

State Aviation System Plan, Technical Advisory Committee – Meeting #2

February 28th, 2018

9:00am-12:00pm

Aeronautics Building - 222 Plato Blvd, St Paul, MN 55107

Agenda

1) Welcome

- a. Meeting Overview
- b. Introductions

2) Assessment of Prior Efforts

- a. Prior Efforts Outreach
- b. What work well
- c. Challenges

3) Objectives and Strategies

- a. Evaluation of Past SASP Strategies
- b. SASP Objectives
- c. Objectives Next Steps

4) Trends

- a. Why Trends
- b. Proposed SASP Trends
- c. Example of Commercial Service Trend

5) Defining the System

- a. Minnesota's System of Airports Series of Maps
- b. SAC conclusion on Defining the System

6) Airport Classification Review

- a. Overview of Classification
 - i. What we heard on Current Classification System

7) Break

8) Technical Advisory Committee

- a. Purpose and Role

9) Airport Classification Review

- a. NPIAS/ASSET
- b. How Other States Classify Airports
- c. Current Classification System

10) Small-group Discussion

- i. Discussion about Future Classification System
- ii. Discussion about Potential Classification System Uses

11) Next Steps and Wrap-up

Recommendations on Previous Tasks

MnDOT SASP Phase 1

Assessment of Prior Efforts Summary

Outreach Summary

The following groups were consulted and outreach meetings held to gather input on the assessment of prior SASP efforts.

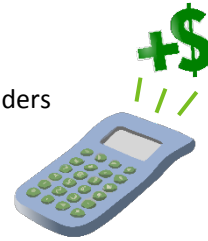
- MnDOT Aeronautics Staff
- SASP Advisory Committee (SAC)
- Technical Advisory Committee (TAC)
- Aviation Consultant Community Workshop
- Aviation Community (Minnesota Airports Conference, Pilot Focus Groups, Drone Focus Group, Numerous airshows and fly-ins)



What we learned

What worked well:

- Economic Impact Calculator tool is useful for airports and stakeholders
- Map graphics in the plan
- SASP level forecast information
- Report card (5-sheet airport information)



What could use improvement:

- Does not adequately include drones
- Could better educate public
- Could use additional information on NextGen rollout and impact on Minnesota
- SASP could include a package of tools for sponsors to share results of SASP and its ancillary studies. Materials should be synthesized and focused. Also, easier web access for sponsors to gather information about their airport (report cards, PCI reports, economic impact, etc.).
- Comparison tools/information for airports to compare against average or other airports in their classification.
- Clarification on which objectives are requirements versus recommendations. Include background on the rationale as to why each objective is appropriate/was chosen for each classification. Note how SASP objectives compare to FAA guidance.
- The plan is very lengthy
- SASP did not contain up to date information after initial publication.
- SASP could include recommendations for funding which would help the state prioritize funding decisions.
- Clear zone policy should be integrated into SASP
- High level recommendations on the size of the system, is current size adequate, too small, too big?



Evaluation of past SASP Strategies

The following summarizes TAC input on the past SASP strategies associated with each objective (goal).



- Overall, it seems there are too many strategies.
- Some strategies appear too specific; higher level strategies may be more effective and provide more flexibility

Recommended SASP Objectives

Black text is from SMTP

Green text is feedback from SAC and other groups on objectives

Open Decision-Making

- Make transportation system decisions through processes that **are inclusive, engaging and supported by data and analysis.**
 - Leverage data and technology not currently being used
 - Finding better and consistent ways to track operations statewide is important
- Provide for and support **coordination, collaboration and innovation.**
- Ensure **efficient and effective use of resources.**
 - Having a link between the plan and funding is important

Transportation Safety

- **Safeguard** transportation users as well as the communities the systems travel through.
- Apply proven strategies to **reduce fatalities and serious injuries** for aviation.
- Foster a **culture of aviation safety** in Minnesota.
 - Safety regarding drone integration

Critical Connections

- **Maintain and improve multimodal transportation connections** essential for Minnesotans' prosperity and quality of life.
 - Airport accessibility– ease of reaching valued destinations
 - Ensure regional connections
 - Multimodal connections
 - Partner with other organizations to promote aviation tourism connections
 - Last mile airport accessibility
- **Strategically consider new connections** that help meet performance targets and maximize social, economic and environmental benefits.

System Stewardship

- **Strategically** build, manage, maintain and operate all transportation assets.
 - Reasonably priced aviation experiences including certification, fuel purchases, maintenance, and hangar cost
 - Create a NAVAIDS plan to address age of infrastructure and new technology
- Rely on system data and analysis, performance measures and targets, agency and partners' needs, and public expectations to inform decisions.
- Use **technology and innovation** to get the most out of investments and **maintain system performance.**
 - Creative solutions
 - Integrating emerging technologies

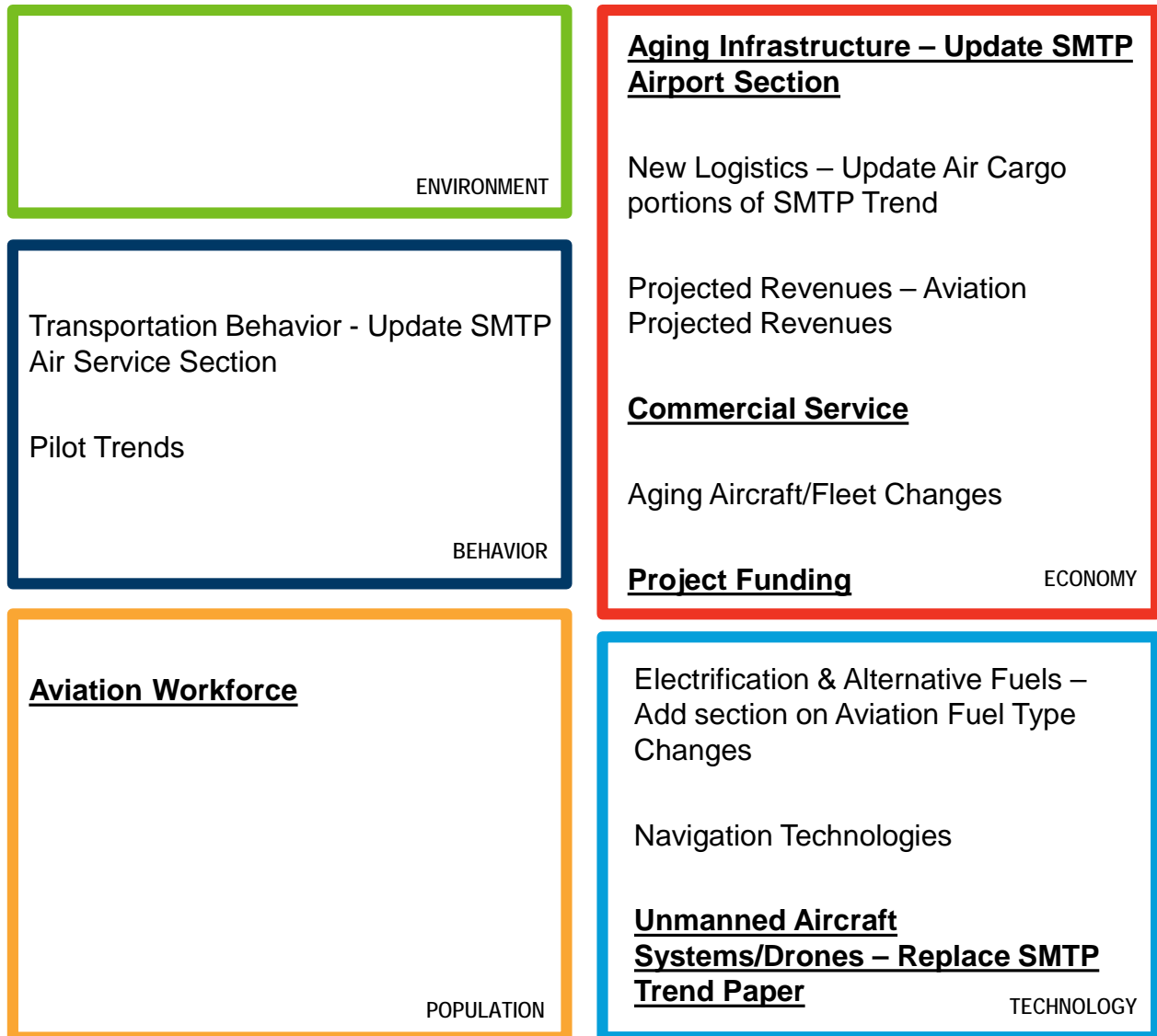
- Increase the **resiliency** of the aviation system and **adapt** to changing needs.
 - Create more users
 - Educating the public about the importance of GA and opportunities
 - More inclusive and open
 - System that responds quickly – Flexible system
 - Promote resiliency through airport self-sufficiency

Healthy Communities

- Make **fiscally-responsible decisions** that **respect and complement** the natural, cultural, social and economic context.
 - Minimal impact to the environment
- Integrate land uses and transportation systems to **leverage public and private investments**.

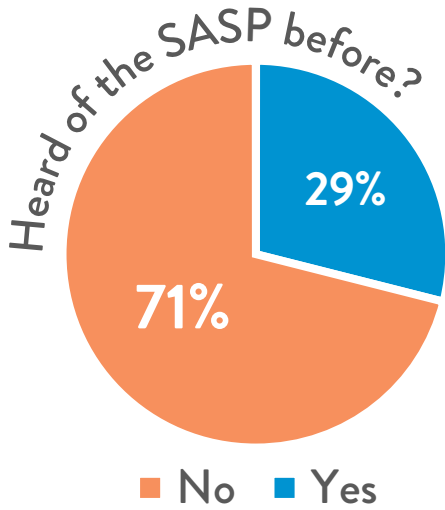


Proposed SASP Trends



Note: bold and underlined trends will be studied more in-depth

State Aviation System Plan Outreach Survey Results: Fly-ins, Airshows, & Conventions



What do you consider when deciding which airport to visit?



How much does aviation contribute to the economic vitality of your community?

On a scale of 1-10, average response was **8**

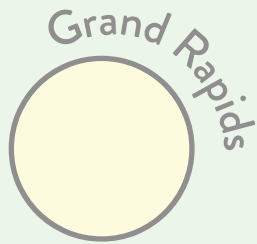
Aviation Trends ranked by importance:

1. Cost of becoming a pilot
2. Funding for airport improvements
3. Pilot Shortage
4. Community development encroaching on airports
5. Drones

90% of respondents think the state aviation system is **safe** or **very safe**

What is the most important benefit of your local airport?





Pilot Focus Groups

Ideas for a better aviation system...

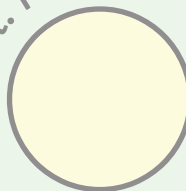
What we've heard - GA themes

- Increased hangar accessibility
- Resources for airport improvements
- Aviation education and promotion
- Remove barriers to General Aviation
- Foster aviation opportunities

What we've heard - Drone themes

- Proactive, concise drone policy
- Drone education
- Airspace integration
- Drone regulation clearinghouse

St. Paul

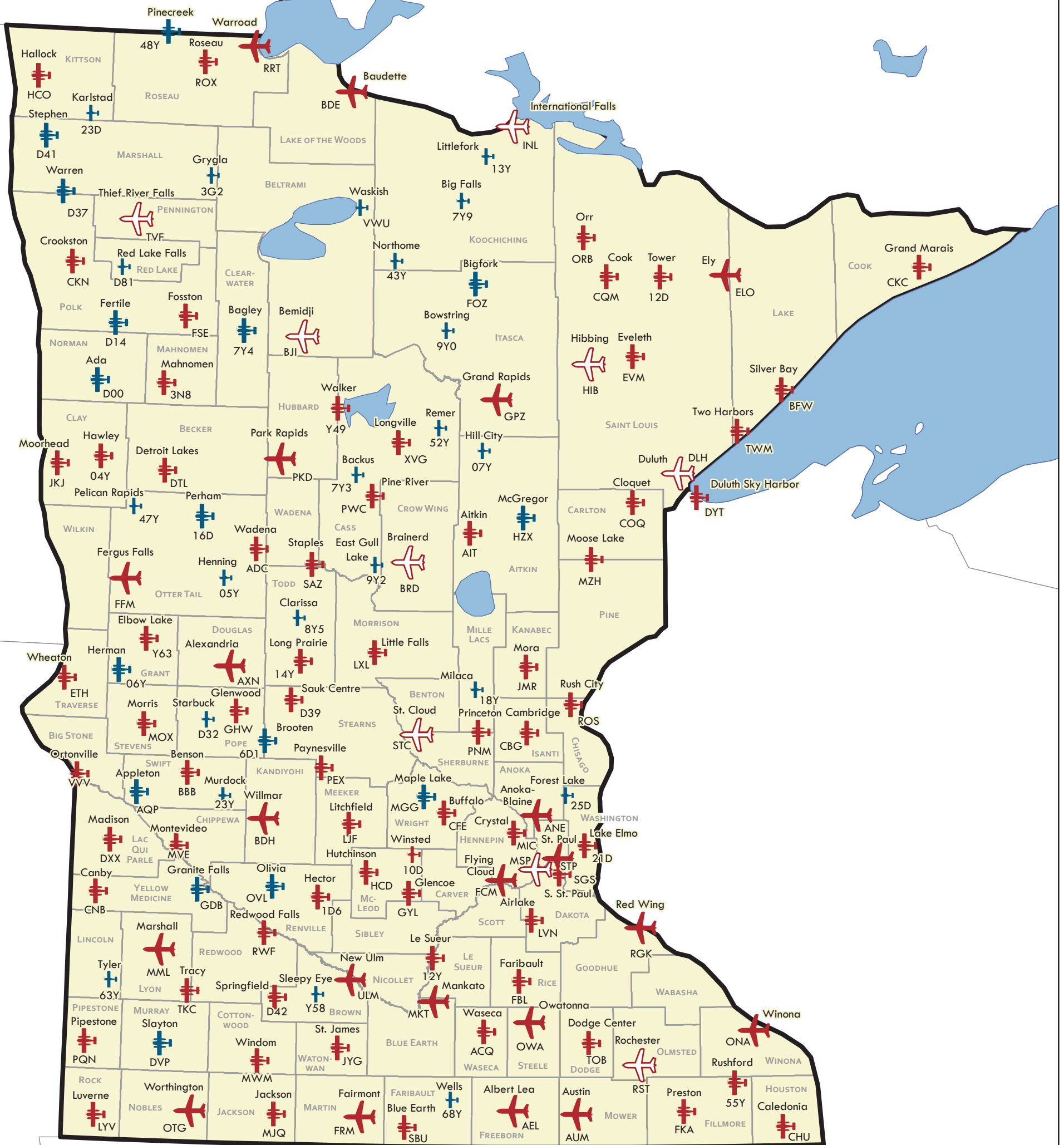


Airport Classifications

Minnesota's Airports



MnDOT Office of Aeronautics
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Government Role

- ✈ State & Federal (NPIAS*)
- ✈ State Only

State Classifications

- ✈ Key - Airline Service
- ✈ Key
- ✈ Intermediate
- ✈ Landing Strip

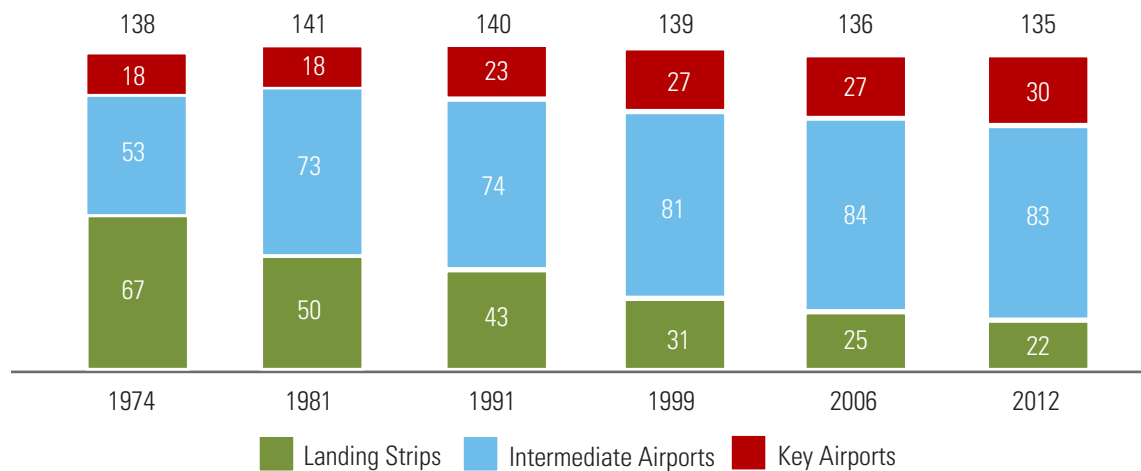
*National Plan of Integrated Airport Systems

AIRPORT CLASSIFICATIONS

As directed by Minnesota Statute ([360.305 Subdivision 3](#)), system airports are categorized in three classifications: Key, Intermediate, or Landing Strip airports. The number of airports in each of the classifications shifts over time along with the total number of system airports.

Since 1974 Key Airports have grown from 18 to 30; Landing Strips have decreased from 67 to 22; Intermediate Airports have grown from 53 to 83. The total number of airports in the state's system has decreased from 138 to 135 since the 1974 SASP was completed. **Figure 1-4** depicts these changes in the system over the past 20 years.

Figure 1-4: Airport Classification Trends



An airport, depending upon its classification, can be expected to have a range of existing and planned infrastructure as well as a unique role in the state's economy. The three airport classifications are described on the following pages in terms of their aeronautical use and potential economic role.

Key Airports: Key Airports have a paved and lighted primary runway 5,000 feet or greater in length. Key Airports serve as the primary landing facilities for business jets, and are the only airport classification that supports regularly scheduled airfreight and airline service. They are capable of accommodating most business jets, all single-engine aircraft and larger multi-engine aircraft. These airports tend to be located near larger population and economic centers. Key Airports often house corporate flight and maintenance divisions for major employers, allowing businesses to connect to national and some global markets directly. There are currently 30 Key Airports in the state's system.



Intermediate Airports: Intermediate Airports have a paved and lighted primary runway that is less than 5,000 feet in length. These airports are capable of accommodating all single-engine aircraft, some multi-engine aircraft, and some business jets. Intermediate Airports serve as landing facilities for flight training, aircraft maintenance, and general aviation aircraft up to the smaller business jet size. Intermediate Airports serve many roles in communities ranging from emergency medical transports to manufactured parts distribution. Intermediate Airports enable direct connections across Minnesota and the Central US region. There are currently 83 Intermediate Airports in the state's system.



Landing Strips: Landing Strips have one or more turf runways which can accommodate most single-engine aircraft and some twin-engine aircraft. This type of airport may be unusable during certain conditions such as wet weather, winter months, and during the spring melt. A key function of these airports is supporting the agricultural industry with crop seeding and spraying services. There are currently 22 Landing Strip Airports in the state’s system.



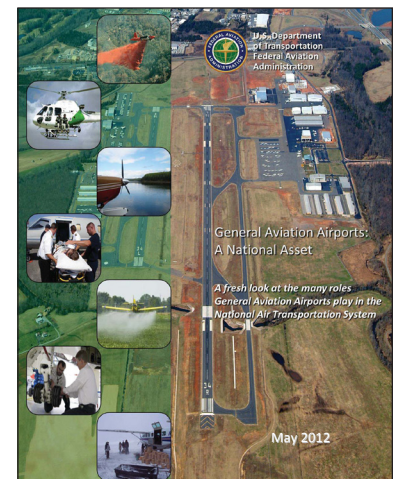
NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS

The [National Plan of Integrated Airport Systems \(NPIAS\)](#) identifies airports that are significant to national air transportation. Airports designated as part of the NPIAS are eligible for FAA Airport Improvement Program (AIP) funding. The NPIAS is updated by the FAA every two years and comprises all commercial airline service airports, reliever airports and qualifying general aviation airports. Since the previous SASP was prepared in 2006, Cook and Glencoe Municipal Airports have been added to the NPIAS. There are 97 Minnesota airports in the current (2011-2015) NPIAS. As a result, there are 38 airports in Minnesota which do not qualify for federal funds and must rely completely on state and local funding. **Figure 1-5** identifies Minnesota’s airports included in the NPIAS.

Chapter 7: Investment Plan and System Recommendations includes further discussion concerning changes to the NPIAS.

FAA ASSET STUDY

In May 2012 the FAA released results of the [Airport System Strategic Evaluation Task \(ASSET\) study](#), which reclassifies airports in the NPIAS. The new system uses function and economic impact to place airports into one of four categories: National, Regional, Local, or Basic. The FAA will incorporate the new categories in the 2013-2017 NPIAS Report to Congress. Although this 2012 SASP does not reference the new groups, MnDOT will evaluate the ASSET category assigned to each airport in Minnesota and use the new categories to help guide future system and airport planning decisions.



Minimum System Objectives

As noted above, the primary baseline used to determine airport facility requirements is a comprehensive list of minimum system objectives. These minimum objectives align with Federal Aviation Administration (FAA) airport requirements as well as Minnesota’s statutes on airport development. Where neither state nor federal guidance is available, commonly accepted industry standards are used. The minimum systems objectives are not intended to promote unnecessary airport development; rather, they are developed to ensure Minnesota’s airports have the necessary facilities to be safe and economically competitive, nationally and internationally.

Table 5-2: Minimum System Objectives by Airport Class

FACILITY	KEY AIRPORTS	INTERMEDIATE AIRPORTS	LANDING STRIPS
Primary Runway Length & Width	5,000 Feet 100 Feet	2,400 Feet 75 Feet	2,000 Feet 75 Feet
Parallel Taxiway Length	Full Parallel	Full Parallel if Airport Has More Than 20,000 Annual Ops	No Minimum
Primary Runway Approaches	Precision	Non-Precision	Visual
Navigation Systems	Wind Cone, Rotating Beacon, PAPIs, REILs & MALSR or Other Approach Lighting System	Wind Cone, Rotating Beacon, PAPIs, REILs or Greater Approach Lighting System	Wind Cone & Rotating Beacon if Airport is Lighted
Runway Lighting	HIRL for Airline Service and MIRL for All Other	LIRL or Greater	LIRL
Weather Reporting	AWOS/ASOS	AWOS/ASOS as Needed	No Minimum
Hangars (For Based Aircraft)	100 percent of Jets/TP 95 percent of SEP & MEP	100 percent of Jets/TP 95 percent of SEP & MEP	- 95 percent of SEP & MEP
Aprons (For Based & Transient Aircraft)	All Based Aircraft Not In Hangars + Peak Hour Itinerant Operations	All Based Aircraft Not In Hangars + Peak Hour Itinerant Operations	All Based Aircraft Not In Hangars + Peak Hour Itinerant Operations
Terminals & GA/Administration Buildings	Terminal at Airline Service Airports & GA/Administration Building at Non-Airline Service	GA/Administration Building	Restroom
Automobile Parking	1 Space for Each Based Aircraft & 50 percent Increase for Employee and Visitor Parking	1 Space for Each Based Aircraft and 25 percent Increase for Employee and Visitor Parking	1 Space for Each Based Aircraft
Perimeter Fencing	Entire Airport	Entire Airport Desirable	Separate Auto from Airside
Fuel Facilities	24 Hr. 100LL & Jet A	24 Hr. 100LL Desirable	100LL as Needed

Note: HIRL = High Intensity Runway Lights, MIRL = Medium Intensity Runway Lights, LIRL = Low Intensity Runway Lights, AWOS = Automated Weather Observation System, ASOS = Automated Surface Observation System, GA = General Aviation, SEP = Single Engine Piston, MEP = Multi-Engine Piston, TP = Turboprop, PAPI - Precision Approach Path Indicator, REIL - Runway End Identifier Lights, MALSR - Medium Intensity Approach Lighting System

Source: MnDOT Office of Aeronautics

Classification within the National Plan of Integrated Airport Systems (NPIAS)

The National Plan of Integrated Airport Systems (NPIAS) includes both existing and proposed (new) airports deemed significant to the nation's airport system. Of the 135 airports in the Minnesota system, 97 are included in the NPIAS.

The NPIAS classifies airports based on service level. The service level reflects the type of service the airport provides to the community and the funding categories authorized by Congress. There are three service level categories in the NPIAS:

1. **Commercial Service (CS) Airports** – Commercial service airports are publicly-owned airports that enplane 2,500 or more passengers annually and receive scheduled passenger aircraft service. Commercial service airports, as defined in the NPIAS, are further divided into the following Primary and Non-Primary service level roles:
 - **Primary Commercial Service**
 - **Large Hubs (L)**
 - **Medium Hubs (M)**
 - **Small Hubs (S)**
 - **Non-Hubs (N)**
 - **Non-Primary Commercial Service**
2. **Reliever (R) Airports** – Reliever airports are designated by the FAA as high-capacity GA airports that provide attractive alternatives to congested hub airports and provide GA access in major metropolitan areas. Reliever airports must have 100 or more based aircraft or 25,000 annual itinerant operations.
3. **General Aviation (GA) Airports**– Airports that do not meet the commercial service or reliever airport classification criteria are classified as GA.

The FAA ASSET study completed in 2015 aimed to more accurately define the roles of non-primary airports (non-primary commercial service, reliever and general aviation) within the national system. The following roles were developed.

National – National airports are located in metropolitan areas near major business centers and support flying throughout the Nation and the world. These airports provide pilots with attractive alternatives to the busy primary airports. In fact, FAA has designated 65 of these facilities as relievers for primary airports. National airports have very high levels of activity with many jets and multiengine propeller aircraft.

Regional – Regional airports are also in metropolitan areas and serve relatively large populations. These airports support regional economies with interstate and some long-distance flying and have high levels of activity, including some jets and multiengine propeller aircraft. About 50 of these airports have limited air carrier service, and FAA has designated 151 regional airports as relievers for primary airports.

Local – Local airports are a critical component of our general aviation system, providing communities with access to local and regional markets. Typically, local airports are located near

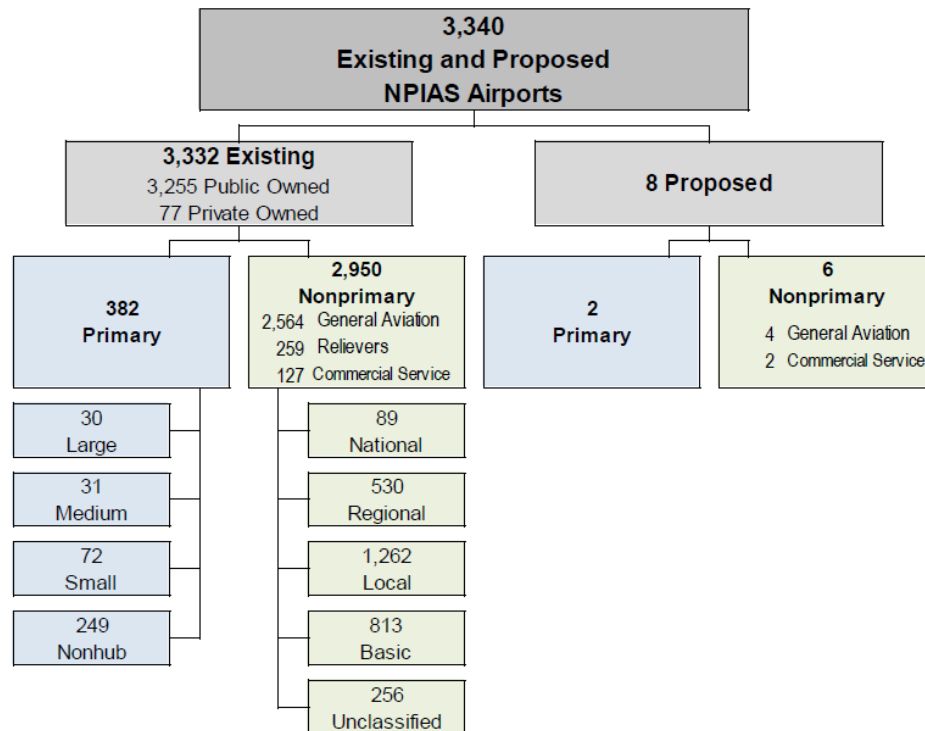
larger population centers but not necessarily in metropolitan areas. They also accommodate flight training and emergency services. These airports account for 38 percent of all NPIAS airports and have moderate levels of activity with some multiengine propeller aircraft.

Basic – Basic airports fulfill the principal role of a community airport providing a means for private general aviation flying, linking the community with the national airport system, and making other unique contributions. In some instances, the airport is the only way to access the community and provides emergency response access such as emergency medical or firefighting and mail delivery. These airports have moderate levels of activity with an average of 10 propeller-driven aircraft and no jets.

Unclassified - There are airports in the NPIAS that were not classified into one of the above classifications and are considered Unclassified. These airports have limited activity.

The following figure outlines the NPIAS Airports by Category and Role.

Figure 2: NPIAS Airports by Category and Role



Source: FAA National Plan of Integrated Airport Systems (2017-2021)

Discussion Questions

The meeting will include a discussion on airport classification. We will be collecting the TAC's best ideas on this topic. Please review and consider the following questions and come prepared to share your thoughts.

Related to Potential MN Classification Systems:

The "No-build" option

- What would continue to work well if MnDOT kept its current classification system or made only minor tweaks?
- What would *not* work well if MnDOT kept its current classification system largely unchanged moving forward?

A new Facilities-based system

- What would work well if MnDOT switched to an expanded classification system revolving around facilities at airports?
- What would *not* work well if MnDOT switched to an expanded classification system revolving around facilities at airports?

A Role-based system

- What would work well if MnDOT switched to a classification system revolving around the role an airport plays in its community?
- What would *not* work well if MnDOT switched to a classification system revolving around the role an airport plays in its community?

If you have knowledge regarding federal or other states' classification systems, please also consider the following questions.

Related to federal classifications:

- What works or doesn't work about the National Plan of Integrated Airport Systems (NPIAS) classifications?
- What works or doesn't work about the ASSET classifications?

Related to other states:

- What do you like about how other states use their classification system?
- What challenges do you see with how a particular state uses its classification system?
- What do you like about other states classification systems? Why?
- What do you not like, or think wouldn't work well in Minnesota, about how other states classify airports?

The “No-build” option

Guiding Questions

Keeping the same general framework in place, should MnDOT:

Consider splitting the ‘Intermediate’ category into two (or more)?

Consider splitting ‘Key’ into ‘Key Commercial Service’ and ‘Key GA’?

Create a roadmap for communities to change their airport’s classification?

Have classifications better communicate the airport’s role to a community?

Be more explicit in identifying appropriate facilities for a given role?

If MnDOT keeps the current classification system, what other minor tweaks should be considered?

Should MnDOT move forward with no changes to the current classification system?

The Facilities-based option

Guiding Questions

If MnDOT moves forward with a new facilities-based classification approach, how should each of the following parameters be considered?

Runway length/width

Weather reporting

Approaches

NAVAIDs

Hangars

A/D building

Ground transportation

Fuel availability

FBO presence

Runway surface/strength

Should MnDOT move forward with a new facilities-based classification system?

FAA Recommended Runway Lengths
Minnesota Average Conditions

Aircraft Type	Runway Length
Small Airplanes with Approach Speeds <30 knots	335'
Small Airplanes with Approach Speeds <50 knots	893'
Small Airplanes with Approach Speeds >50 knots	
Small Airplanes with <10 Passenger Seats	
95% of these Small Airplanes	3,300'
100% of these Small Airplanes	3,900'
Small Airplanes with ≥10 Passenger Seats	4,250'
Large Airplanes ≤60,000 lbs. ¹	
75% of these Airplanes at 60% Useful Load	4,888'
75% of these Airplanes at 90% Useful Load	7,000'
100% of these Airplanes at 60% Useful Load	5,500'
100% of these Airplanes at 90% Useful Load	8,000'

Source: AC 150/5325-4B, Runway Length Requirement for Airport Design

Elevation: 1,168' MSL Temperature: 81.18° F (Average of MN System Airports)

¹ Large Airplanes adjusted for wet and slippery conditions. Unadjusted for non-zero runway gradient.

The Role-based option

Guiding Questions

If MnDOT moves forward with a new role-based classification approach, how should each of the following categories and parameters be considered?

Activity

Based aircraft

Operations

Enplanements

Cargo tonnage

Multi-engine aircraft (based or operations)

Jet aircraft (based or operations)

Registered pilots within a certain drive time

Economics

Gross regional product

Retail sales

Percent itinerant operations of total operations

Accessibility

Population within a certain drive time

Employment within a certain drive time

Number of square miles within a certain drive time (excludes water)

Should MnDOT move forward with a role-based classification system?