



Minnesota  
A Collaborative Vision  
for Transportation



# State Aviation System Plan



LAST UPDATE JULY 2013

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# Chapter 1

## INTRODUCTION AND SYSTEM GOALS

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## INTRODUCTION AND SYSTEM GOALS

The Minnesota State Aviation System Plan (SASP or Plan) provides a description and assessment of the performance of the current aviation system as well as guidance for the future development of aviation in Minnesota. It has been developed through partnerships with many stakeholders including airports, pilots, businesses, the Federal Aviation Administration (FAA) and the Minnesota Department of Transportation (MnDOT) Office of Aeronautics, among others. In reading this Plan, it is critical to note that, with the exception of one airport partially owned by the state, the airports that make up the state's system are owned by the local communities in which they are located; the State's role is primarily to provide technical and funding assistance. Equally important to note is that the SASP is not a programming or an implementation document.

One key purpose for planning on a system-wide level is to monitor trends and provide policy makers with the information necessary to make decisions that benefit the State. It is not airports or pilots alone that will be impacted by the system-wide decisions contained within this plan; the Plan's direction for the aviation system extends for example to airline passengers, corporate and business aviation users, personal/recreational flying, energy and resource exploration, and agricultural aviation. These diverse functions must be taken into account to ensure the aviation system is properly funded and preserved for its users.

This plan also informs the citizens of Minnesota, in a transparent manner, about the state of the existing system's performance and it will be considered for incorporation into the FAA's National Plan of Integrated Airport Systems (NPIAS). The NPIAS identifies airports across the country significant to national air transportation. Airports included in the NPIAS are eligible for certain federal grants to support their development.

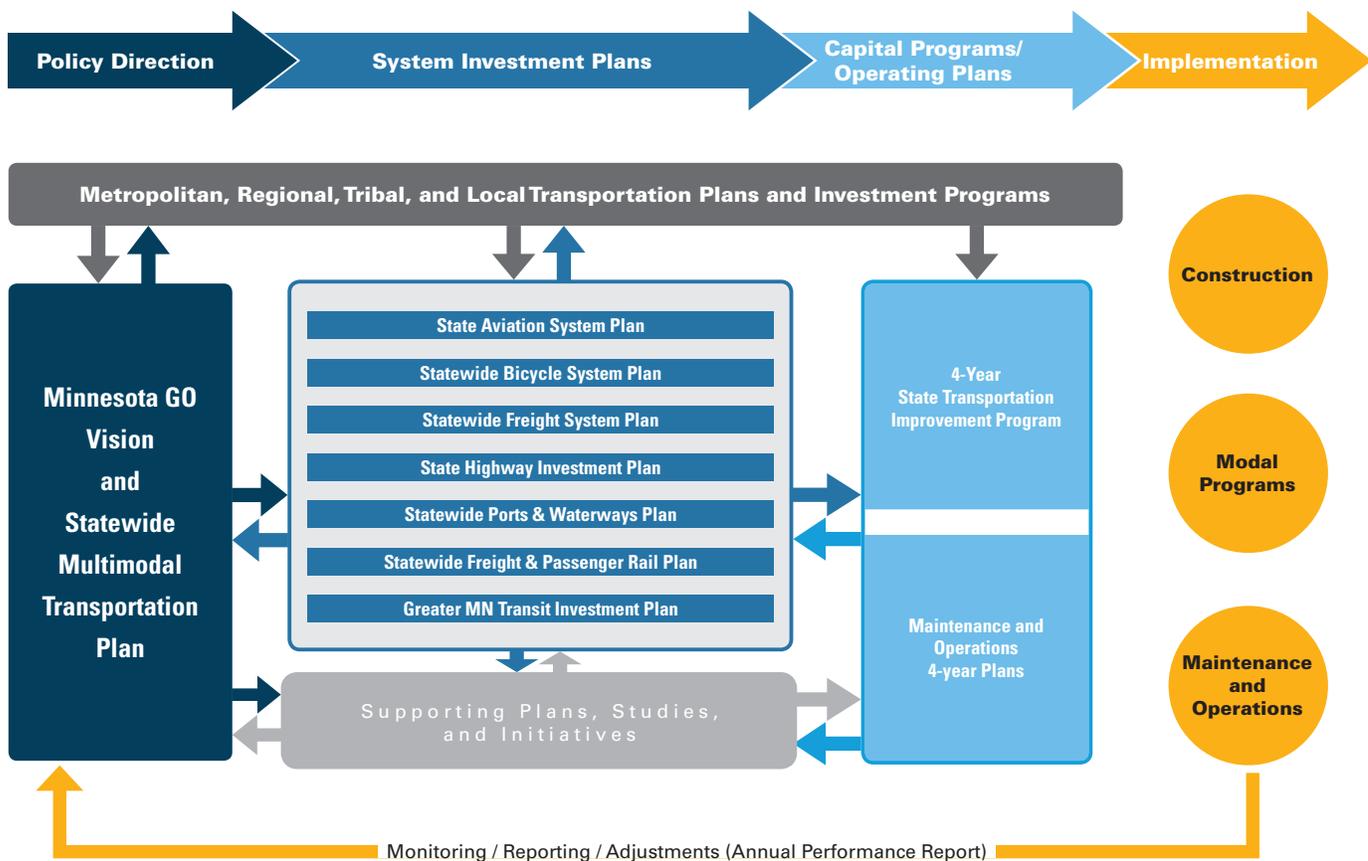


# Minnesota GO

## THE MNDOT FAMILY OF PLANS

MnDOT is responsible for developing plans not only for aeronautics, but also for other modes of travel including transit, walking and biking, freight and passenger rail, and highways. These plans, known as modal plans, receive a degree of policy direction from the [Statewide Multimodal Transportation Plan](#), which is also MnDOT's responsibility to develop. These plans are collectively part of MnDOT's "Family of Plans" which establishes statewide policy. Subsequent to modal policy plan development, modal investment plans are completed to identify how projected revenues will be spent. **Figure 1-1** highlights the complex relationship. This SASP includes both policy and investment direction for aeronautics in Minnesota.

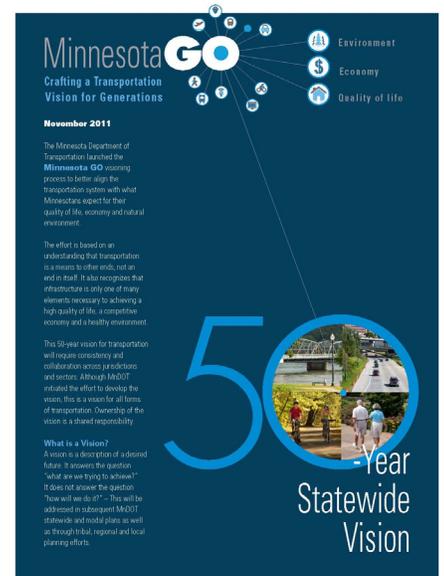
Figure1-1: MnDOT Plans and Programs



## MINNESOTA GO VISION

In early 2011, MnDOT launched the Minnesota GO 50-year statewide visioning process to better align the transportation system with what Minnesotans expect for their quality of life, economy and natural environment. While federal and state transportation planning requirements have been in place for years, Minnesota's transportation system needed a long-term vision—a destination toward which state and local transportation planning could navigate.

Teaming with the University of Minnesota and the Citizens League, MnDOT asked Minnesotans to help shape a vision that answers the question “what are we trying to achieve?” As one of the first modal plans developed following the November 2011 adoption of the [Minnesota GO Vision](#), this SASP begins to address the follow-up question “how will we do it?”



### MINNESOTA GO VISION FOR TRANSPORTATION

Minnesota's multimodal transportation system maximizes the health of people, the environment and our economy.

#### The system:

- Connects Minnesota's primary assets—the people, natural resources and businesses within the state—to each other and to markets and resources outside the state and country
- Provides safe, convenient, efficient and effective movement of people and goods
- Is flexible and nimble enough to adapt to changes in society, technology, the environment and the economy



### QUALITY OF LIFE

#### The system:

- Recognizes and respects the importance, significance and context of place—not just as destinations, but also where people live, work, learn, play and access services
- Is accessible regardless of socioeconomic status or individual ability



### ENVIRONMENTAL HEALTH

#### The system:

- Is designed in such a way that it enhances the community around it and is compatible with natural systems
- Minimizes resource use and pollution



### ECONOMIC COMPETITIVENESS

#### The system:

- Enhances and supports Minnesota's role in a globally competitive economy as well as the international significance and connections of Minnesota's trade centers
- Attracts human and financial capital to the state



This Minnesota GO Vision included the following principles to guide future policy and investment decisions for all forms of transportation throughout the state, including aviation. These are listed in no particular order.

## GUIDING PRINCIPLES



The following principles will guide future policy and investment decisions for all forms of transportation throughout the state. These are listed in no particular order. The principles are intended to be used collectively.

**Leverage public investments to achieve multiple purposes:**

The transportation system should support other public purposes, such as environmental stewardship, economic competitiveness, public health and energy independence.

**Ensure accessibility:** The transportation system must be accessible and safe for users of all abilities and incomes. The system must provide access to key resources and amenities throughout communities.

**Build to a maintainable scale:** Consider and minimize long-term obligations—don't overbuild. The scale of the system should reflect and respect the surrounding physical and social context of the facility. The transportation system should affordably contribute to the overall quality of life and prosperity of the state.

**Ensure regional connections:** Key regional centers need to be connected to each other through multiple modes of transportation.

**Integrate safety:** Systematically and holistically improve safety for all forms of transportation. Be proactive, innovative and strategic in creating safe options.

**Emphasize reliable and predictable options:** The reliability of the system and predictability of travel time are frequently as important or more important than speed. Prioritize multiple multimodal options over reliance on a single option.

**Strategically fix the system:** Some parts of the system may need to be reduced while other parts are enhanced or expanded to meet changing demand. Strategically maintain and upgrade critical existing infrastructure.

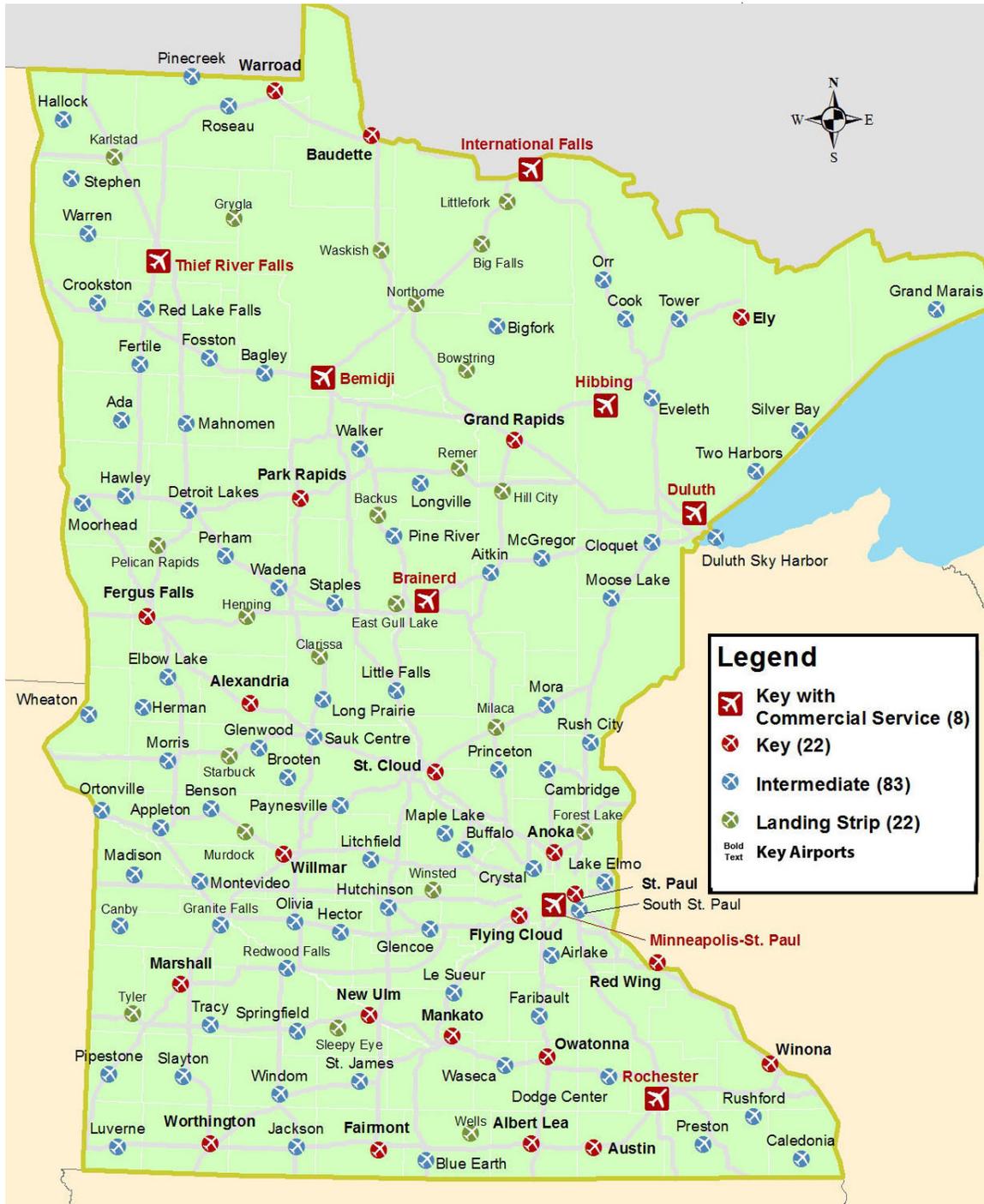
**Use partnerships:** Coordinate across sectors and jurisdictions to make transportation projects and services more efficient.

Development of the SASP, while in part concurrent with the Minnesota GO Vision, has aligned with these guiding principles. In the months subsequent to adoption of the 50-year vision, the Minnesota GO brand was expanded to encapsulate the entirety of MnDOT's "Family of Plans." This SASP is the first MnDOT developed modal plan to adopt the Minnesota GO brand.

## Description of the System

Today's Minnesota aviation system is comprised of 135 state funded airports; 126 in Greater Minnesota and nine in the Twin Cities Metro Area (TCMA). These airports are displayed by airport classification in **Figure 1-2**.

Figure 1-2: Airports by Classifications



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

Minnesota Statute ([473.146 Subdivision 4](#)) assigns transportation system planning, including aviation planning, for the TCMA to the Metropolitan Council. TCMA airports are partially funded by the state of Minnesota even though the state does not have the planning authority. TCMA airports are shown in **Figure 1-3**.

Figure1-3: TCMA Airports

**Airport Classifications**

-  Key with Commercial Service
-  Key
-  Intermediate
-  Landing Strip



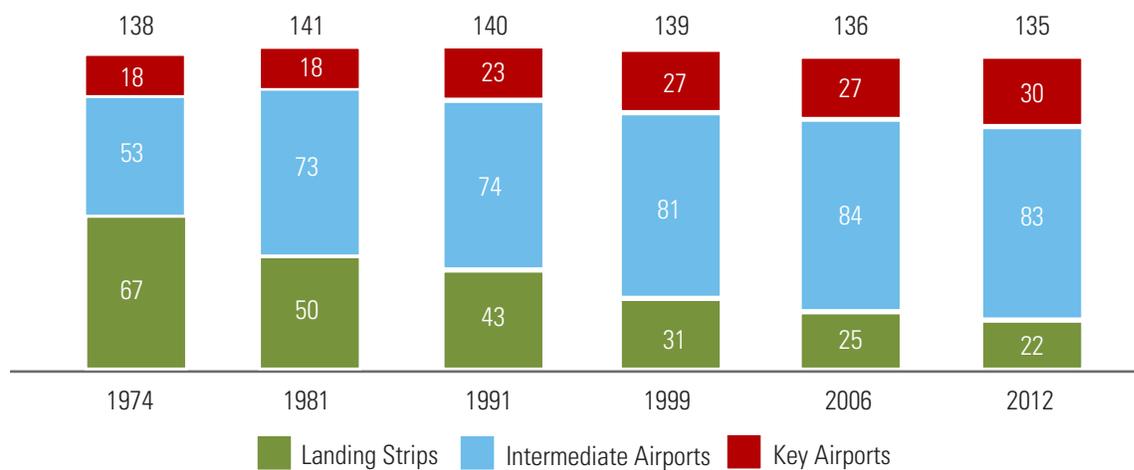
Source: HNTB

## 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.



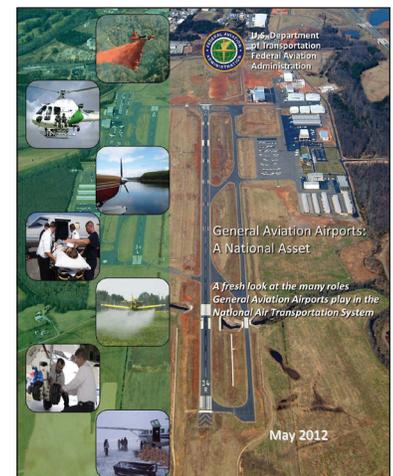
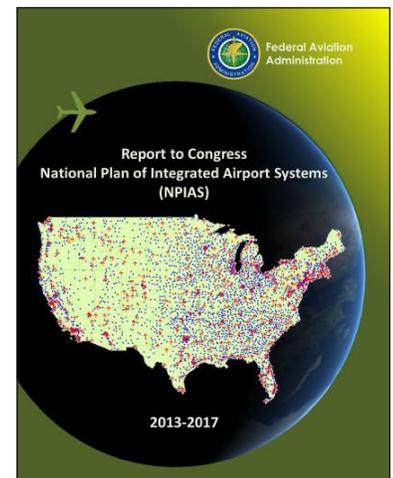
## NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS

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.



## AIRLINE SERVICE

Airports with regularly scheduled airline service are included in this Plan. These airports must meet minimum security protocols and FAA standards defined in the [Federal Aviation Regulations \(FAR\) Part 139](#). Additionally, an airline must schedule regular flights to and from the airport.

Minnesota currently has eight airports with regularly scheduled airline service, as displayed in **Figure 1-5** and listed in **Table 1-1**. In 2006 there were nine airports with airline service, in 1999 there were 13, and in 1991 there were 20. St. Cloud Regional Airport most recently lost airline service in 2009. However, the community is actively working to have it restored and has made notable progress. Once lost, reestablishing airline service is a challenging endeavor requiring a great deal of collaboration and is subject to the business decisions of individual airlines. Airlines will likely continue to evaluate the profitability of providing flights at individual airports. **Chapter 4: Airline Service** provides detail regarding airline service in the State and identifies trends affecting airline decision making.

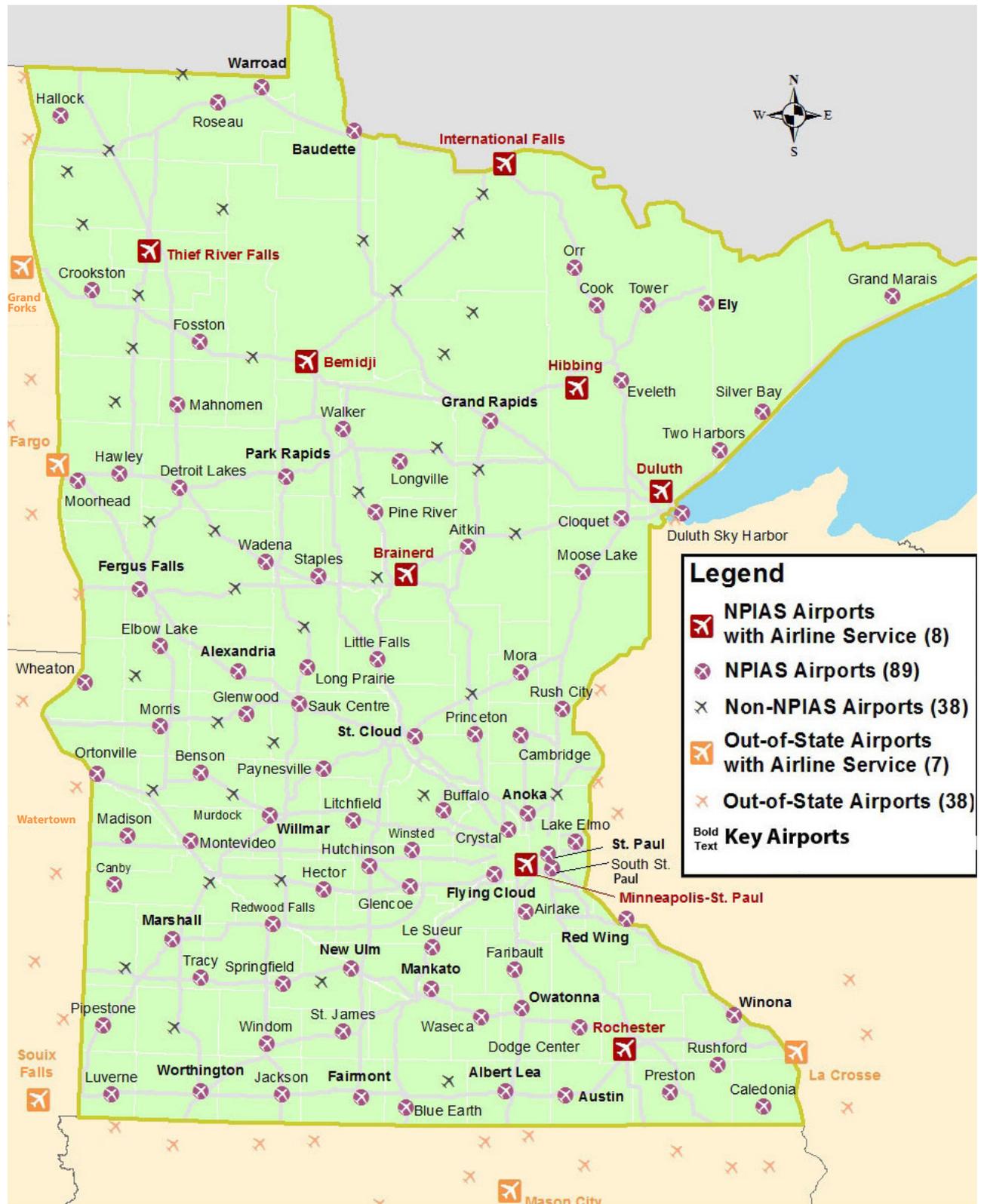
**Table 1-1: Airports with Airline Service**

Bemidji Regional	Minneapolis-St. Paul International
Brainerd Lakes Regional (Brainerd, MN)	Range Regional (Hibbing, MN)
Duluth International	Rochester International
Falls International (International Falls, MN)	Thief River Falls Regional

States adjacent to Minnesota also have airports with airline service that Minnesota residents may choose to utilize. **Figure 1-5** also depicts airline service airports in Iowa, North Dakota, South Dakota, and Wisconsin.



Figure 1-5: Minnesota System Plan Airport Federal Classifications



Source: MnDOT Office of Aeronautics 2011 Inventory Survey and Airport Database & HNTB Analysis

## ADDITIONAL COMPONENTS OF THE SYSTEM

There are many components of the State's aviation system that, while not directly addressed in this SASP, play an important role in Minnesota.

Numerous privately owned airports across the State are used for farm support or personal recreation purposes. MnDOT may have a role in licensing these private airports, but does not participate in planning for, or funding of, these airports.

Special use facilities such as seaplane bases and heliports are also part of the state's larger system. These facilities serve the people of Minnesota by supporting activities such as: firefighting, responding to medical emergencies, providing for agricultural needs, and even deploying military activities.



Photo Credit: Gary Chambers Photography

## SASP Planning Principles

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The FAA requires periodic updates of state aviation system plans every five to seven years. This Plan is funded through an FAA planning grant and is required to meet certain federal planning standards and expectations including: specific data collected in the airport inventory phase, utilization of approved system forecasting methods, and recommendations for adjustments to the NPIAS. Complete FAA guidance is presented in the [FAA Advisory Circular \(AC\) 150/5070-7 The Airports System Planning Process](#). This SASP meets the minimum required federal standards outlined by the FAA as well as MnDOT expectations for inclusion in the “Family of Plans”.

The major needs of the airports in the state system are the primary concern of this Plan. Impacts of infrastructure provided at one airport in a region which may supplement activities at another airport in the same region are also considered. This SASP identifies the costs associated with maintaining existing infrastructure and provides information to help airports plan for their future growth in a fiscally responsible way. Finally, this Plan has been developed to be web based and includes an online toolbox which will ultimately display airport specific information (e.g. runway lengths, navigation systems, operation forecasts and project needs) for each airport. This information will be available to the communities that own airports as well as the general public. This information is accessible at the following website: <http://www.dot.state.mn.us/aero/planning/sasp.html>.

This Plan is distinguished from the previous 2006 SASP in a number of ways. First, as noted previously, the Metropolitan Council is the designated aviation planning authority for the Twin Cities Metro Area (TCMA). However, in order to present a complete picture of the aviation system in Minnesota elements of the 2030 Twin Cities Aviation System Technical Report and Metropolitan Airports Commission (MAC) individual airport Long Term Comprehensive Plans (LTCPs) are incorporated to assist in preparation of forecasts and infrastructure needs. While the 2006 SASP did not include the nine metro area airports, prior iterations of the SASP did. The nine metro area airports include seven MAC owned and operated airports and two airports owned by the municipalities of Forest Lake and South St. Paul.

A second new aspect of this SASP is the inclusion of an investment plan which highlights how available funds can best be leveraged to achieve Plan goals. Identification of innovative funding and alternate fund sources for the system and individual airports are included as part of the investment plan.

## Public and Stakeholder Involvement

Of critical importance to the development of this Plan was the continual involvement of aviation stakeholders and the general public. Their participation helped guide the planning process from initial “listening posts” held around the state to provide input on elements to be included in the Plan, to development of the aviation system vision statement and goals, and establishment of performance measures that will gauge progress toward the Plan’s goals.

Two formal advisory groups were convened as part of the plan development process and met routinely throughout the project. The committees were comprised of a diverse group of aviation industry professionals including representatives from commercial airlines, fixed-base operators, advocacy groups, federal and state agencies, consultant firms, neighboring states, and other interested organizations and individuals.

### SASP ADVISORY COMMITTEE (SAC)

The SAC met to consider higher-level policy issues important to the Plan’s development and provided guidance and insight regarding different aspects of the aviation industry with potential impact to the State. For example, the SAC was crucial in prioritizing the values and goals that should typify Minnesota’s airports and gave critical guidance relating to the system forecasts. **Table 1-2** provides a list of the entities represented on the SAC.



Table 1-2: SAC Representation

Advocacy Groups	Minnesota Chamber of Commerce
Airport Personnel	Minnesota Council of Airports (MCOA)
Aviation Consulting Firms	Minnesota Department of Employment & Economic Development (DEED)
Civil Air Patrol	Minnesota Department of Natural Resources (DNR)
Delta Air Lines	Minnesota House of Representatives
Federal Aviation Administration (FAA)	Minnesota State Patrol
Fixed-Base Operators	Minnesota State Senate
League of Minnesota Cities	MnDOT District and Modal Offices
Local Airline Service Action Committee	MnDOT Office of Aeronautics
Mayo Clinic Medical Transport	North Dakota Aeronautics Commission
Metropolitan Council	Planning Commissions
Minnesota Air National Guard	Private Pilots
Minnesota Aviation Trades Association	Regional Development Commissions
Minnesota Business Aviation Association	Wisconsin DOT Bureau of Aeronautics

## TECHNICAL ADVISORY COMMITTEE (TAC)

The TAC included a subset of representatives from the SAC. This committee met to provide detailed technical guidance for the planning process. TAC membership included staff from the entities identified in **Table 1-3**.

A complete list of advisory committee personnel, meeting schedules, agendas, presentations and handouts from all SAC and TAC meetings can be downloaded from the SASP project website at <http://www.dot.state.mn.us/aero/avoffice/planning/sasp2011.html>. In addition to the scheduled meetings of the SAC and TAC, MnDOT Aeronautics staff delivered presentations, provided status updates, and sought input from organizations and planning partners such as the Minnesota Council of Airports (MCOA), Minnesota Business Aviation Association (MBAA), Regional Development Commissions (RDCs), Metropolitan Planning Organizations (MPOs) and the Metropolitan Airports Commission (MAC).

**Table 1-3: TAC Representation**

MnDOT Office of Aeronautics	Metropolitan Council
Federal Aviation Administration (FAA)	Metropolitan Airports Commission (MAC)
Duluth Airport Authority	MnDOT Modal Offices
Bemidji Regional Airport	Aviation Consulting Firms
St. Cloud Regional Airport	

## PUBLIC INVOLVEMENT

A Public Involvement Plan was developed and adopted by the advisory committees to guide public participation efforts. The Public Involvement Plan provided a framework for how individuals and organizations could participate in activities conducted throughout the planning process. It was a flexible plan, capable of update or adjustment based on input received and other factors. The Public Involvement Plan, and other related participatory information is accessible on the Plan website.

The Plan website was constantly maintained and updated and included a webform available to the public for submitting comments at any time. Social and traditional media resources were also used.

A statewide public hearing was held in January 2013 to formally collect comment on the draft plan. All comments received were recorded, considered, and response was provided. The plan has been adjusted to reflect comments where appropriate. A record of comments received and the MnDOT response is found on the Plan website.

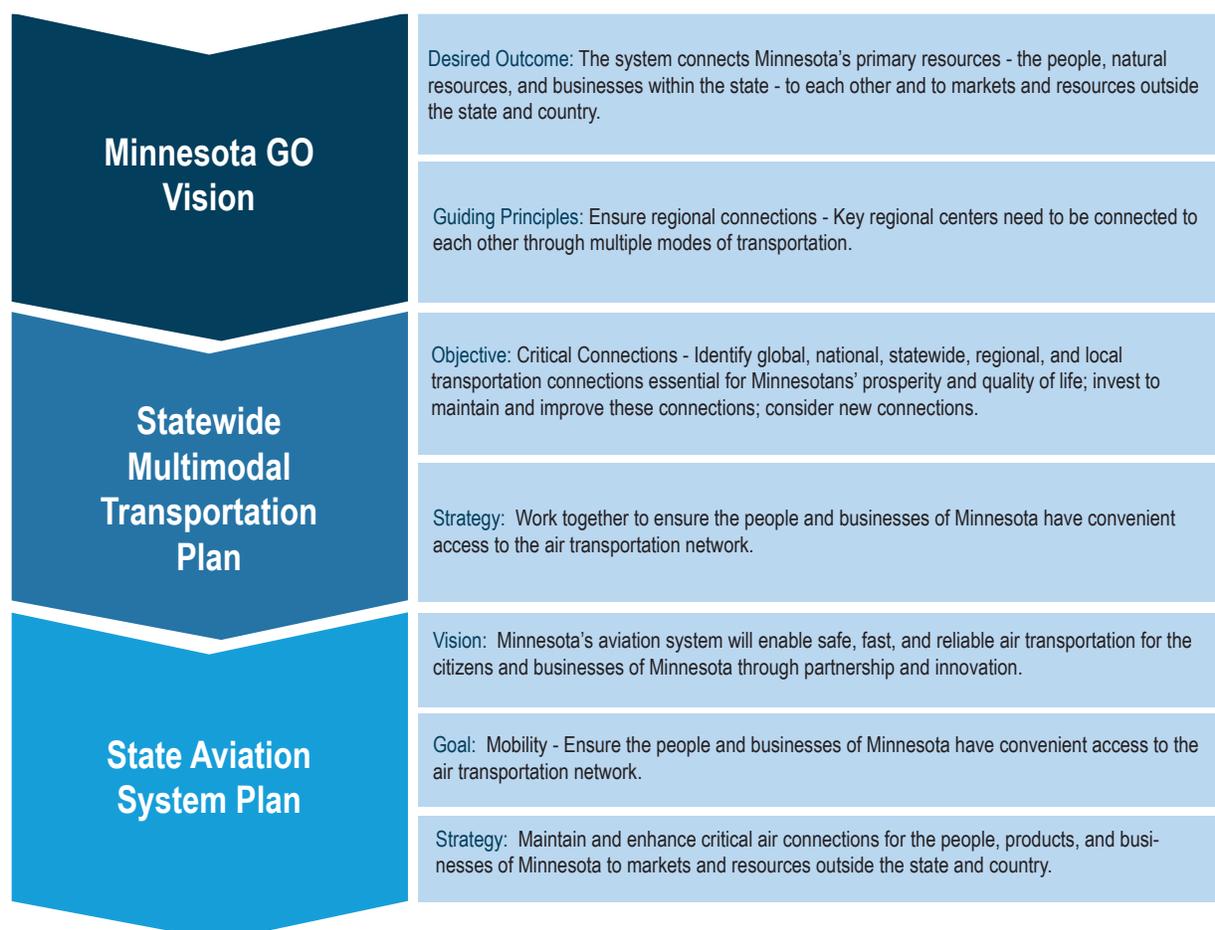
## System Vision and Goals

Similar to development of the Minnesota GO 50-year vision for transportation, a vision for aviation in the state was developed through collaboration with stakeholders early in the planning process. The vision for aviation provides a description of the desired future and highlights what the State is trying to achieve with its air transportation system. The bulk of this Plan answers the question of how the vision can be achieved. **Figure 1-6** shows how the aviation system vision relates to the Minnesota GO Vision and the Statewide Multimodal Transportation Plan. A more comprehensive view of this relationship is found in **Appendix G: Goals Matrix**.

### MINNESOTA'S VISION FOR AVIATION

***Minnesota's aviation system will enable safe, fast, and reliable air transportation for the citizens and businesses of Minnesota through partnership and innovation.***

Figure 1-6: Connections to the Vision and Statewide Multimodal Transportation Plan (Example: Mobility and Access)



## GOALS AND STRATEGIES SUPPORT THE VISION

The SAC and TAC identified values for the system which were consolidated into five goals. The goals were articulated and strategies to achieve each goal were developed. How these goals and strategies relate to the Minnesota Go Vision and Statewide Multimodal Plan are shown in **Figure 1-6**.

### Goal: Safety

*Enable development of Minnesota's aviation system to minimize and/or reduce aviation fatalities and injuries and also enhance the overall safety of airport operations.*

### Strategies

- Provide technical assistance to airport sponsors so that their airport zoning ordinances are acceptable under Minnesota's standards. All airports in the state should be zoned to protect existing, future, and ultimate infrastructure configurations.
- Evaluate the State's zoning standards, and consider revisions to appropriately balance public safety and provide airport compatible development opportunities near and around airports.
- Airport sponsors should continue to acquire land to control and maintain the State Clear Zones (an area similar to the FAA Runway Protection Zone or RPZ) and achieve compliance with MnDOT Office of Aeronautics' Clear Zone Policy.
- Approach airspace should continue to be kept clear of obstructions. Obstructions identified during airport safety inspections should be removed as soon as possible.
- Assist and collaborate with the entities and agencies that use the aviation system to protect and enhance local, regional and state safety including but not limited to firefighting, search and rescue, border protection, homeland security, and air medical transport.
- Enhance delivery of medical resources to the trauma centers and life-saving facilities throughout the state that play a role in preventing death following traumatic injury.
- Support air medical providers' ability to save lives and increase chances of survival in the minutes and hours following traumatic injury – a period commonly referred to as the "Golden Hour".
- Support MnDOT's continued efforts in the Toward Zero Deaths (TZD) initiative and work collaboratively with proponents to incorporate all modes, including aviation, into the initiative.



Photo Credit: Leading Edge Investigations

## Goal: Mobility

*Ensure the people and businesses of Minnesota have convenient access to the air transportation network.*

### Strategies

- Maintain and enhance the critical air connections for the people, products, and businesses of Minnesota to markets and resources outside the state and country.
- Develop a comprehensive strategy to identify and address Americans with Disabilities Act (ADA) concerns within the airport system.
- Provide viable connections to outstate by maintaining or improving airline services in Greater Minnesota, where appropriate (additional and more detailed strategies relating to airline service maintenance are found in **Chapter 4: Airline Service** and **Appendix D: Commercial Air Service Technical Report**). In doing so, collaborate with and support efforts of the Local Air Service Action Committee (LASAC).
  - Consider feasibility of increasing airline connections for Greater Minnesota airports with surface transportation options.
  - MnDOT Aeronautics will host periodic Air Service Summits to bring together aviation stakeholders in an effort to share critical air service information and develop specific strategies concerning air service in the state.
  - Monitor changes to the federal Essential Air Service (EAS) program (subsidies for commercial airline service to Minnesota airports) and work with stakeholders to develop recommendations for an EAS program that is both effective and can withstand scrutiny.
- Identify the availability of access to airports by alternate modes of transportation (e.g. transit and bicycles). Consider strategic enhancements of access where appropriate and justified.



### Goal: Financial Opportunity and Responsibility

*Improve system airports' ability to become more financially sustainable, attract appropriately planned economic development opportunities, and fit into the context of the community from which it receives support.*

#### Strategies

- Develop, in cooperation with system airports, new and innovative ways to generate revenues that ultimately bring them closer to self-sufficiency.
- Collaborate with the state's aviation stakeholders to continue to provide predictable funding for the State Airports Fund.
- Consider support of modified construction standards to reduce project cost (e.g., warm mix paving applications).
- Inventory comprehensive plans of communities surrounding airports to advise on airport compatible development. A community and its airport should have compatible plans so that they foster growth for each other.
- Consider the role of airports in supporting and furthering Context Sensitive Solutions (CSS) for sponsor communities.
- Support local and community efforts to create jobs with a particular focus on enhancing the state's aviation sector.
- Support and promote system airports' efforts to pursue special or unique funding opportunities such as the joint MnDOT and Department of Employment and Economic Development (DEED) Transportation Economic Development (TED) program designed to address both the state's transportation system needs and economic development objectives.





### **Goal: Operations**

*Ensure the system is operated in a manner that users can rely upon.*

#### **Strategies**

- Identify the areas of the State suitable, from an aeronautical perspective, for tall structure siting and consider similar analysis for other potential airport incompatible land uses.
- Upgrade the state's critical navigation facilities while allowing for reduction and/or phase out of unused or outdated components.
- Develop a method for more precise life-cycle tracking of the navigation system.
- Work with MnDOT's Office of Transportation and Data Analysis to research available technologies to more precisely analyze activity at airports. These technologies may be auditory or visual, able to recognize differing aircraft types, and should be tested on a limited scale to help determine accuracy.
- Work to ensure FAA efforts to incorporate Unmanned Aircraft Systems (Unmanned Aerial Vehicles) into Minnesota's airspace are pursued in a safe and transparent manner.

### **Goal: Asset Management**

*Ensure the structural integrity of existing airport infrastructure to meet the needs of the current system without compromising future needs.*

### **Strategies**

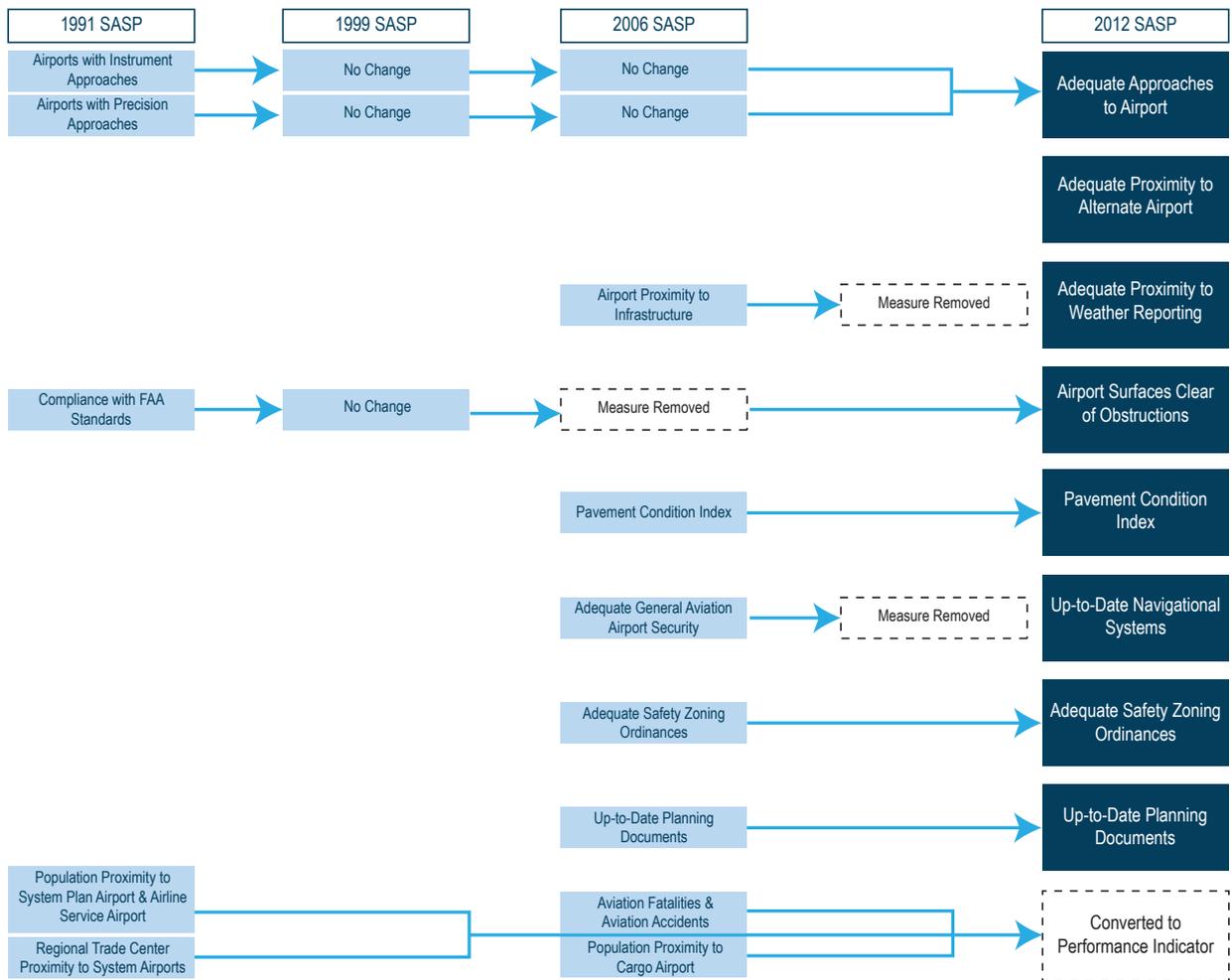
- Work collaboratively with airport sponsors to align maintenance and preservation needs with the state's funding priorities.
- Periodically review the State's project prioritization formula and consider recommendations for adjustments that are developed in a collaborative manner.
- Explore a risk-based approach to making future investment decisions.
- Ensure that construction projects are justified and appropriately sized.



## Performance-Based Planning

Despite today's uncertain economy and associated funding challenges, many now are cautiously optimistic when considering the future of the aviation industry. One method for managing these financial challenges is performance-based planning, which has been used by MnDOT and the Office of Aeronautics for many years. This approach to planning aims to ensure that funding is spent strategically to meet specified goals and progress toward those goals is tracked and reported to the public. This Plan, like others before it, embraces and continues the performance-based planning approach through the use of performance measures and performance indicators. Measures and indicators are presented in detail in **Chapter 6: Performance Report**. A summary of the State's performance measures over the last 20 years is shown in **Figure 1-7**.

Figure 1-7: Evolution of SASP Performance Measures



Source: MnDOT Office of Aeronautics 2011 SASP Objectives, Goals, and Performance Measures, The 2006 Minnesota SASP, The 1999 Minnesota SASP, The 1991 Minnesota SASP, & HNTB Analysis

# Aviation Industry Challenges and Opportunities

## CHALLENGES

Over the past decade airports in the United States have continued to encounter challenges in supporting airline operations. Many airline service airports, particularly those with fewer flights, have seen dramatic cuts in service as legacy carriers have focused on larger domestic and international markets. Dramatic increases in fuel prices, challenges in the US economy, and leveling of passenger demand are some of the reasons flight schedules have been limited. Long-term forecasts for aircraft sales to US airlines are for planned replacement of aging aircraft. With increasing fuel prices, 50-seat regional jets are proving uneconomical to operate. Industry experts expect those aircraft to be taken out of service as their equipment leases expire in the coming years. In some markets these aircraft will be replaced by larger regional jets. In other markets, changing airline business models may result in discontinuation of service. The Essential Air Service (EAS) program, which subsidizes air service to rural communities, has faced challenges in Congress. Many experts believe that the program will be changed significantly or eventually phased out in the continental US.

Recreational aviation has been in decline for the past decade. With the high costs associated with recreational flying expected to increase, this trend is expected to continue into the future.

Corporate aviation is by its nature cyclical and suffered during the recent economic downturn. While gradual recovery is expected, long-term growth in this area will be dependent on corporate profitability.

Aging airport facilities require costly rehabilitation or replacement. Safety and security inspections create requirements for changes in airport terminal buildings. Airports also face disruption in traditional funding sources for capital improvements. The FAA Airport Improvement Program (AIP) went through a four-year period of 23 continuing resolutions while Congress was unable to pass an FAA reauthorization bill. The lack of funding stability made it difficult for airports to predict when money might be available for planned projects.



Due to federal deficit issues and the growing number of airline fees that are not subject to federal ticket taxes, the total amount of AIP funds available to airports is expected to decline over the long-term. Passenger Facility Charges (PFCs), an important funding source for commercial service airports, have been capped at \$4.50 per enplanement since 2004. Taking into account the escalation in construction costs since then, it leaves PFCs at an effective rate of \$2.20.

Some state and local governments are also facing fiscal challenges and may not be able to continue to subsidize local airports. In fact some have attempted to “monetize” their assets by bidding the rights to operate the airport under very long-term leases in exchange for large upfront payments.

## OPPORTUNITIES

Despite these significant ongoing challenges, the role of an airport as an economic catalyst for their community continues to be recognized. In Minnesota, economic development bonding funds may be available for certain airport projects. Private companies also see value in investing in certain airport facilities where they can earn a return on their investment. Airport owners are becoming more business savvy and seeking out opportunities for compatible commercial development on airport land which will not be needed for aeronautical purposes or at least not until long in the future. Airport operators are also exploring opportunities for renewable energy generation and other non-traditional revenue sources.



## Plan Overview

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This section provides a brief overview of key topics in subsequent chapters of the Minnesota State Aviation System Plan.

**Chapter 2: Inventory** describes the process by which data utilized in development of this Plan was collected. The data serves as the foundation for Plan activities such as the aviation forecast included in **Chapter 3: Forecast** and an assessment of Airline Service is reported in **Chapter 4: Airline Service**.

**Chapter 5: Airport Facility Requirements** presents an overview of the minimum system objectives for each class of airport (Key, Intermediate, or Landing Strip). This chapter answers the question “What should an airport look like in terms of runway length and width, lighting, navigation systems, weather reporting, fuel services, or other characteristics?” for each class.

**Chapter 6: Performance Report** presents quantitative measures of system performance, associated targets and past trends where historic data is available. MnDOT has limited or no ability to influence the outcome in some areas of performance analysis, however, expectations for transparency and information sharing still exist. These data sets are referred to as performance indicators, rather than measures, and are also presented in this chapter.

Also included are “density analyses” which illustrate where gaps in the system may exist across the state. For example, a lack of availability of crosswind runways in an area creates a potential safety issue for pilots attempting to land in less than ideal weather conditions.

**Chapter 7: Investment Plan and System Recommendations** presents the cost breakdown of the recommended development for the entire system and describes how the system is funded today, how projects are selected, and discusses methods for funding the system.

Finally, **Chapter 8: A Future Vision of Aviation** considers the future of aviation in terms of technological advances on the horizon as well as advancement of the FAA’s NextGen program seeking to make air travel more convenient, dependable, and efficient. This chapter includes consideration of how Minnesota’s aviation system fits into the state’s multimodal transportation system.

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