

MONTANA

STATE AVIATION SYSTEM PLAN UPDATE 2015

EXECUTIVE SUMMARY



INTRODUCTION

SYSTEM PLANNING PURPOSE

The Montana Department of Transportation (MDT) Aeronautics Division completed an update of the State Airport System Plan (SASP) in 2015. The SASP provides a ‘big picture’ plan for guiding airport development in Montana. It provides input into the Federal Aviation Administration’s (FAA) National Plan of Integrated Airport Systems (NPIAS), individual airport master plans, and the state’s long-range plan. The purposes of the SASP are to assess the needs of the state’s airports; help justify funding for necessary airport improvements; and provide information for governmental and other entities concerning the value, use, and needs of the state’s public-use airports. The plan provides the Montana’s Aeronautics Division with an important planning tool that enables them to remain current with industry trends. The plan also helps the Aeronautics Division to determine how the Montana airport system should be developed to respond to future challenges and to meet changes in demand.

Facts about Montana’s Existing Aviation

- 126** public-use airports
 - 70** airports are included in the NPIAS
 - 13** commercial service airports
 - 35** airports with jet capable runways more than 5,000 feet in length
 - 81** airports with at least one paved runway
 - 70** airports with runway lighting systems
 - 87** airports with instrument approach capabilities
 - 6** control towers at Great Falls, Billings, Bozeman, Helena, Missoula, and Glacier Park International (Kalispell)
 - 45** airports with on-site weather reporting
 - 59** airports with fuel service
 - 12** airports with more than 50 based aircraft
 - 17** airports with more than 10,000 annual operations

INVENTORY

CURRENT AIRPORT SYSTEM

The Montana aviation system includes 126 public-use airports. All of these public-use airports are a vital component to the state’s transportation network. Of the 126 airports included in the SASP, 13 airports support regularly scheduled air carrier activities, with the remaining 113 airports serving a multitude of general aviation activities. The economic role that each airport in Montana plays in its local economy and/or the surrounding region is important and should not be underestimated. In addition to serving as a business access point for corporations and suppliers, the state’s airports support health, welfare, and safety-related activities that expand upon a community’s quality of life.



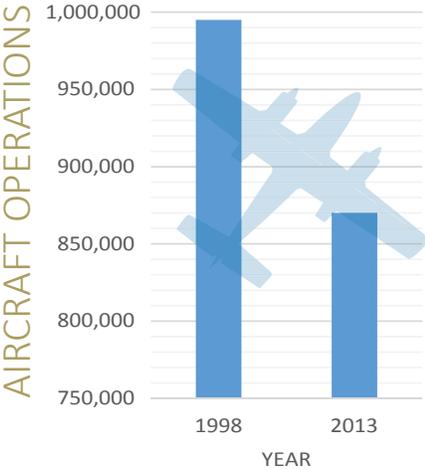
-  Primary Commerical Service
-  EAS Commerical Service
-  Primary/EAS Commerical Service (Sidney)
-  General Aviation Airports
-  Interstate Highways
-  U.S. Highways
-  Montana County Lines
-  Water Bodies



AVIATION ACTIVITY INDICATORS

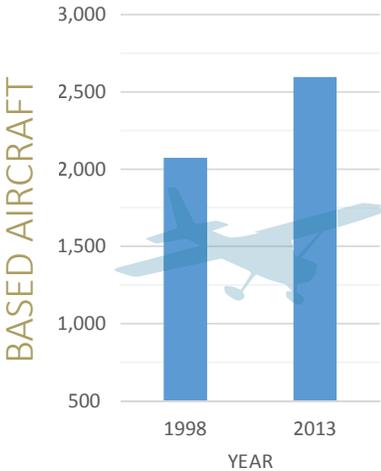
SYSTEM PLANNING PURPOSE

Historical aviation activity trends provide a basis for determining existing system capacities, forecasting future demands, and identifying additional system requirements.



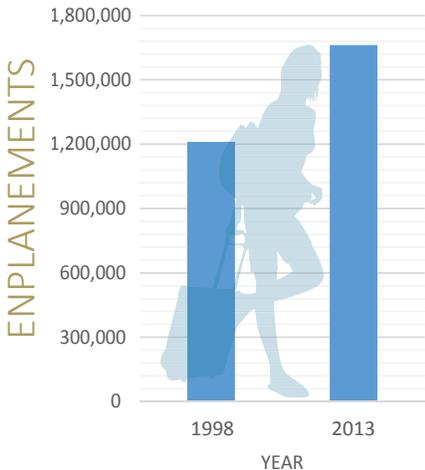
Operations

Aircraft operations in Montana include commercial, charter, military, and general aviation, which includes flying for pleasure, business, or instruction. In 1998, total aircraft operations at Montana’s public-use airports were estimated at 1.0 million. The total annual aircraft operations in the state reduced to, and stabilized at, approximately 870,000 since the 1998 Montana SASP. This was due in part to unprecedented system shocks including the terrorist attacks of September 11, 2001, higher fuel prices, and a severe economic recession.



Based Aircraft

A based aircraft is one that is stationed at an airport on a permanent basis. FAA data indicates 2,597 based aircraft at Montana’s 126 public-use airports in 2013. FAA counts presented in the 1998 Montana SASP for the system airports totaled 2,078 based aircraft, indicating a total increase of 25 percent from 1998 to 2013.



Annual Passenger Enplanements

Montana currently has 13 airports with scheduled commercial service flights to serve its population centers. The seven largest airports serve the state’s large- and medium-sized population centers and include: Billings, Bozeman, Butte, Great Falls, Helena, Kalispell, and Missoula. The remaining six Montana airports serve smaller communities including: Glasgow, Glendive, Havre, Sidney, West Yellowstone, and Wolf Point. Total Montana enplanements (passenger boardings) have increased 37.3 percent, to 1.6 million, between 1998 and 2013.

MONTANA AIRPORT ROLES

OVERVIEW

The airport role analysis evaluation was built from framework evaluations conducted in other statewide system plans. These role analyses use a variety of airport factors, and assign a score to each. An airport's role category is a result of its total score.

This study analyzed 11 factors in the categories of access, airport facilities, airport services, and airport activity. This process provides a means to group the airports by functional level and is not intended to imply a relative level of importance among airports. This grouping is necessary to establish facility and service standards or objectives that are desirable at airports in each of the functional levels. The 11 factors are listed below:

Airport services:

- Full service Fixed-Base Operators (FBO)
- Aircraft fuel sales

Access:

- Population coverage

Airport activity:

- Commercial service
- Total based aircraft
- Total based jets
- Aerial firefighting

Airport facilities:

- Primary runway length
 - Primary runway surface
 - Instrument approach capabilities
 - Automated weather reporting
-

Commercial Service and General Aviation Airport Roles:



Commercial Service Airport – accommodate scheduled major/national or regional/commuter commercial air carrier service; or relieve scheduled air carrier airports of corporate aviation activity.



Essential Air Service (EAS) – airports which provide a level of scheduled air service to communities that otherwise would have limited access to the nation's air transportation system.



Level 1 Airport – maintains a consistent and contributing role in enabling the local, regional, and state-wide economy to have access to and from the national and global economy.



Level 2 Airport – maintains a contributing role in supporting the local and regional economies and connecting the community to the state and national economies.



Level 3 Airport – maintains a supplemental contributing role for the local economy and community access.



Level 4 Airport – maintains a limited contributing role for the local economy and community access.



Level 4 Airport (Remote) – maintains a limited contributing role for the local economy and community access to rural regions of the state.

RECOMMENDED SYSTEM

After identifying different roles [Primary Commercial Service, Essential Air Service (EAS) Commercial Service, and General Aviation (GA) Levels 1 – 4] served by airports in Montana, the SASP determined what roles each airport in the system needed to fill and where improvements were needed. The recommended roles for the airports and their corresponding facility standards as shown on page 4, provide guidance to

the state on minimum standards for future airport development. It is recognized that not all airports can meet the standards, others may surpass the standards, and individual airport plans should be used to justify future airport development.



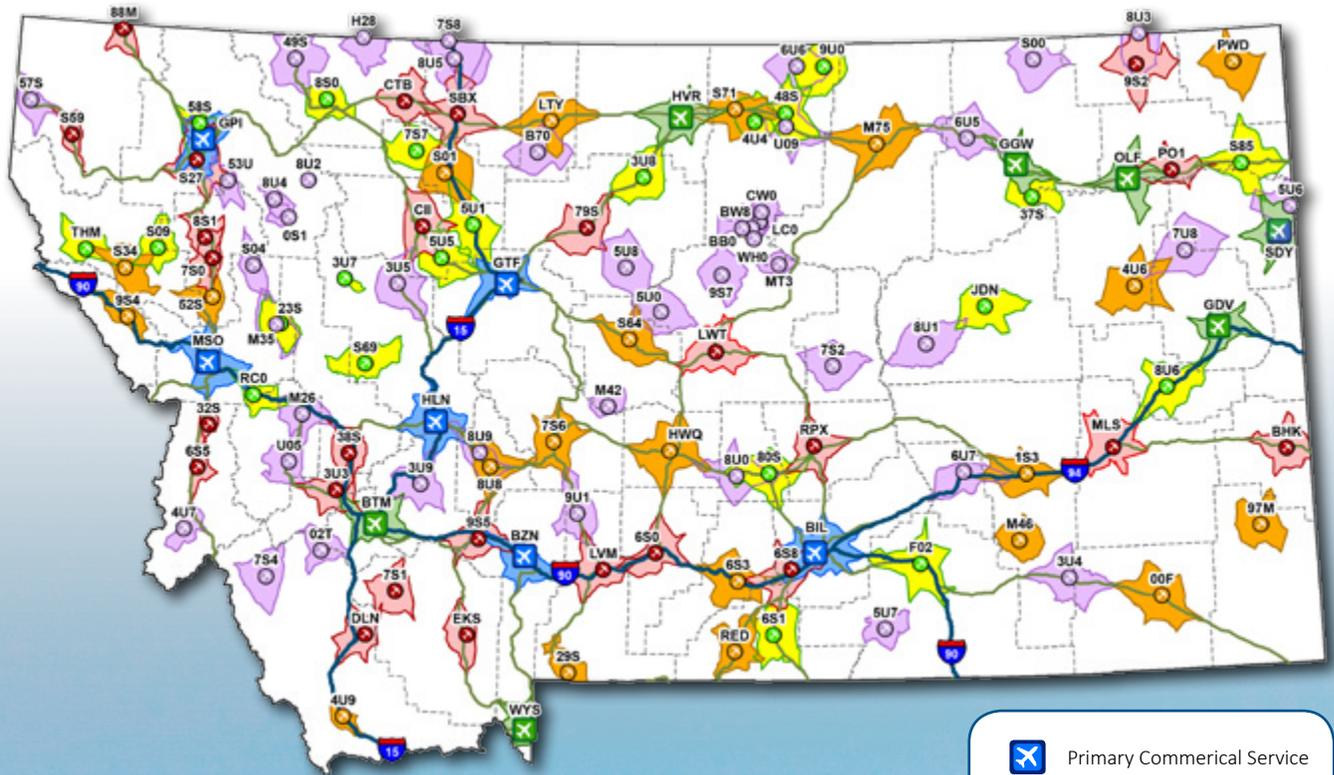
PERFORMANCE MEASURES

GEOGRAPHIC COVERAGE

Analysis of transportation systems focuses on the performance of the mode and how investment can improve that performance. For Montana's airport system, the eight system performance measures served as the baseline, with specific benchmarks within each measure used to quantify the performance.

Once all benchmarks are evaluated, the overall performance of the measure is determined and specific actions to improve the system can be recommended. By monitoring the ability of the Montana airport system to satisfy or meet each of the benchmarks, the Aeronautics Division can compare and monitor current, target, and future system performance.

Over 92% of Montana's population is within a 30 minute drive time of a system airport.



- 30 Minute Drive Time of Commerical Service Airports
- 30 Minute Drive Time of EAS Airports
- 30 Minute Drive Time of GA Level 1 Airports
- 30 Minute Drive Time of GA Level 2 Airports
- 30 Minute Drive Time of GA Level 3 Airports
- 30 Minute Drive Time of GA Level 4 Airports

- X Primary Commerical Service
- X EAS Commerical Service
- X Primary/EAS Commerical Service (Sidney)
- X GA Level 1
- X GA Level 2
- X GA Level 3
- X GA Level 4
- X GA Level 4- Remote
- Interstate Highways
- U.S. Highways
- Montana County Lines

FORECAST SUMMARY

AVIATION FORECAST & ANTICIPATED GROWTH

In order for the system to be developed to meet future demand, projections of future activity are prepared. These projections are used to determine infrastructure needs and evaluate the ability of the airport system to accommodate the needs. Demand was analyzed based on data for 2013 (as available when the study started) and considered a 20-year horizon. While growth rates in the table to the right reflect 1.98 percent annual growth in enplaned passenger traffic in the state, it should be noted that growth rates between 2013 and 2014 for passenger enplanements increased nine percent. Projections are developed based on historical trends on many levels: national, state, and local. Specific trends in commercial aviation, general aviation, fuel costs, population, and employment were considered in the development of aviation activity growth projections for the following indicators: based aircraft, aircraft operations, and commercial airline enplanements.

STATEWIDE FORECAST SUMMARY

PROJECTION TYPE	2013	2018	2023	2033
Commercial Service Enplanements	1,661,814	1,889,380	2,148,108	2,776,704
Commercial Airline Operations	120,429	136,920	155,670	201,223
Statewide Total Air Cargo Tons	48,607	53,930	59,835	73,657
Based Aircraft	2,593	2,678	2,765	2,950
General Aviation Operations	734,196	790,938	852,064	988,856

For each of these indicators, several methodologies were employed and their results considered in selecting a preferred method. Results were compared to individual airport and FAA forecasts, where available.

FACILITY STANDARDS

COMMERCIAL & GENERAL AVIATION

Facility and service benchmarks were identified for each airport role. These standards are based on recommended infrastructure and services in order for the airport to serve aviation demand. The table below presents the recommended facility standards for each airport category.

Benchmark Category	Primary Commercial Service	EAS Commercial Service	GA Level 1	GA Level 2	GA Level 3	GA Level 4 (Including Remote)
Runway Length	6,000	5,000	4,000	3,500	3,000	Maintain
Runway Lighting	HIRL	MIRL	MIRL	MIRL	MIRL	-
Taxiway Type	Full Parallel	Full Parallel	Partial Parallel	Turnarounds	Stub	-
Instrument Approach Minimum	3/4 mile or lower	1 mile or lower	1 mile or lower	Any IAP	-	-
Fuel Sales	Jet-A and AvGas	Jet-A and AvGas	Jet-A and AvGas	Jet-A and MoGas	Jet-A and MoGas	-
Automated Weather Reporting	AWOS or ASOS	AWOS or ASOS	AWOS or ASOS	AWOS or ASOS	-	-
Aircraft Parking	Tie-Downs	Tie-Downs	Tie-Downs	Tie-Downs	Tie-Downs	Tie-Downs
Rental Cars/Courtesy Car	Rental Car	Rental Car	Courtesy Car	-	-	-



FACILITY RECOMMENDATIONS

Runway Length: Consider runway extensions at six system airports that do not currently meet runway length benchmarks for their respective roles.

Runway Lighting: Improve runway edge lighting at 17 Montana system airports that do not currently meet runway lighting benchmarks for their respective roles.

Taxiway Type: Upgrade taxiway types at 18 system airports that do not currently meet taxiway type benchmarks (full parallel, partial parallel, turnaround, or stub) for their respective roles.

Instrument Approach Minimum: Encourage development of new or more advanced instrument approach procedures at 26 system airports.

Fuel Sales: Encourage addition or upgrade to fuel service at 28 Montana airports as appropriate according to local market demand.

Weather Reporting: Install either an AWOS or ASOS weather reporting system at 16 system airports.

Aircraft Parking: Construct tiedown parking at those Montana airports that currently do not provide parking.

Rental Car/Courtesy Car: It is recommended that rental cars be available at all system commercial service airports and that a courtesy car or rental car service be available at all GA Level 1 airports.

CAPITAL NEEDS

All of the analyses conducted as part of the SASP lead up to the determination of system investment needs. All of the study’s recommendations do not have an associated cost, but investment is needed at all levels to administer, maintain, and develop Montana’s airport system. Over the next 20 years, approximately \$58 million is required to meet the infrastructure needs, which is above and beyond anticipated capital improvements and annual maintenance costs. This level of aviation investment can come from a variety of sources such as the FAA and state funding, but investment will also be required from the local communities that benefit from the airports.

PROJECT SUMMARY	COSTS
Runway Length	\$10 million
Runway Lighting	\$2.9 million
Taxiway Upgrade	\$35.6 million
Approach Upgrade	\$3.9 million
Fuel Upgrade	\$3.5 million
Weather Systems	\$2 million
Tie Downs	\$165,000
Courtesy Car	\$30,000

ECONOMIC RECOMMENDATIONS

AvGas Coverage: While AvGas services at airports are purely reliant on market driven forces, airport owners without AvGas availability should monitor their local market by speaking with pilots and aircraft owners regarding their need for AvGas.

Recommendations Related to Full Service Fixed-Base Operators: While FBO services at airports are purely reliant on market driven forces, government agencies at both the state and local level can encourage the development of FBOs at Montana airports.

Recommendations Related to Air Ambulance Service: All Montana airports are important resources in the transport of patients and trauma victims to hospitals across the state, but airports that are greater than 50 miles from major metro areas in the state serve an even greater role. As such, it is recommended that airports in remote parts of the state include air ambulance activity when planning facilities.

Recommendations Related to Wildland Aerial Firefighting Activity: Airports in Montana with paved runways and within close proximity to fire prone areas are likely candidates for temporary air tanker and helicopter operations. Because of the higher likelihood of fires near these airports, these airports need to take into consideration wildland fire aviation operations in their master plans and Airport Layout Plans (ALPs).

Recommendations Related to EAS Airports: It is recommended that to retain EAS services, local communities, state transportation officials, and airports continue to promote EAS by contacting related advocacy organizations and their federal congressional representatives, while staying abreast and informed about any related legislative provisions or bills. Continued promotion for EAS, and in particular for EAS presence in rural community airports, is essential for the markets directly impacted by the program's benefits.

Recommendations Related to Bakken Oil and Gas Development: While this economic growth and demand will likely take place on a number of system airports in the region, the total passenger enplanements associated with the oil and gas industry should begin to stabilize as workers and their families settle in the region. As a result, it may be worthwhile for airport management to consider whether to pursue non-EAS flights to markets such as Denver or Minneapolis.

Recommendations Related to New Technologies: One of the most promising air navigation developments is the Next Generation Aircraft System (NextGen). This new satellite-based navigation system will revolutionize air travel in the future. Montana should continue to support research and development into new technologies that would benefit the Montana aviation system.





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