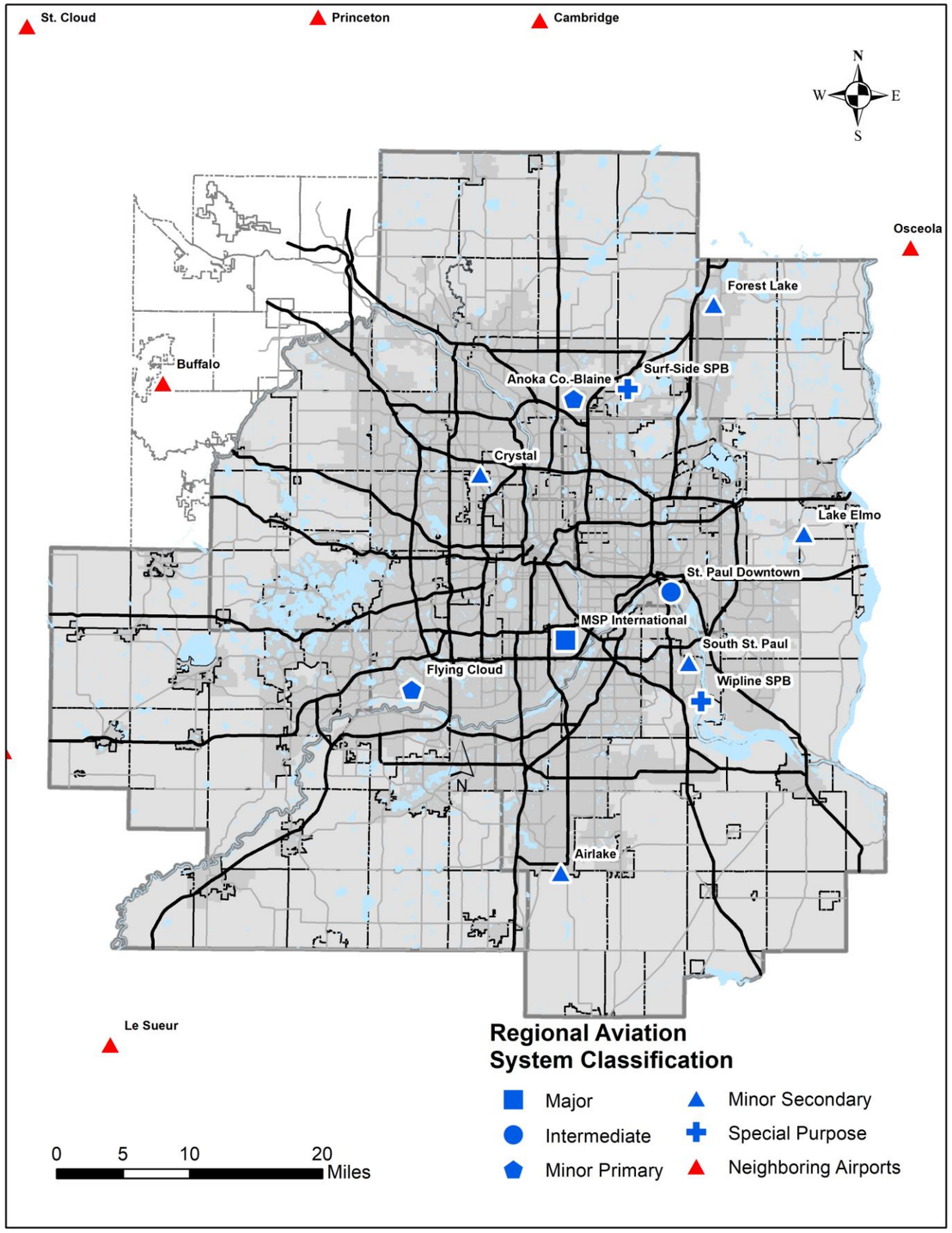
MnDOT Aeronautics overhauled state classifications with 2022 State Aviation System Plan (SASP)

- Regional system more out of step with state and federal classifications

Aviation System Plan Content(5)

Proposed Update to Regional Airport Classifications

- State statute restricts Minor Airports from upgrading to Intermediate or expanding runways beyond 5,000 feet
- Does not restrict how Minor Classification defined otherwise.
- Updating classification criteria
  - Better understand and communicate role of reliever airports in region
  - Align with state and federal classifications
- Split Minor Classification
  - Minor Primary: Primary relievers to MSP including most regional business jet activity, higher overall activity and more substantial facility needs.
    - Flying Cloud
    - Anoka-Blaine
  - Minor Secondary: Secondary relievers to MSP primarily smaller piston aircraft for training and recreation purposes with reduced facility needs.



Aviation System Plan Content(6)

Regional System – Flight Activity Rebounding

MSP is nearing passenger levels of 2019, operations still down

- Operations at MSP will continue to trail enplanements as aircraft operators fly less operations with larger planes
- Passenger growth expected to outpace operations growth
- No capacity issues expected for aircraft operations at MSP

General aviation operations continue to grow after years of declines

- General aviation traffic at relievers hit lowest point in 2020 from a peak in 1998
- GA activity is forecasted to continue modest growth through 2050 but not meet previous peaks – no capacity issues anticipated

Forecasts have been updated where possible in update

Activity	2018	2019	2020	2021	2022
Total GA Operations	374,949	362,835	369,862	389,620	382,259
Total MSP Operations	409,982	404,644	279,768	288,979	315,152
Total MSP Enplanements	19,007,719	19,783,380	7,418,648	12,581,412	15,614,084
Total MSP Cargo (metric tons)	239,546	228,964	203,697	234,747	237,430

MSP Forecast Enplanements	2020	2025	2030	2035	2040	2050
Original (2040 LTCP)	20,000,000	22,500,000	24,400,000	26,300,000	28,100,000	32,300,000
Revised	7,400,000	21,600,000	24,100,000	26,100,000	28,100,000	32,300,000
Revised (Aggressive Recovery)	7,400,000	22,300,000	24,100,000	26,100,000	28,100,000	32,300,000

MSP Forecast Operations	2020	2025	2030	2035	2040	2050
Original	411,300	433,000	462,400	490,600	517,200	566,417
Revised	245,900	409,800	450,100	479,600	509,800	566,417

Reliever Forecast Activity	2020	2025	2030	2035	2040	2050
Total G.A. Based Aircraft	1,320	1,437	1,505	1,522	1,549	1,580
Total G.A. Operations	369,862	410,340	434,881	450,414	466,850	492,506

Aviation System Plan Content(7)

Aviation Planning Process

Aviation Plan

- First plans standalone – now section of TPP
- System statements: Compiled after TPP adoption, informs local communities of regional system needs (regional airports)

Long Term Comprehensive Plans

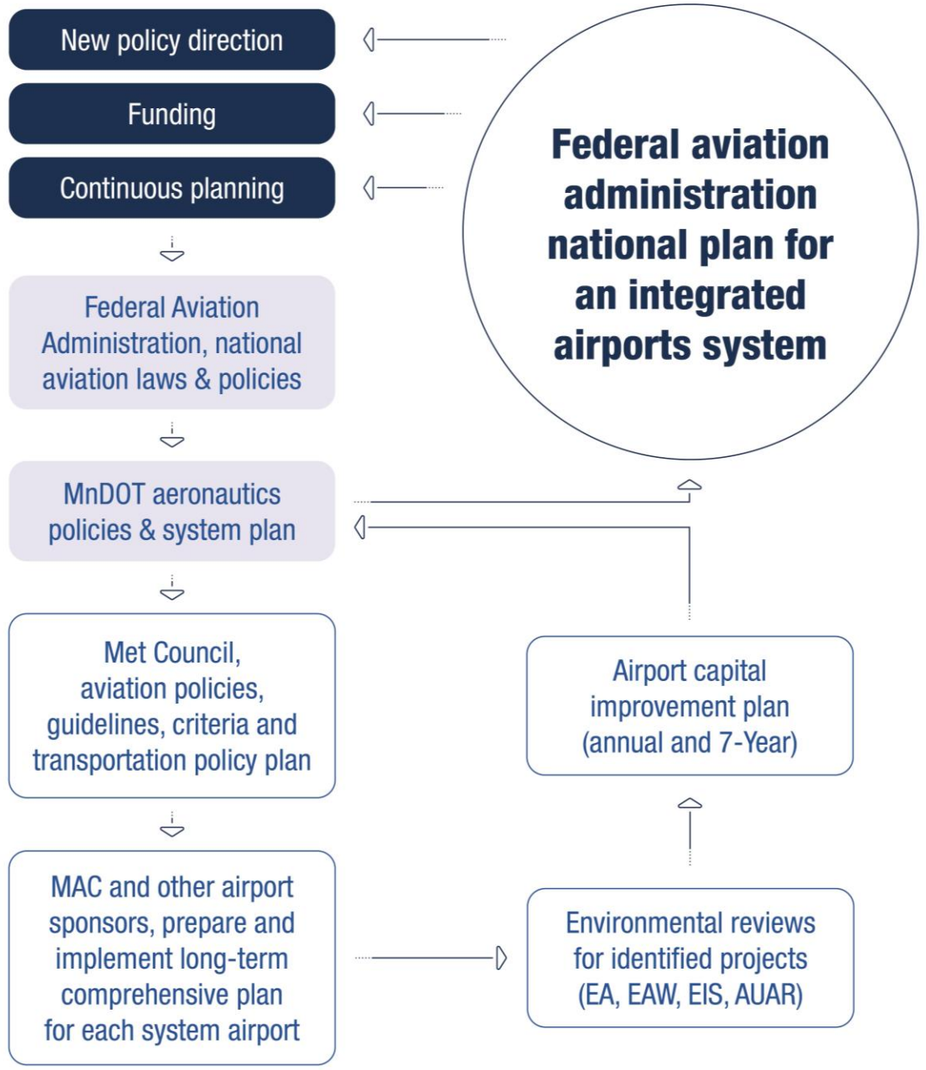
Environmental Compatibility

- Noise/land use/safety
- Natural environment impacts
- Environmental review requirements

Federal Compliance

- Federal government much more involved with aviation planning than other modes

MAC Capital Improvement Plan



Aviation System Plan Content(8)

Aviation Planning Process

Long Term Comprehensive Plans

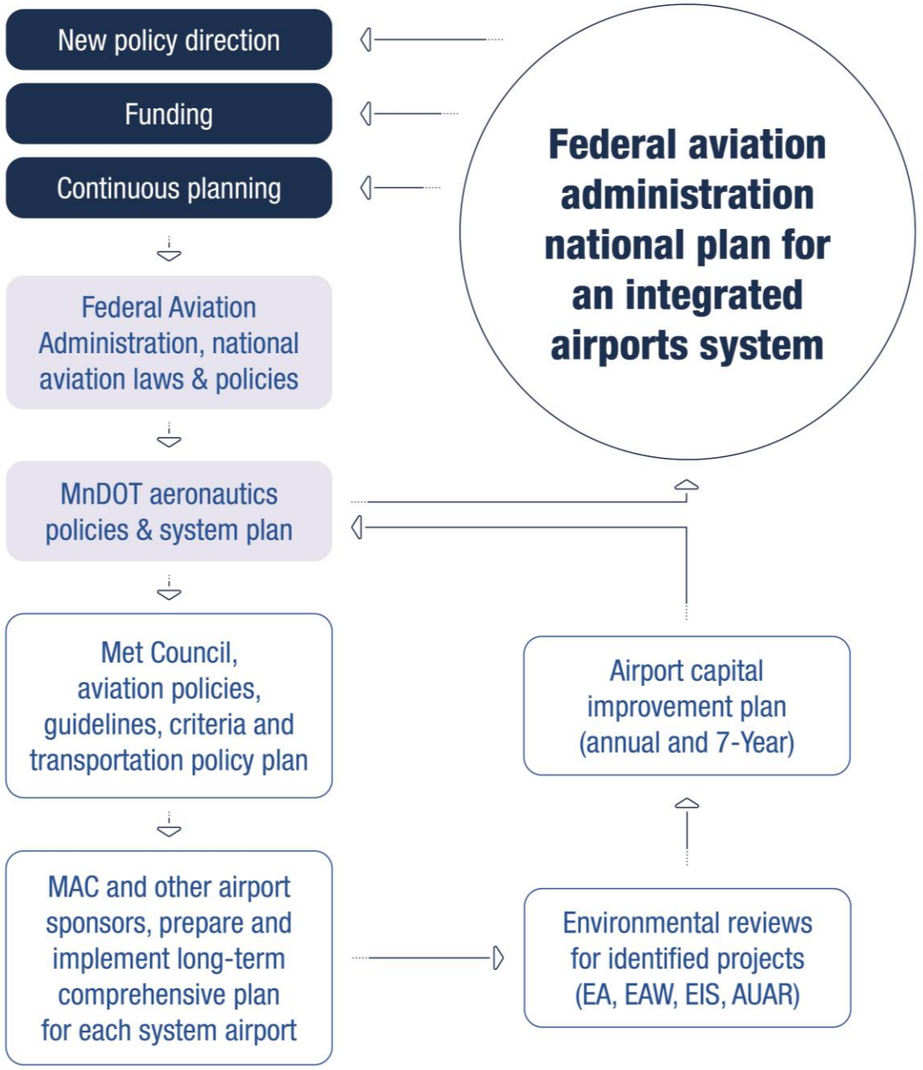
Long Term Comprehensive Plans are a major component of the Aviation System Plan

Planning documents for airports which identify projected aircraft activity, high level impacts and phased facility needs

- MSP – approved in 2024 and incorporated into TPP
- Flying Cloud – to be reviewed in 2025 and incorporated into update

Updating LTCP requirements per feedback through review process to align with community desires and reality of long-term airport planning.

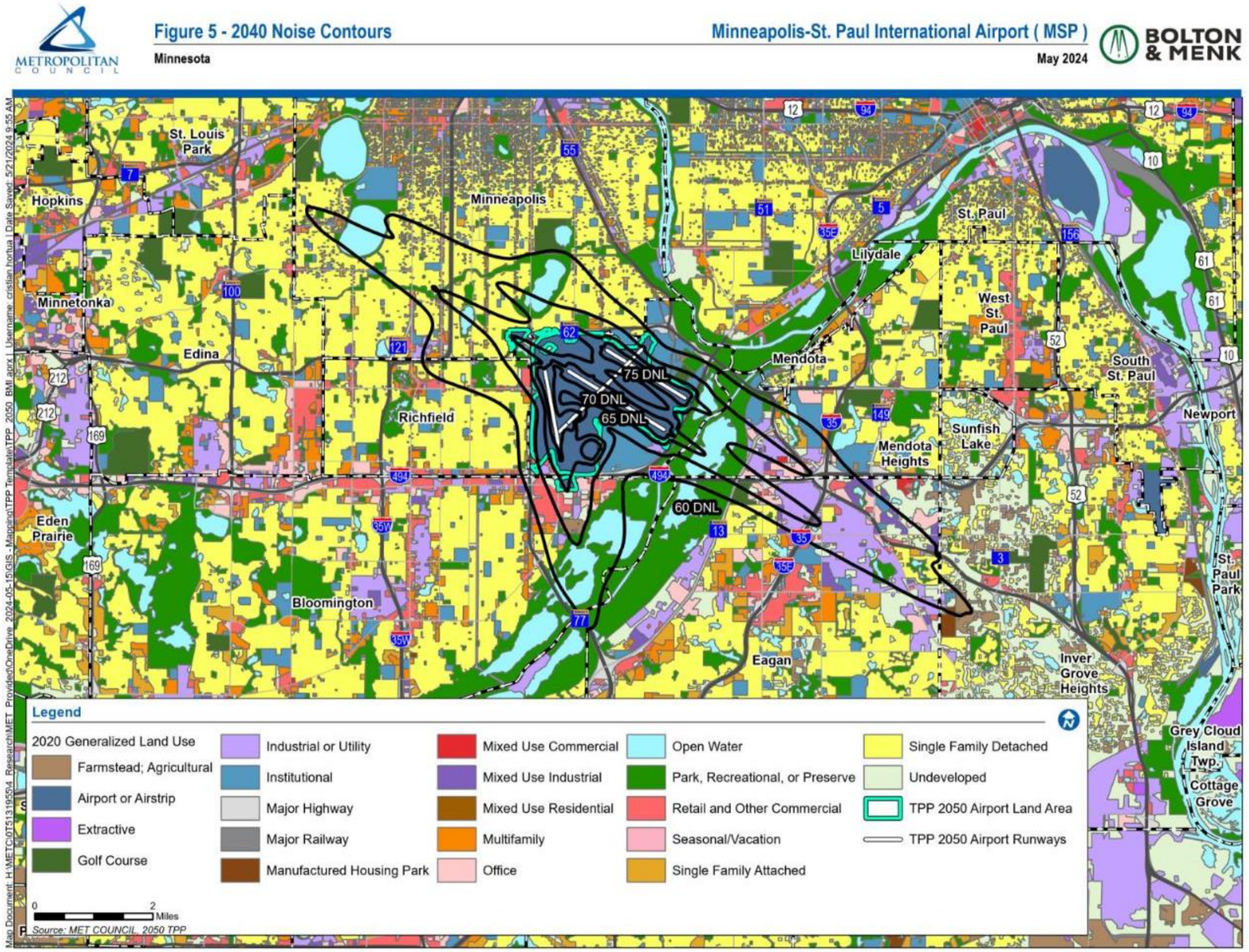
- Aligning plan development timeline with community comprehensive planning requirements – every ten years
- Better identifying when expected environmental considerations be reviewed/addressed
    - LTCP vs environmental review period (EA, EAW, EIS)



Aviation System Plan Content(9)

Land Use Compatibility

- Major component of the Plan – regional airports and surrounding land use compatibility.
- Met Council maintains the Builders Guide to Mitigating Aircraft Noise in New Residential Construction.
  - Mitigation measures for aircraft noise for land use and construction.
- Plan will now include standardized exposure maps with existing land use data (updated 2040 contours for MSP and Flying Could)
- Plan also includes additional locations where aviation activity may take place to aid local planning (helipads, private runways)



Next Steps

Public Comment Draft Process

- Information item
  - TAC Planning: 5/8
  - TAC: 6/4
  - TAB: 6/18
  - Transportation Committee: 6/23
- Action item
  - TAC Planning: 7/10
  - TAC: 8/6
  - TAB: 8/20
  - Transportation Committee: 9/7
  - Metropolitan Council: 9/24

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To learn more:
https://metrocouncil.org/transportation/system/aviation.aspx

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