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)
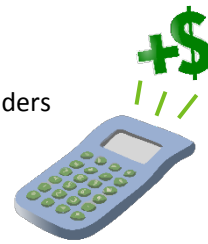
What could use improvement:

- 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**.

Recommended SASP Trends

ENVIRONMENT

Transportation Behavior - Update SMTP Air Service Section

Pilot Trends

BEHAVIOR

Aviation Workforce

POPULATION

Aging Infrastructure – Update SMTP Airport Section

New Logistics – Update Air Cargo portions of SMTP Trend

Projected Revenues – Aviation Projected Revenues

Commercial Service

Aging Aircraft/Fleet Changes

Project Funding

ECONOMY

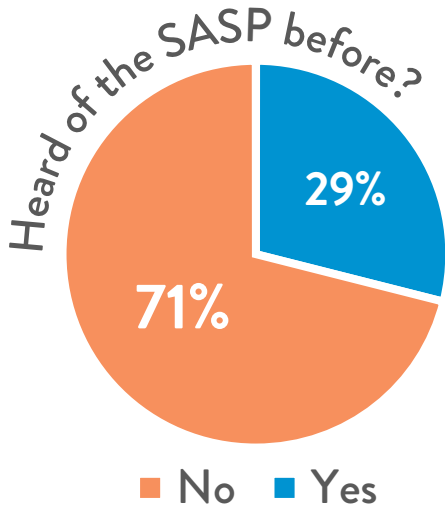Electrification & Alternative Fuels – Add section on Aviation Fuel Type Changes

Navigation Technologies

Unmanned Aircraft Systems/Drones – Replace SMTP Trend Paper

TECHNOLOGY

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

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

Heard of the SASP before?

29% Yes

71% No

■ No ■ Yes

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

What do you consider when deciding which airport to visit?

● **Courtesy Car**

● **Fuel Price**

● **Quality of A/D Building**

● **Local Attractions**

● **Approaches / Nav Aids**

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

What is the most important benefit of your local airport?

33%	30%	20%	15%	3%
Emergency Services	*Access to & from My Community*	*Economic Development*	*Seasonal Services (Ag Spraying, Recreational Charters)*	*Other*

100%
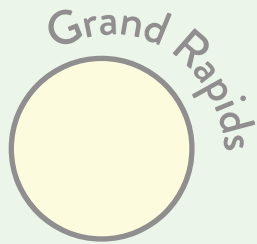
Pilot Focus Groups

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 opportunties

What we've heard - Drone themes

Proactive, concise drone policy

Drone education

Airspace integration

Drone regulation clearinghouse

Grand Rapids

St. Paul

m DEPARTMENT OF TRANSPORTATION

Minnesota GO
A Collaborative Vision for Transportation

State Aviation System Plan

Airport

Classifications

Minnesota's Airports

MnDOT Office of Aeronautics
222 East Plato Boulevard
St. Paul, Minnesota 55107-1618
(651) 234-7200

DEPARTMENT OF TRANSPORTATION

Pinecreek 48Y
Warroad RRT
Hallock HCO
KITTSON
Roseau ROX
ROSEAU
Baudette BDE
LAKE OF THE WOODS
International Falls INL
Littlefork 13Y
Karlstad 23D
Stephen D41
MARSHALL
Grygla 3G2
BELTRAMI
Waskish VWU
Big Falls 7Y9
KOOCHICHING
Orr ORB
Cook CQM
Tower 12D
Ely ELO
Grand Marais CKC
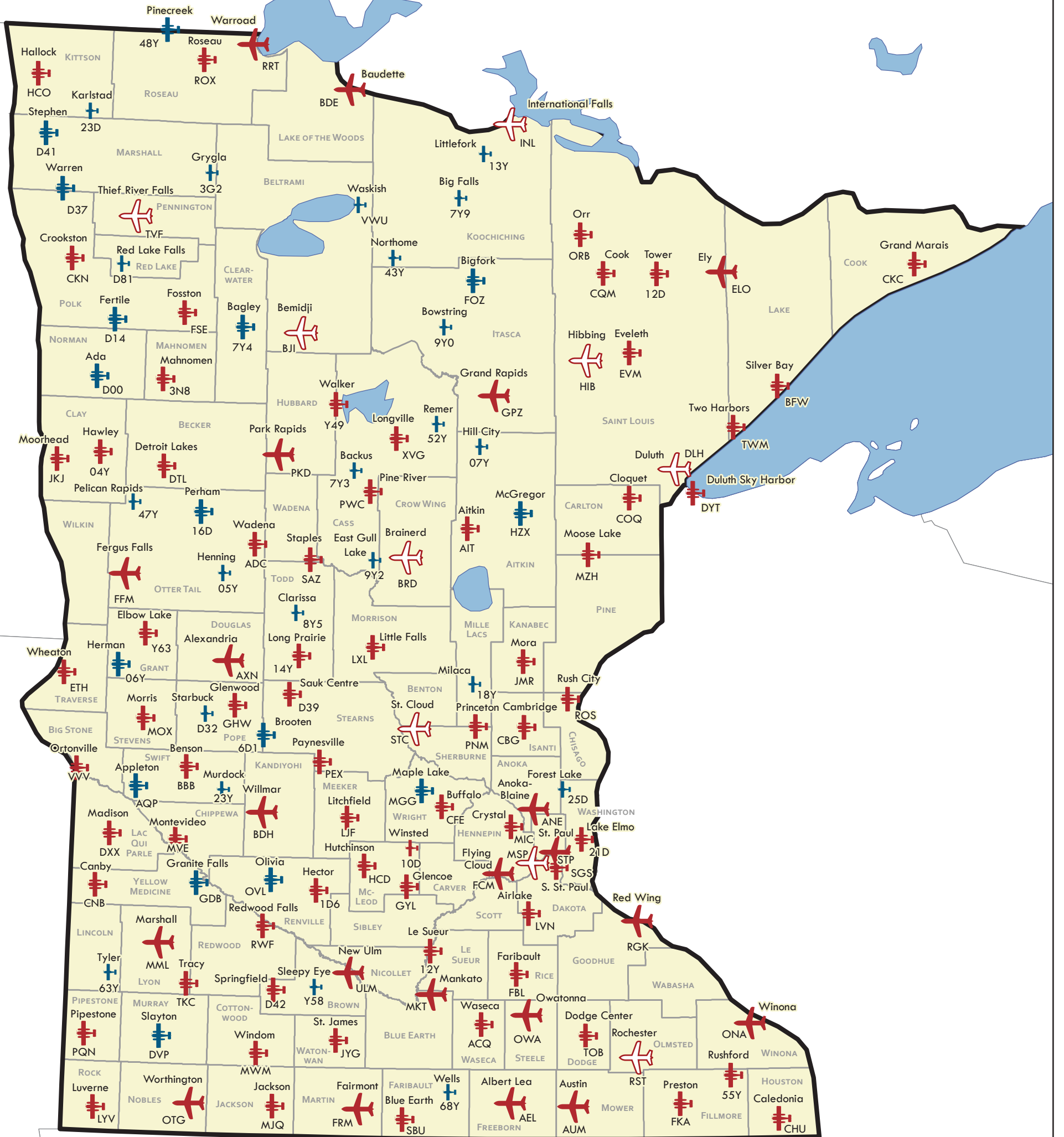Warren D37
Thief River Falls TVF
PENNINGTON
Northome 43Y
Bigfork FOZ
COOK
LAKE
Crookston CKN
Red Lake Falls D81
RED LAKE
CLEAR-WATER
Bowstring 9Y0
Hibbing HIB
Eveleth EVM
Silver Bay BFW
POLK
Fertile D14
Fosston FSE
Bagley 7Y4
Bemidji BJI
ITASCA
Grand Rapids GPZ
Two Harbors TWM
NORMAN
MAHNOMEN
Ada D00
Mahnomen 3N8
Walker Y49
Longville
Remer 52Y
Hill City 07Y
SAINT LOUIS
Duluth DLH
Duluth Sky Harbor DYT
CLAY
Moorhead JKJ
Hawley 04Y
BECKER
Detroit Lakes DTL
Park Rapids PKD
Backus 7Y3
Pine River
XVG
McGregor HZX
Cloquet COQ
Pelican Rapids 47Y
HUBBARD
WADENA
Perham 16D
Wadena ADC
PWC
CROW WING
Aitkin AIT
CARLTON
Moose Lake MZH
WILKIN
Fergus Falls FFM
Henning 05Y
Staples SAZ
East Gull Lake 9Y2
Brainerd BRD
CASS
AITKIN
PINE
Wheaton ETH
OTTER TAIL
Elbow Lake Y63
Herman 06Y
Alexandria AXN
Clarissa 8Y5
TODD
Long Prairie 14Y
Little Falls LXL
MORRISON
MILLE LACS
Mora JMR
KANABEC
Rush City ROS
Morris MOX
Starbuck D32
Glenwood GHW
DOUGLAS
Sauk Centre D39
Milaca 18Y
Princeton PNM
Cambridge CBG
BENTON
ISANTI
CHISAGO
TRAVERSE
GRANT
Brooten 6D1
STEARNS
St. Cloud STC
SHERBURNE
Ortonville VVV
BIG STONE
STEVENS
Benson BBB
SWIFT
Murdock 23Y
KANDIYOHI
Paynesville PEX
Maple Lake MGG
ANOKA
Forest Lake 25D
Anoka-Blaine ANE
WASHINGTON
Appleton AQP
Madison DXX
LAC QUI PARLE
Montevideo MVE
Willmar BDH
MEEKER
Litchfield LJF
Buffalo CFE
WRIGHT
Crystal MIC
St. Paul
Lake Elmo 21D
Canby CNB
Granite Falls GDB
YELLOW MEDICINE
Olivia OVL
Hutchinson HCD
Winsted 10D
HENNEPIN
Flying Cloud FCM
MSP
STP
SGS
S. St. Paul
Glencoe GYL
CARVER
Hector 1D6
McLEOD
Airlake LVN
DAKOTA
Red Wing RGK
GOODHUE
Marshall MML
LINCOLN
Redwood Falls RWF
REDWOOD
RENVILLE
SIBLEY
SCOTT
Le Sueur 12Y
LE SUEUR
New Ulm ULM
Tracy TKC
Springfield D42
Sleepy Eye Y58
NICOLLET
Mankato MKT
Faribault FBL
RICE
Owatonna OWA
WABASHA
Winona ONA
Tyler 63Y
LYON
BROWN
St. James JYG
BLUE EARTH
Waseca ACQ
Dodge Center TOB
Rochester RST
OLMSTED
Rushford 55Y
Pipestone PQN
PIPESTONE
Slayton DVP
MURRAY
Windom MWM
WATON-WAN
WASECA
STEELE
DODGE
Caledonia CHU
HOUSTON
WINONA
Luverne LYV
ROCK
Worthington OTG
NOBLES
Jackson MJQ
JACKSON
Fairmont FRM
MARTIN
Blue Earth SBU
Wells 68Y
FARIBAULT
Albert Lea AEL
FREEBORN
Austin AUM
MOWER
Preston FKA
FILLMORE

Government Role

- ■ (red) State & Federal (NPIAS*)
- ■ (blue) State Only

State Classifications
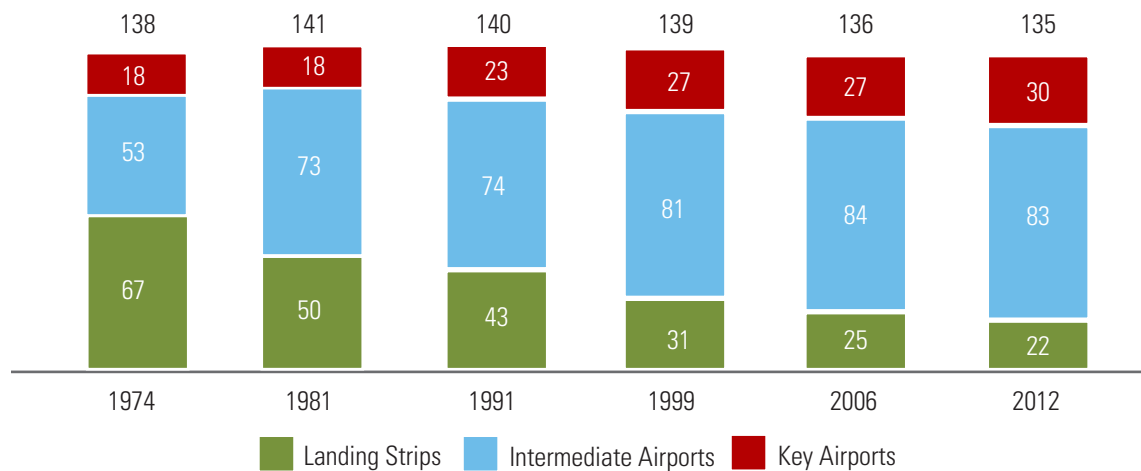
- Key - Airline Service
- Key
- Intermediate
- Landing Strip

*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.

Figure1-4: Airport Classification Trends

	1974	1981	1991	1999	2006	2012
Total	138	141	140	139	136	135
Key Airports	18	18	23	27	27	30
Intermediate Airports	53	73	74	81	84	83
Landing Strips	67	50	43	31	25	22

Legend: Landing Strips, Intermediate Airports, Key Airports

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.

ROCHESTER

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.

RUSHFORD

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.


MILACA

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.
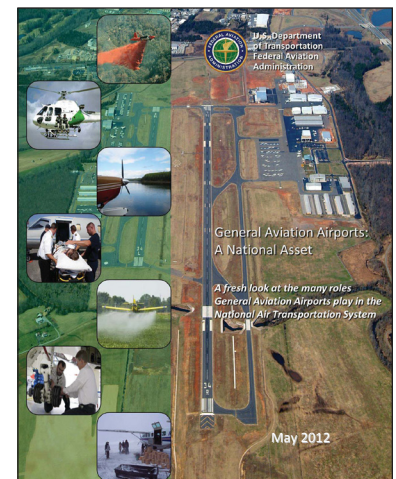
Minimum System Objectives

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 Indentifier Lights, MALSR - Medium Intensity Approach Lighting System
Source: MnDOT Office of Aeronautics

DEPARTMENT OF TRANSPORTATION

Discussion Questions

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

Related to MN Classification:

Current Classification System/Use

- What do you think works well?

- What benefits are there of our current classification system?

- What challenges does our current classification bring to MnDOT, airport sponsors, other stakeholders, etc.?

- What challenges does grouping all paved airports below 5,000 feet together bring? What are the benefits?

- Key Airports - What are the challenges and benefits of grouping GA and Commercial Service together in this classification?

Potential Use of Classification System:

- Regarding how MnDOT uses the current classification system, what are the benefits and challenges?

- How could MnDOT use the classification of airports differently?

- What problems could MnDOT solve by referring to classification of airports? (Does MnDOT have an example of a problem that it could consider referring to the classification system to solve?)

- What decisions could the classification of airports inform? At the state level, at the local level, etc.

- Classification of airports could inform what types of decisions?

Potential Classification System

- How could airports be classified differently?

- Should classification be role based or facility based? Note that facilities at an airport don't always match the role that an airport is currently serving.

- If facility based, should it refer to more than runway length? For example, a small airport (paved or unpaved), such as Forest Lake, is a high activity airport and plays an important role in the metro area. It doesn't fit the same 'role' as say Backus. Could a facility based classification consider number of hangars, number of based aircraft, types of instrument approaches, etc.

- What would be the benefits of a role based system?

- What would be the challenges of a role based system?

- How could a role based or facility based classification system inform future changing needs in the system?

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

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?