



2050 TPP Policy Development Teams

Regional Aviation System



September 23, 2024

Aviation Policy Meeting #1



Agenda

1. Regional Development Guide Overview
 - a. Regional Vision and Goals
 - b. Transportation Objectives
2. Met Council Role in Regional Aviation
3. Aviation Industry Trends and Key Takeaways
4. Policy Development Team Overview
5. Policy Discussion
6. Next Steps

Regional Development Guide Overview



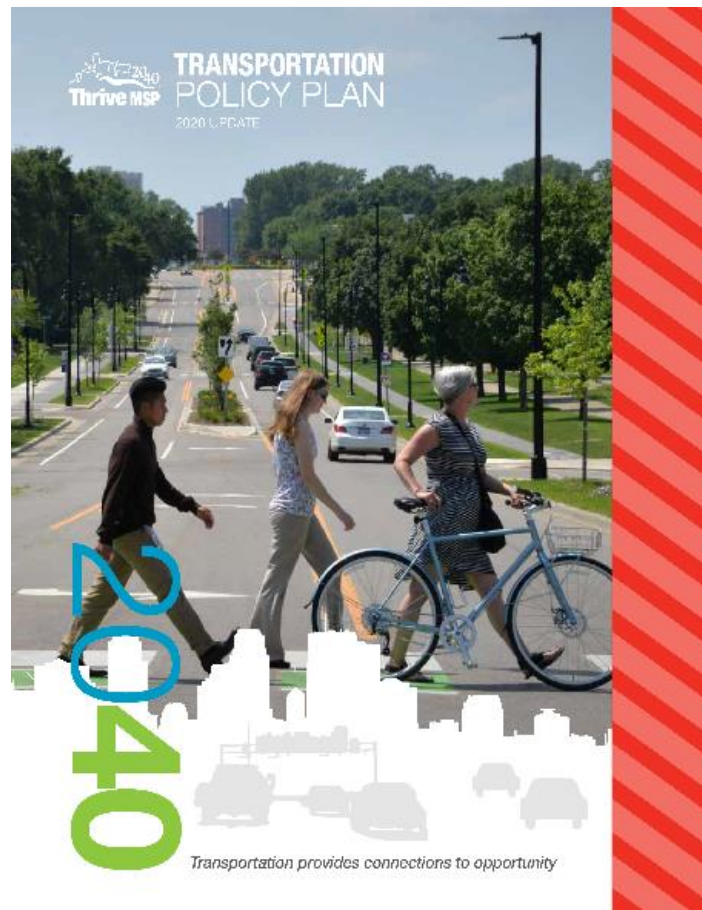
What is the TPP?



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

- State-required system plan (for aviation)
- Federally-required metropolitan transportation plan (for surface transportation)
- Investment plan that directs major transportation investments and guides regional transportation policies

TPP Planning Cycle



Studies to Inform Plan Development

Example Completed

- Mobility Hub Planning Guide
- Highway Mobility

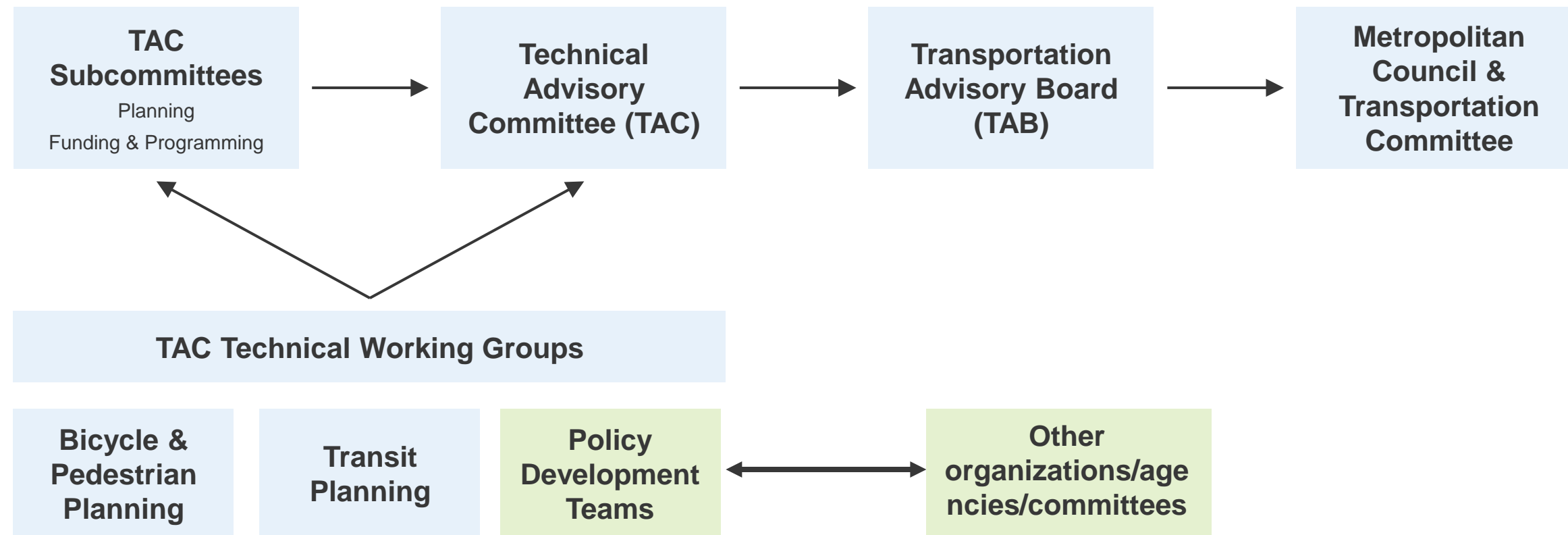
Example Ongoing

- Regional Safety Action Plan
- Travel Demand Management
- Equity Evaluation of Transportation Investments
- Climate Change Multimodal Measures

2050 Transportation Policy Plan

- Goals & Objectives
- Policies & Actions
- Investments
- Performance
- Modelling

Technical & Decisionmaker Engagement



Terms & Definitions

2050 Regional Development Guide

- **Values** are core beliefs (principles) that guide how the Council carries out work.
- **Vision** is the overarching description of what we want to achieve for the region.
- **Goals** are broad directional statements that more specifically describe the desired end states for the region.

2050 Transportation Policy Plan

- **Objectives** are the achievable results that advance each regional goal.
- **Policies** are the statement of intent and approach to regional issues or topics, independently and with partners.
- **Actions** are the specific strategies or activities to implement policies and achieve goals.

Draft 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.

Our Region is Equitable & Inclusive



- Historically disadvantaged communities are better connected to jobs, education, and other opportunities.
- We repair and eliminate disparate and unjust impacts and harms to Black people, Indigenous people, and people of color.
- We better meet the transportation needs of people who have disabilities or limited mobility.

Our Communities are Healthy & Safe



- People do not die or face life-changing injuries when using any form of transportation.
- People feel safer, more comfortable, and more welcome when using any form of transportation.
- We mitigate and avoid harms to people caused by nearby transportation infrastructure and use (e.g. air quality, noise)
- People are better connected to community and cultural resources that support their physical, emotional, and mental well-being.
- People can increase physical activity with opportunities to walk, roll or bike.

Our Region is Dynamic & Resilient



- People and businesses trust that transportation infrastructure and services will withstand and recover quickly from natural and human-caused disruptions.
- People have better travel options beyond driving alone to meet their daily needs, with a focus on improving travel times, reliability, directness and affordability.
- People have more predictable travel times when traveling on highways, with a focus on reducing excessive delays.
- People and businesses can rely on predictable and cost-effective movement of freight and goods.

We Lead on Addressing Climate Change



- The region's transportation system minimizes greenhouse gas emissions.
- People have more reliable access to zero emissions vehicle infrastructure.
- By 2050, the region reduces vehicle miles traveled by 20% per capita below 2019 levels.

We Protect & Restore Natural Systems



- The region's transportation system and the people who use it limit their impacts on natural systems (e.g. air, water, vegetation, and habitat quality).

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 affect on the orderly and economic development of the region

FAA, MNSASP, and Aviation Industry Trends



FAA, MNSASP, and Aviation Industry Trends

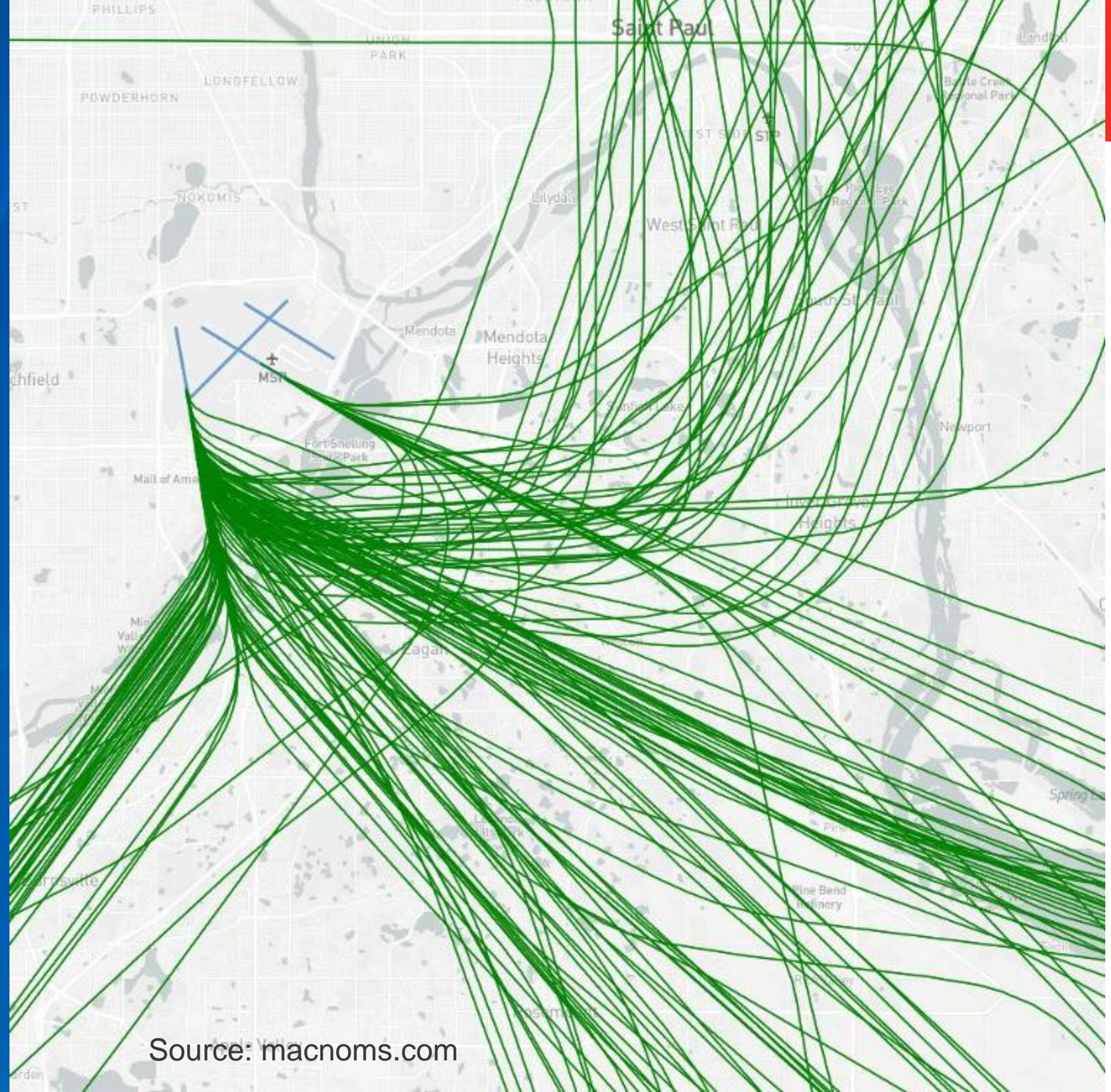
Existing Aviation Challenges Identified

- **Staffing Shortfalls** The aviation industry has identified existing and potential staffing shortages for mechanics, air traffic controllers (ATC) and pilots.
- **Cost** The high cost of entry into the aviation field may limit participation from interested parties.
- **Industry Demographics** The aviation industry has historically ranked amongst the lowest in terms of workforce diversity.

Industry/Regulatory Trends

- Industry Trends and FAA regulation updates have been developed to streamline pilot, mechanic, and ATC training requirements.
- FAA Reauthorization, BasicMed, and Light-Sport/MOSAIC include provisions to lower the cost and increase participation in aviation.

Aircraft Noise



Source: macnoms.com

Aircraft Noise

- **Aircraft Noise** Unwanted sound resulting from aircraft operations. Considered one of the most harmful environmental impacts 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** Beginning 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. Additionally, advancements in satellite navigation have allowed the FAA to implement dispersed instrument departure procedures to mitigate aircraft noise.
- **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.
- **Compatibility Planning** The Metropolitan Council has developed a Builders Guide to identify compatible land uses and construction techniques to mitigate aircraft noise. The Builders Guide recommendations are based on the current Civil Aviation Noise Policy.

Aviation Fuels and Alternative Power Sources



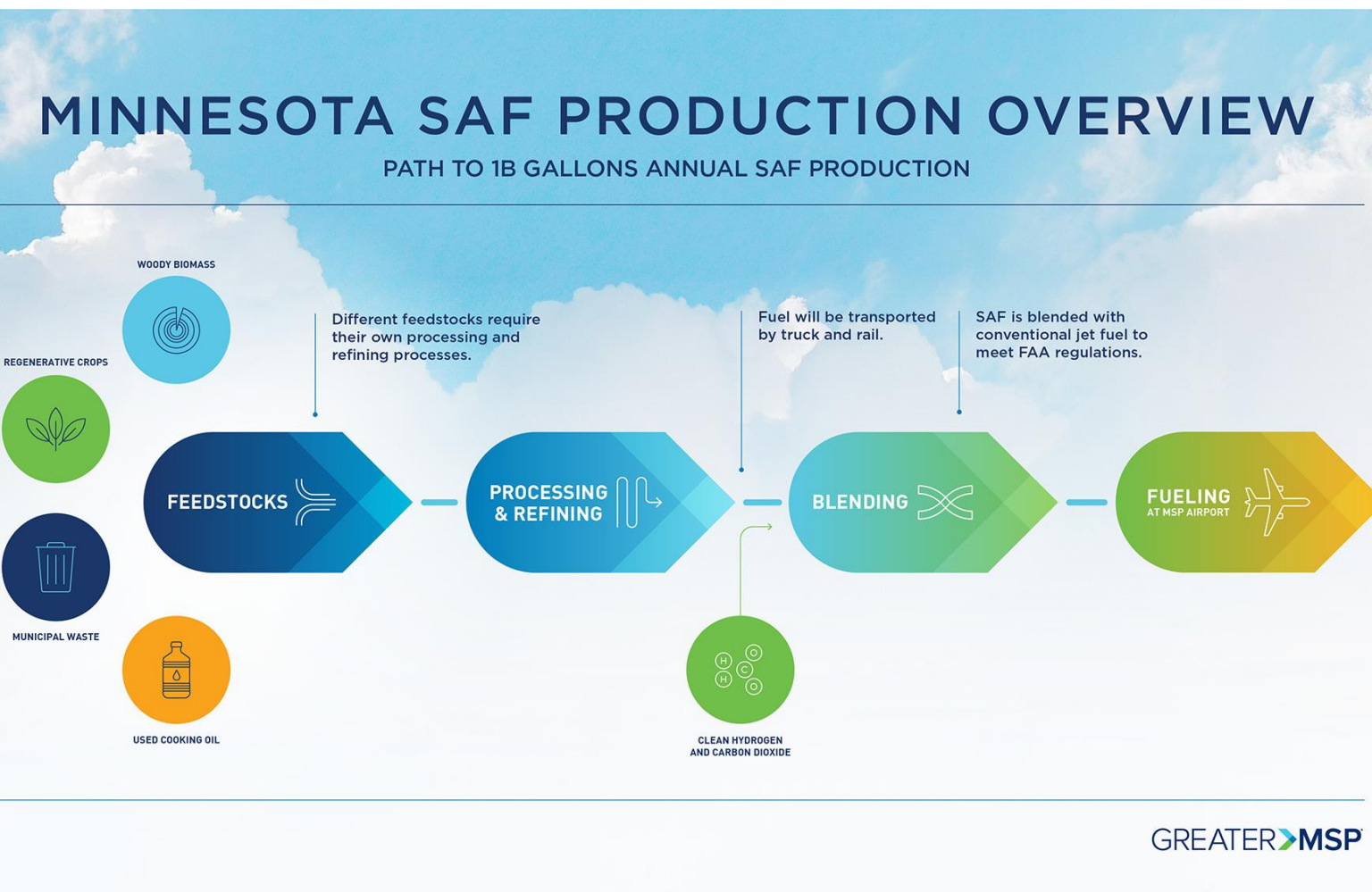
Source: Westmor Industries

Aviation Fuels and Alternative Power Sources

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

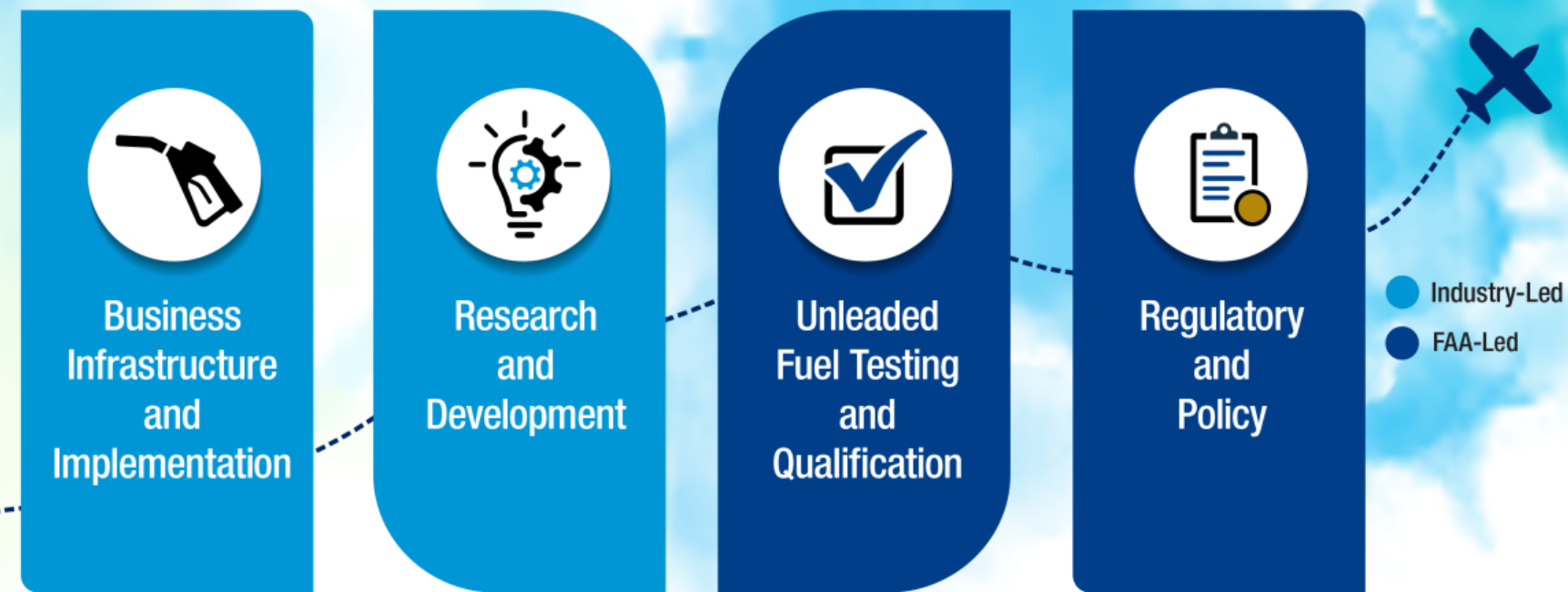


Source: GreaterMSP

Aviation Fuels and Alternative Power Sources

Path to a Lead-Free Aviation System

Eliminate Aviation Gasoline Lead Emissions (EAGLE)



Aviation Fuels

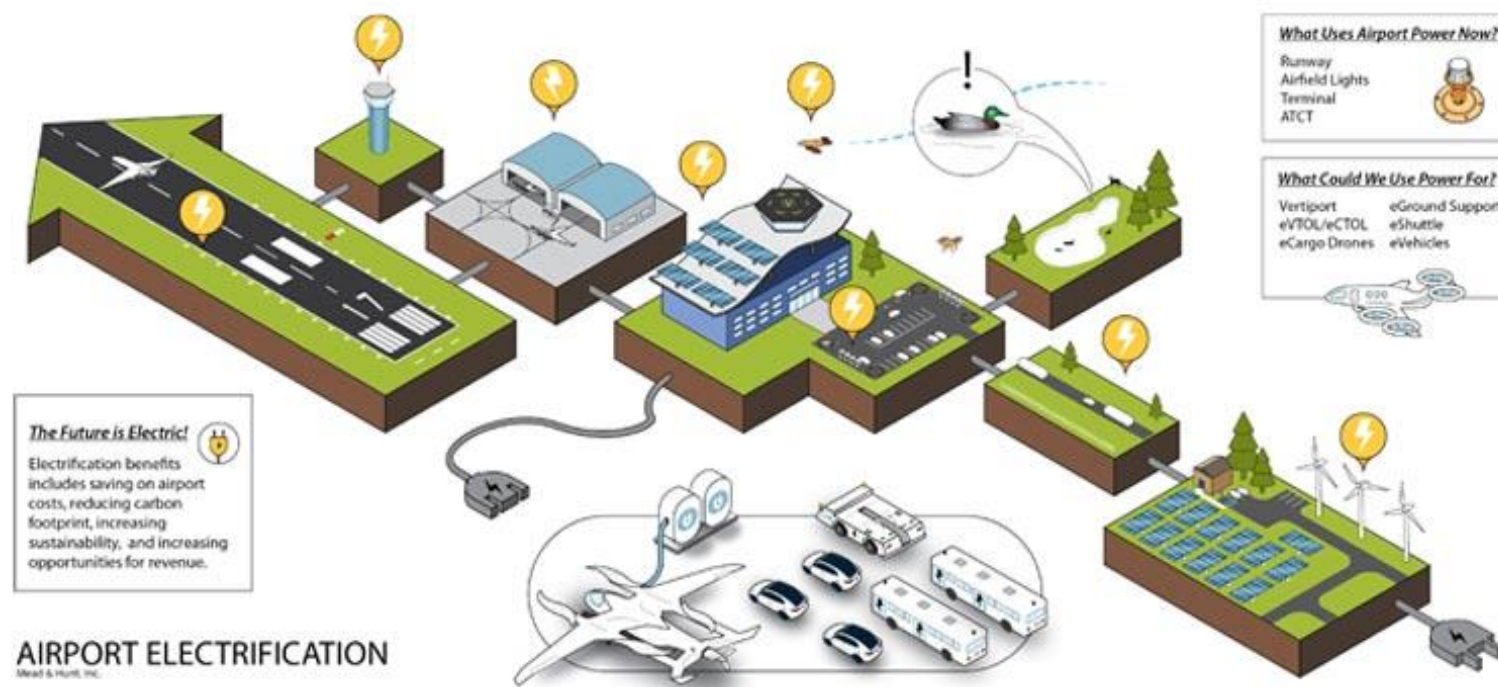
Leaded Aviation Gas The majority of small GA aircraft continue to utilize aviation gasoline containing lead. Aviation is the last industry using leaded fuel. Government and industry initiatives are working to develop an unleaded fuel(s) safe for GA aircraft.

- Lead to be found unsafe at any level by EPA
- FAA require leaded fuel use to 2030
 - Developing pathway to eliminate future use
- State and local bans planning after FAA requirements expire

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
 - Reduce GHG and other emissions from aircraft operations
- **Hybrid/Hydrogen** Existing electric technology is not compatible with large aircraft. Existing aircraft operations may be augmented through the incorporation of hybrid and or hydrogen components.
 - Carbon free commercial flight



Source: Mead & Hunt

Unmanned Aerial Systems (UAS)



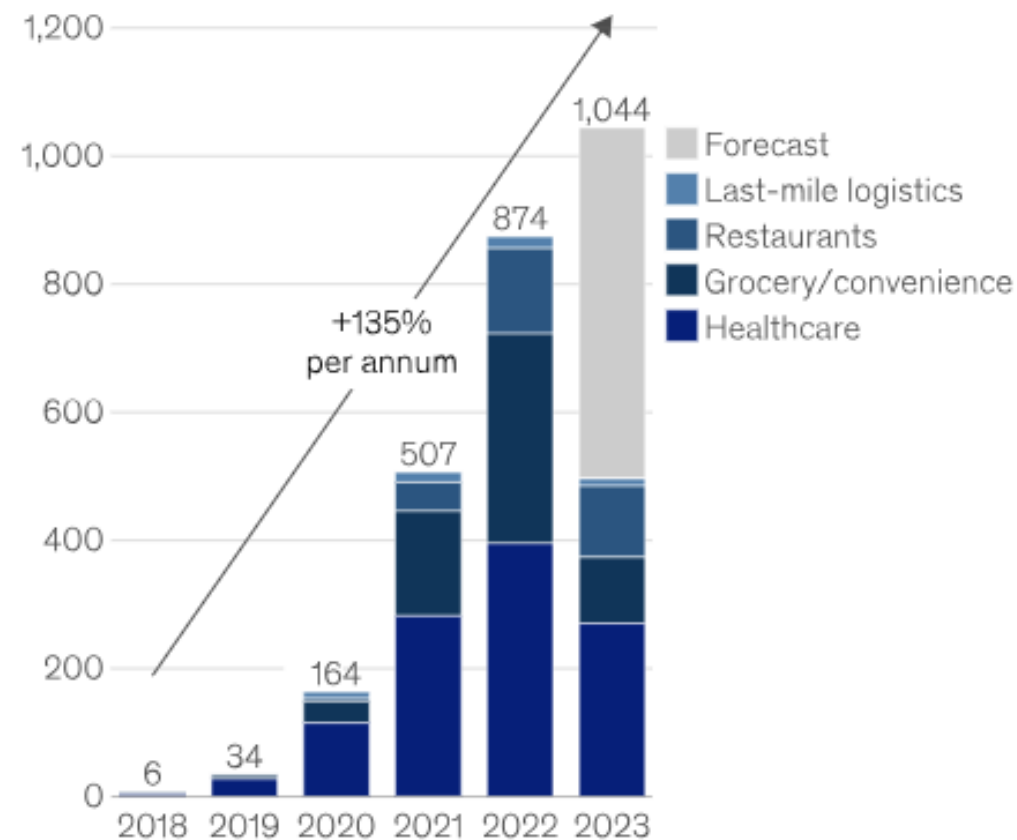
Source: Intel Corporation

Unmanned Aerial Systems (UAS)

Trends seen in UAS Industry

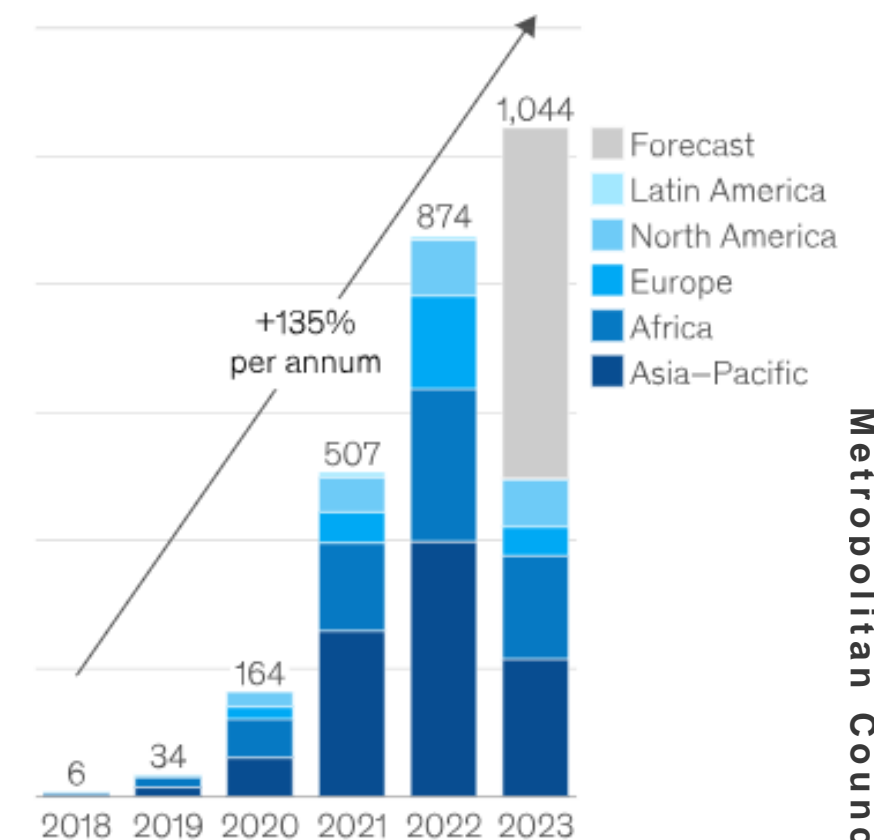
- UAS is the fastest growing segment of aviation in the United States.
- Technological advancements in battery systems, smartphones, and camera sensors have made UAS readily accessible to a wide segment of the population.
- Logistics/Shipping and energy sector industries are anticipated to be the main drivers of UAS growth in the U.S. with the integration of Beyond Visual Line of Sight (BVLOS) regulations.

Commercial drone deliveries by use case, thousand



Source: McKinsey & Company

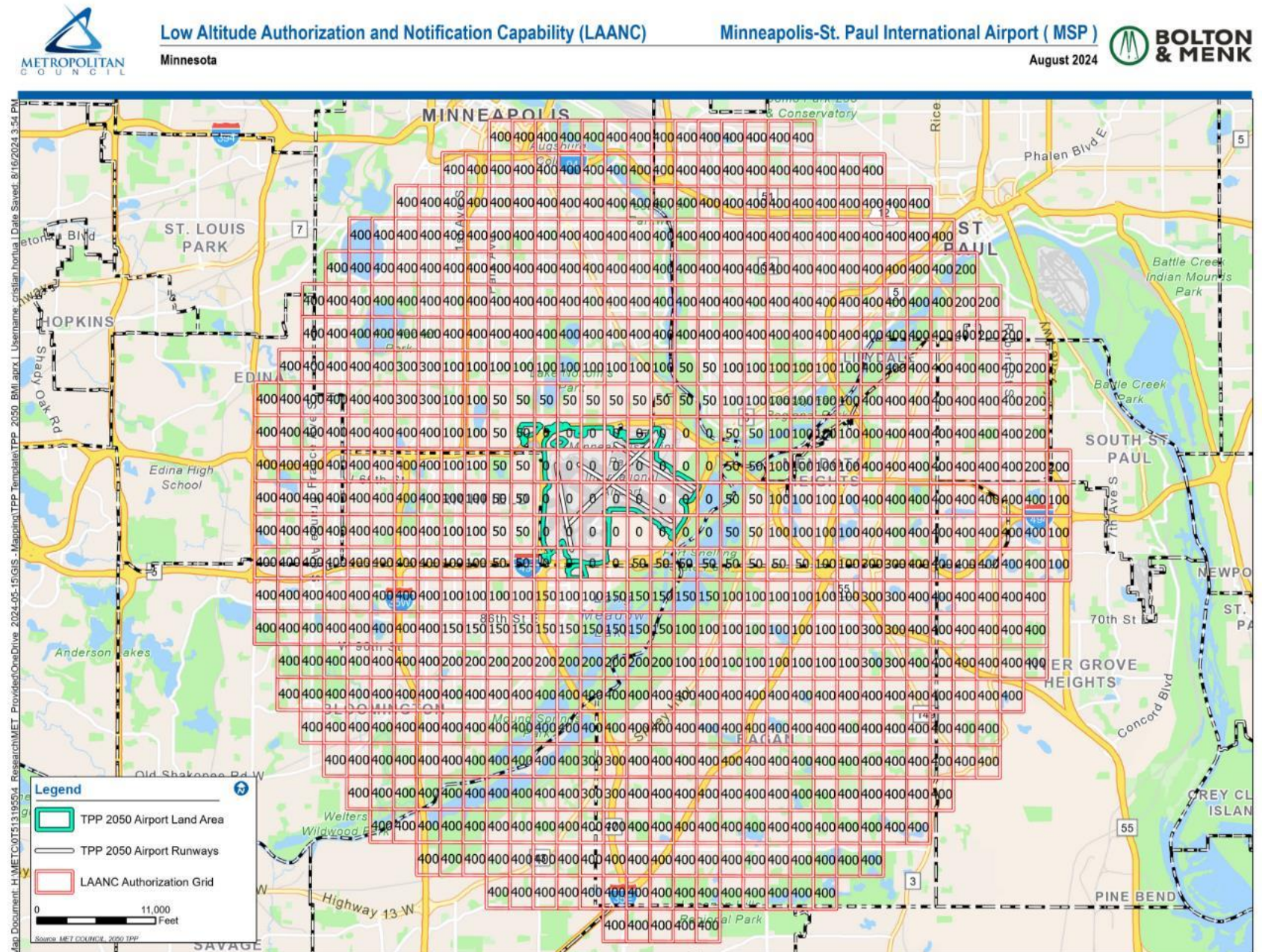
Commercial drone deliveries by region, thousand



Unmanned Aerial Systems (UAS)

UAS Trends and Regulatory Framework

- FAA's development of the Part 107 framework in 2016 established the rules for safe commercial operations of UAS within the National Airspace System (NAS). 2017 development of the LAANC system allows for immediate authorization to operate within controlled airspace. This has contributed to the significant increase in UAS operations.
- The FAA's Reauthorization Act of 2024 has identified the need to publish rules to enable BVLOS operations within the NAS.



Advanced Air Mobility (AAM)

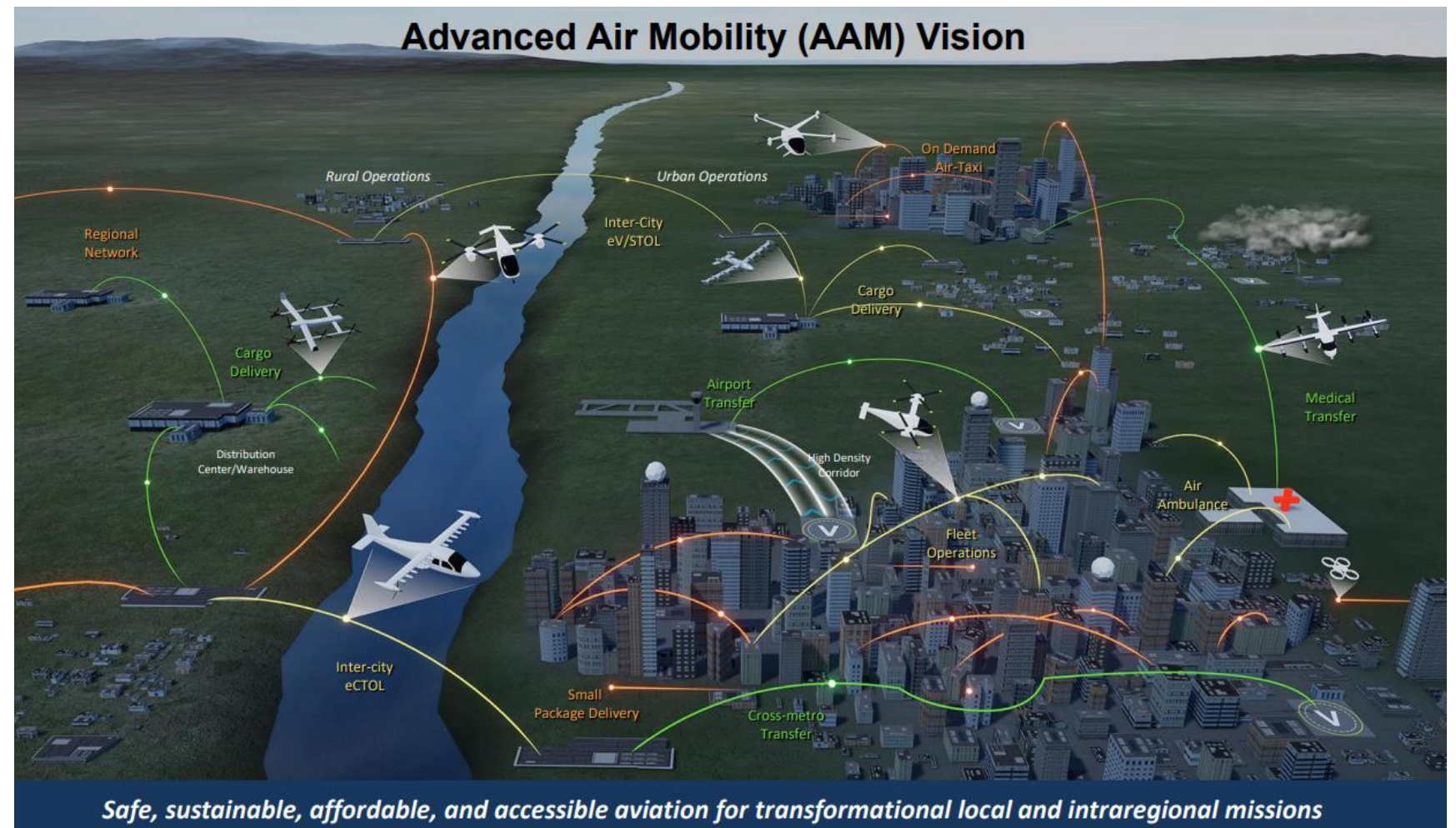


Source: FAA

Advanced Air Mobility (AAM)

AAM Trends

- The increasing urbanization within the U.S. and the need to reduce GHG emissions has led to innovative new methods of transportation.
- AAM are aircraft designed for VTOL operations from designated vertiports, powered by electricity, and leverage 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.

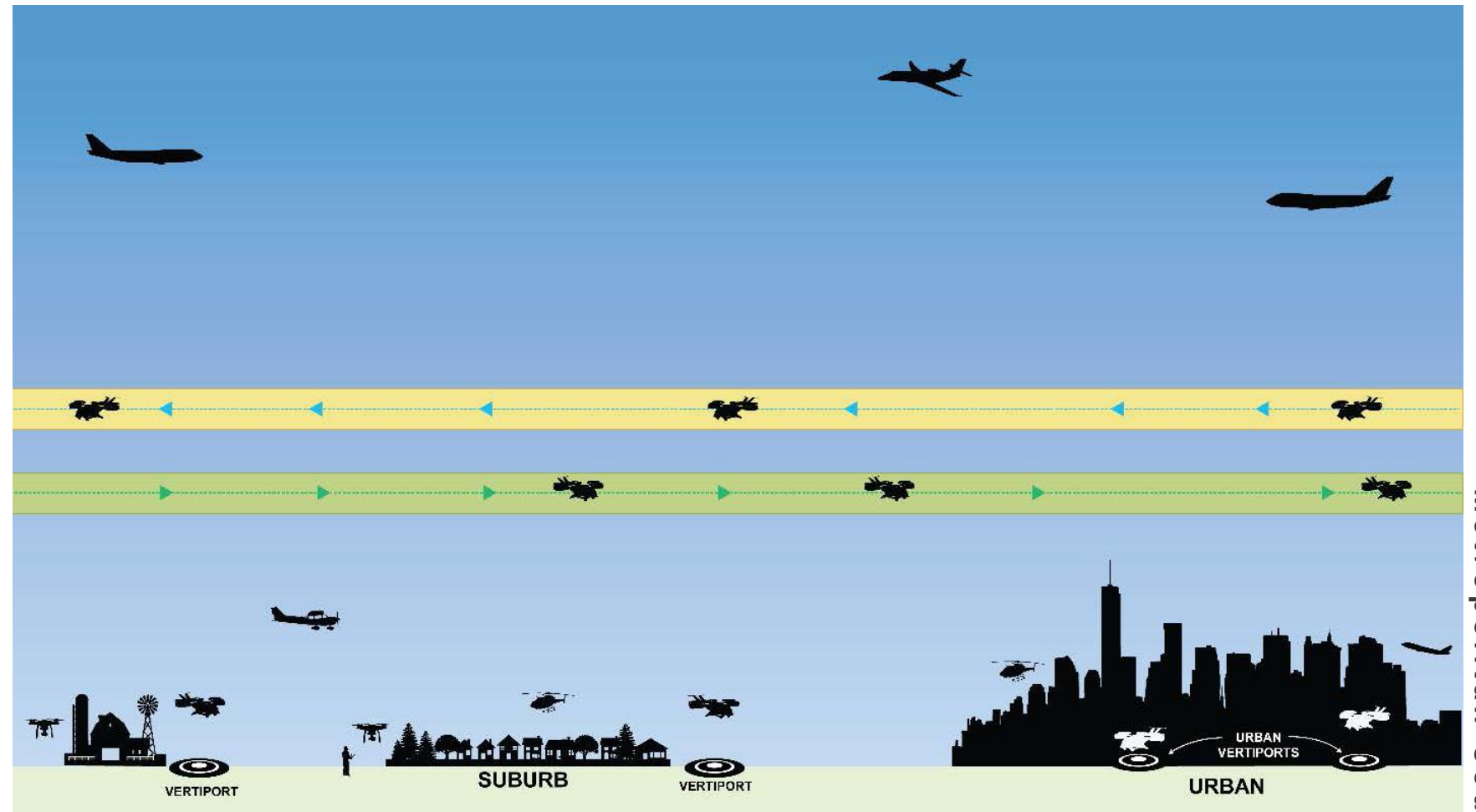


Source: NASA NTRS

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 – land use integration
 - State – policy and development
 - Federal – airspace regulations



Source: FAA

Policy Development Team Overview



Policy Development Phases

Phase I

- Evaluate existing 2040 TPP for potential policies
- Group them by functional area (e.g., mode or impact)
- Start to delineate the difference between policies and actions

Phase II

- Incorporate 2050 goals and objectives, begin reorganizing around them
- Identify gaps, opportunities, and redundancy in policies and actions
- Review results of other inputs including industry trend papers and other planning studies

Phase III

- Develop new policies and actions
- Reduce, combine, or eliminate bloated or unnecessary policies and actions
- Further engage on policies and actions as a “draft list,” continuing to refine as 2050 TPP evolves until final adoption

Process

Develop

- Meeting 1
 - Introduction
 - Background
 - Brainstorming
- Meeting 2
 - Review Meeting 1 policies
 - Draft/edit policies
 - Draft/edit actor-specific actions

Review

- Meeting 3
 - Finalize remaining items from Meeting 2
 - Review drafted updated policies and actions
- Additional review processes with standing working groups and committees
 - Council / TAB
 - MAC
 - Any other relevant groups?

Recommend

- Meeting 4 (if necessary)
- Review feedback
 - Make revisions and final recommendations
 - Continue discussion on performance measures
- Final Meetings
 - Additional meeting scheduled if necessary

Aviation Policies



Policies Overview



Existing Aviation Policies from 2040 TPP

Policy 1: Airport safety standards should be maintained and improved where possible by addressing land use compatibility and air safety requirements in airport and local policies and plans.

Policy 2: Conduct planning, development, and operation of regional airports to minimize the impact to adjacent communities. Ongoing impacts from aviation activities should be mitigated through local land use compatibility policies and other mitigation efforts.

Policy 3: Coordinate planning and pursuing transportation investments that strengthen connections to other Minnesota regions, the nation, and world through air service at the region's primary and reliever airports.

Policy 4: Coordinate the provision of adequate local access to the region's airports considering local context and role in the system.

Policy 5: Prepare long-term comprehensive plans for MAC owned airports or local comprehensive plans for each airport following FAA requirements and submit it to the Met Council for review to ensure that plans for preservation, management and improvement of infrastructure at each airport are consistent with the regional aviation system plan.

Policy 6: Promote public participation and awareness of aviation issues including involvement of traditionally underrepresented populations, system users, and individuals.

Policy 7: Protect, enhance, and mitigate impacts on natural resources when planning, constructing, and operating the region's aviation system. This will include management of air and water quality and identification of priority natural resources through the Natural Resources Inventory developed by the Met Council and Minnesota Department of Natural Resources.

Overview

Goals (Where)	Objectives (What)	Policies (How)	Actions (Who)
<ul style="list-style-type: none">• Directional statements	<ul style="list-style-type: none">• Achievable, measurable results	<ul style="list-style-type: none">• Intent and approach to achieve goals and objectives	<ul style="list-style-type: none">• Actions for implementation

Prompting Questions

- What policies are needed to meet the objectives?
- What's the regional role of the policy? *E.g. Investment priorities, comprehensive plan requirements, convening partners, best practice and technical assistance.*
- What actions are needed for implementation and who should do them?
- Are there new tools or technical assistance needed?
- How do we evaluate progress on the objective and/or policy?

Objective: People do not die or face life-changing injuries when using any form of transportation.

- **Example** Policy: Use the safe systems approach in planning and project development.
 - **Example** Action 1: Projects funded through Regional Solicitation and HSIP must use design speeds equal to or below the posted speeds.
 - **Example** Action 2: Produce and annually update the region's high injury street map.

Next Steps



- Next meeting to be scheduled
 - Days/times that work best for folks – will send out tool to determine best time
 - Looking to schedule next meeting in November
 - 3rd meeting aiming for January 2025
- Review meeting materials and continue drafting



Thank You

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