

CHAPTER 9 – POLICY RECOMMENDATIONS

Achieving the vision set forth in the Washington Aviation System Plan requires new policy guidance and direction. The policy recommendations advance the vision set forth in the WASP by enhancing aviation ties between communities throughout the state and supporting the ability of Washington’s airports to better serve their customers, increase revenue, partner, and enhance their competitive advantage.

The policy recommendations presented in this chapter have been developed in close consultation with public and private aviation system stakeholders and incorporate goals established in the Washington Transportation Plan 2035 Policy Plan (WTP). The WTP was organized according to the six statutory transportation policy goals, some of which closely align with the WASP. For each policy goal, strategies and recommended actions were identified. The relationships between the WTP and the WASP’s goals and recommendations are noted below.

In addition to the WTP, the WASP also builds from Washington’s 2009 Long-term Air Transportation System (LATS) Plan. LATS was authorized in 2005 by the Washington State Legislature which required WSDOT to study the long-term general aviation and commercial service needs, including an extensive evaluation of capacity.

A thriving state aviation system ultimately requires many types of partnership. WSDOT Aviation Division, local airports and communities and other public agencies each have a significant role in achieving WASP’s goals and objectives through a range of actions to address needs of our aviation system and develop the economic and community potential of Washington State’s system of airports.

The following policy recommendations are presented in accordance with the WASP’s eight goal categories.



9.1 Aeronautical and Airport Safety

The goal of *Aeronautical and Airport Safety* is to ensure airports operate safely and efficiently. The objectives of this goal include attaining and maintaining WSDOT’s airport metrics, including FAA design standards, and maintaining safe and clear approaches. The metrics provide minimum standards or recommendations on obstructions, weather services, and airfield geometry design that each airport should meet or have a plan in place to meet.

Safety is a top priority for Washington’s entire transportation system and is one of the six transportation system policy goals of WSDOT. The following WTP policies were considered in developing safety policy goal policy recommendations in the WASP¹:

¹ Washington Transportation Plan 2035 Policy Plan.

- Encourage all modal system operators – air, rail and water – to adopt a data driven approach to prioritize and target area that pose the greatest risks to safety and security.
- Continue to reduce airspace impacts due to wildlife and man-made structural obstructions to critical airspace near airports.

The policy recommendations that support aeronautical and airport safety are based on an extensive review of existing conditions and best practice infrastructure standards. The FAA recommends the standards and recommendations in Advisory Circular 150/5300-13A for use in the design of civil airports. Use of this AC is mandatory for all projects funded with federal grant monies through the Airport Improvement Program (AIP) and/or with revenue from the Passenger Facility Charges (PFC) Program. There remain airports in the system that are either not eligible for FAA funding or not federally obligated to meet these standards. Because these airports may still be used by the general public, it is recommended that a series of best practices and facility standards be developed to provide direction to those airports that fall outside of the FAA categories and guidance. To assist all airports in the system, funding should continue to be made available for projects aimed in meeting the safety goals and metrics that fall within FAA categories and guidance.

WSDOT continually strives to be proactive and supportive of all types of aviation activities. As currently defined, our aviation system does not take into consideration non-traditional airports beyond seaplane bases. It does not yet consider heliports or the evolving needs of Unmanned Aircraft Systems (UAS) and the possible emergence of Droneports. By considering inclusion of these other types of aeronautical activities, WSDOT can better plan for future needs related to these uses and how best to integrate them into the aviation system.

Policy recommendations for the Aeronautical and Airport Safety goal are therefore to:

- Develop facility objectives and best practices for state infrastructure standards for non-NPIAS and unobligated airports.
- Continue to prioritize state and federal resource allocation for projects that address federal and state standards, including maintaining safe and clear approaches to airports; continue to reduce airspace impacts due to wildlife and man-made structural obstructions to critical airspace near airports.
- Reconsider the aviation system definition and expand it to include heliports and future ‘droneports.’

9.2 Economic Development and Vitality

The goal of *Economic Development and Vitality* is to support the ability of airports to advance the business opportunities that can create prosperity for the airport environment and the communities they serve. The objectives for this goal include supporting and increasing the opportunities for air transportation of goods and passengers, enhancing collaboration between airports and their communities to maintain and support economic growth and development, and increasing tenant revenues by promoting on-airport aerospace manufacturing jobs. Metrics for Economic



Development and Vitality include collaboration with government agencies on economic opportunities, partnerships with industry to support business activities and grow cargo activity.

By actively developing partnerships with local economic organizations, airports can identify and capitalize on future opportunities to grow the airport in a manner that is consistent with the community's drivers. Aligned with the airports metrics, it is recommended that WSDOT partner and collaborate with appropriate industry representatives to promote, support, and advocate for the individual airports and the overall system. Since air cargo activity has consistently risen over the past decade, an emphasis has been placed on working with the air cargo industry to determine trends and future needs. By participating in discussions and supporting economic development, WSDOT can better understand the needs and desires of the industry, and how it may contribute better to the economic vitality of the system.

Economic vitality is also one of the six transportation system policy goals of WSDOT. Recommended actions from the WTP related to airports under the economic vitality policy goal include²:

- Promote strategies that address the “first and last mile” of freight connectivity, including prioritizing key connections to ports, freight terminals, agriculture storage facilities, and airports.
- The Legislature should invest in designated freight corridors by making connections with ports (such as completing SR 509 to connect with I-5 near Sea-Tac and SR 167 to connect with the Port of Tacoma) and assist in the development of freight modal centers (such as airports and intermodal facilities) to maintain Washington’s competitive advantage for trade.
- WSDOT should collaborate with the Department of Commerce, the Washington Tourism Alliance and smaller commercial service airports to explore the feasibility of maintaining or expanding flight offerings between smaller commercial service airports to “hub” airports.
- The Legislature should direct aviation taxes and fees to fund investments in airport infrastructure.
- The Legislature and WSDOT should treat aviation capacity as a resource and preserve, protect, and enhance such capacity through strategies focusing on airport operations, technology, safety, and land use. Consider strategic aviation system investments that can leverage the value of the aerospace industry and commercial travel to the State’s economy.
- Congress and the FAA should continue to invest in aviation technologies, including NextGen and biofuels development, to meet future aviation needs and reduce greenhouse gas emissions.
- Local transportation plans should specifically protect difficult-to-site facilities and the routes that access those facilities, such as airports, marine and inland waterway ports, and intermodal

² Washington Transportation Plan 2035 Policy Plan.

facilities, from encroachment by incompatible land uses. These plans should anticipate and provide for potential future expansion of such facilities.

Following are the policy recommendations for the Economic Development and Vitality goal:

- Partner with government agencies (state, regional, airports) and industry freight representatives regarding air cargo data and needs to better understand demands, issues, and opportunities related to ground transportation, economic development, and financial investment.
- Building from WTP direction, collaborate with the Department of Commerce, the Washington Tourism Alliance and smaller commercial service airports to explore the feasibility of maintaining or expanding flight offerings between smaller commercial service airports to “hub” airports and promote aviation industries including maintenance, passenger service, and cargo activities throughout the State.
- Support implementation of strategic aviation system investments that leverage the value of the aerospace industry and commercial travel to the State’s economy.

9.3 Education, Outreach, and Community Engagement



The goal of *Education, Outreach, and Community Engagement* is to promote aviation and its importance, impact, and activities on a broad level extending beyond just the airports. The objectives include promoting aviation education to enhance safety and community support, increasing community knowledge of the aviation systems to communicate airport benefits and contributions to local communities and economies, and promoting aviation activities matched to local and aviation community needs. Airport metrics included the recommendation to participate in aviation outreach and engagement through the local community, tourism boards, and academia.

A sustainable future for Washington’s airports depends directly on community support and an ongoing workforce pipeline of talent to necessary to build and maintain airplanes and airports. By building public awareness about aviation’s economic value to communities and emerging career opportunities in aviation, WSDOT can support a sustainable future for the aviation system. It is recommended that WSDOT continue its efforts to develop educational programs, identify new education partnerships and support industry organizational efforts.

It is also recommended that WSDOT update the 2012 Economic Impact Study to provide quantifiable data on the economic and fiscal impacts of each of the public use airports, and detail how aviation supports economic activities throughout the state.

These are the policy recommendations for the Education, Outreach, and Community Engagement goal:

- Update the State’s aviation economic impact study and support economic development growth at airports.

- Demonstrate the benefits and contributions of the aviation system to local, regional, and statewide economies through educational and stakeholder activities.
- Identify collaborative, systematic approaches to enhance airport participation in local, regional and statewide transportation planning activities to recognize multimodal opportunities and needs that support airport activities.
- Continue educational outreach programs that facilitate information sharing across the state with pilots, airports, agencies, and organizations regarding aviation subjects ranging from airspace to land use, unmanned aircraft systems/drones, and aviation emerging issues.

9.4 Infrastructure Improvement, Preservation, and Capacity

Preservation is one of the six transportation system policy goals of the WTP. The goal of *Infrastructure Improvement, Preservation, and Capacity* is to ensure that Washington’s aviation system is maintained and improved to handle both current and forecasted capacity. The objectives include providing access for aircraft during all weather conditions, maintaining the facilities to established WASP classification levels, and planning to meet emerging requirements in technology and infrastructure, such as the Next Generation Air Transportation System (NextGen). A minimum standard with the airport metric for Infrastructure Improvement, Preservation, and Capacity is to maintain the physical condition of the infrastructure, primarily the pavement. The metrics also recommend that airports ensure adequate capacity for future operations and based aircraft.



The capacity analysis conducted for WASP demonstrated that a few airports in Washington are at risk of exceeding acceptable airfield capacity thresholds within the forecast period and over 20 airports that are currently at 100 percent capacity for aircraft storage. Strategies are needed to sustain capacity by preserving the existing system as well as facilitating expansion, where necessary, with a combination of financial, legislative, and technological methods.

Research conducted for the WASP indicates that the FAA and WSDOT cannot provide the level of financial assistance necessary to complete all capital development projects desired or needed for Washington’s aviation system. It is therefore recommended that WSDOT work with the industry to determine methods beyond traditional grant programs to fund infrastructure projects such as low costs loans, new technologies, alternative airport fee structures, or public-private partnerships.

New legislation may be required to facilitate airports’ ability to access new funding tools. Legislation, for example, can help provide the justification for modifying fee structures or alternative tax strategies.

It will also be essential to prioritize funding for capital projects that preserve and improve the existing capacity such as pavement rehabilitation. WSDOT can play an important role in working with airports to ensure they are planning for future growth by regularly monitoring and addressing their maintenance needs.

Following are the policy recommendations for the Infrastructure Improvement, Preservation, and Capacity goal:

- Legislatively direct aviation taxes and fees to fund investments in airport infrastructure.
- Support aviation capacity as a resource from the Legislature and WSDOT by preserving, protecting and enhancing capacity through strategies focusing on airport operations, technology, safety, and land use.
- Emphasize as a priority and continue partnering with the FAA, Washington State Transportation Commission, and others to develop viable solutions to provide adequate future capacity to accommodate documented growth in commercial service demand.
- Continue to provide funding support for pavement, including preservation and maintenance, to continue stewardship of the most critical infrastructure element of the airport system.
- Partner and collaborate with airports and regions identified as having aircraft storage capacity constraints to determine feasible mechanisms, such as a revolving loan fund, that can be used to accommodate facility requirements.
- Continue to seek to implement funding and non-funding airport infrastructure solutions.

9.5 Aviation Innovation



The goal of *Aviation Innovation* is to support new, emerging and innovative technologies and processes in the aviation system and aeronautics. These innovations at airports include NextGen, UAS, alternative fuels, aircraft innovation, and the use of new technologies at airports and in flight. Further, the use of UAS, or drones should be actively addressed to optimize integration into the current aviation system while minimizing negative impacts to the general public. As aircraft innovation and UAS evolve to allow for general use, it will also be necessary to consider future intermodal connections to roadways and unique airport improvements. The metrics recommend that airports provide evidence that they are tracking and planning for the integration of innovative infrastructure and activities to meet aviation innovation needs.

By supporting and partnering in the research and advancement of the technologies through industry providers, aviation related associations, and academia, WSDOT and airports can stay informed and involved in evolving programs. Programs may be as simple as participating in a survey or providing meeting space, or as complex as testing out new material for a construction project. It is specifically recommended that WSDOT and the aviation community continue to engage in and monitor research on infrastructure needs and laws and policies regarding drones. This will allow WSDOT to provide best practices, adequate and proper funding, and ensure impacts to the local communities are minimized.

Following are the policy recommendations for the Aviation Innovation goal:

- Seek opportunities to develop and continue partnerships to sustain and grow Washington’s prominence in leading aviation innovation, fostering strategies that support education, training, maintenance, and development of innovative technologies in all areas including aerospace manufacturing.
- Continue engaging at the national level on unmanned aircraft system (UAS)/drone policy and regulation to understand the safety, integration, privacy, and community impacts and provide the best possible integration for Washington citizens, airports, and the overall aviation system.
- Work with partners and stakeholders to determine whether government should establish policy for zones where UAS activity should be prohibited or regulated.
- Host working groups to explore possible future infrastructure needs associated with aircraft innovation.

9.6 Modal Mobility, Capacity, and Accessibility

The goal of *Modal Mobility, Capacity, and Accessibility* is to ensure airports are easily accessible to the general public. Objectives include providing adequate ground access to and from the airport, supporting road capacity access initiatives, and supporting and improving multimodal connections. The airport metrics address ground access through optimization of road access, providing adequate capacity, enhancing signage, and collaboration with public transit agencies.



Mobility is also one of the six transportation system policy goals of WSDOT and the WTP. The WTP provides specific policy direction related to airports under the mobility policy goal as follows³:

- Identify gaps and improve intermodal connectivity for freight movement (e.g., ship to rail or truck, and air to truck).
- Encourage partnerships among the state, counties, cities, and transit operators to develop and implement strategies to improve connections between cities, counties and regions for both freight and passenger modes. Approaches may range from improving multimodal connections, such as completing gaps between adjacent service areas and synchronizing schedules among different service providers, to adding capacity strategically for all modes, including public transportation, by completing the system improvements underway today.

Connectivity to airports has been identified as a reoccurring concern across the nation as airports are not always adequately considered in the regional transportation planning process. It is recommended that WSDOT increase coordination, communication, and partnerships between the aviation system and other modes of transportation available with the local communities, region, and statewide modal

³ Washington Transportation Plan 2035 Policy Plan.

systems. It is also recommended that WSDOT works with individual airports to determine adequate signage is provided at and around their facilities to provide suitable wayfinding for users. Accessibility will be improved to airports when they are linked to the overall transportation system within the State.

It is also recommended that WSDOT pursue a statewide system on NextGen to determine the current and future infrastructure needs of the system. NextGen is set to modernize the national aviation system which will enhance safety and improve efficiency. By identifying deficiencies and opportunities with NextGen improvements, WSDOT will also assist in achieving other WASP goals identified in this study. The Emerging Issues Paper on NextGen identified probable changes to airspace, airport design, and weather systems within Washington with the implementation of NextGen.

Following are the policy recommendations for the Modal Mobility, Capacity, and Accessibility goal:

- Increase multimodal coordination, communication, and partnerships between airports and other modal entities (state, regional, local transportation planning entities) to strengthen connectivity between modal planning and results in identification of policies that support multimodal needs.
- Identify signage, access roads, and ground transportation options that can be improved to support airport accessibility.
- Pursue a statewide NextGen study that will address challenging airspace issues.

9.7 Stewardship

The goal of *Stewardship* is to ensure airports strengthen their long-term welfare through prudent planning and management of their resources. These resources include physical infrastructure (such as the pavement, terminals, and hangars), personnel (such as staff, tenants, and users), and financial management (such as grants, bonds, and general funds). Objectives include protecting investments by implementing and maintaining planning documents, conducting preventive and corrective maintenance of the infrastructure, and advocating for land-use protection and height hazard zoning. Stewardship contains metrics that are considered minimum standards for airports to meet, as well as recommendations that promote achievement without establishing minimums. Airports should complete inspections and maintain records of the maintenance performed on existing infrastructure and regularly go through the planning process to ensure the airport is meeting demand and taking advantage of opportunities. It is recommended that airports encourage and promote protection of the airport through provision of land use compliance and emergency response plans.



As with many of the other WASP goals, stewardship policy recommendations involve partnering with the aviation industry and other associated entities to ensure well-rounded programs that have the buy-in of the community and advocates for the importance, impact, and preservation of aviation. WSDOT can play a role in supporting the planning of projects that strategically develop the system and support economic viability and capacity improvements. These plans may include economic

impact studies, business plans, master plans, pavement maintenance management plans, community engagement tools and others. It is also recommended that WSDOT support the development of municipal codes that prevent future incompatible land use near airports.

Following are the policy recommendations for the Stewardship goal:

- Develop plans that promote stewardship of the existing investment in airport facilities that include participation by local, regional, and State government, business, and industry organizations.
- Support development of airport plans and municipal codes that reflect airport needs, implement land use controls for protection from encroachment, and include business planning and evaluation of revenue opportunities to promote land use compatibility and financial diversification.
- Partner with government, communities, academia, and industry to develop aeronautics/aviation awareness, networking, and mentoring opportunities.
- Continue to grow partnerships and programs to promote general aviation growth.

9.8 Sustainability



The goal of *Sustainability* is to promote the economic vitality (E), operational efficiency (O), natural resources (N), and social responsibility (S) of airports and the overall system, utilizing the EONS concept of sustainability. The objectives include reducing environmental impacts, providing an aviation system that is sustainable, and implementing financial sustainability measures. At a minimum, per the airport metrics, airports should be implementing initiatives that provide for financial sustainability. It is also recommended that airports strive for environmental sustainability with an emphasis on waste, air and water quality, wildlife, and energy as well as have land use controls in place to ensure compatible land use.

Airports can adjust their environmental impact in simple and complex ways, from establishing recycling programs, to utilizing alternative fuels and/or managing wildlife on the airfield. If an airport’s development is subject to environmental review under the National Environmental Policy Act (NEPA), a framework for sustainability could be identified as an additional strategy. It is recommended that WSDOT promote sustainability for airports and the community as well as support investment in aviation technologies that are in line with sustainability initiatives. Promotion of sustainability may be in conjunction with promotion and education through other WASP goals.



Following are the policy recommendations for the Sustainability goal:




- Promote sustainable best practices identified on the state and national level that lead to financially and environmentally sustainable development.



- Support investment in aviation technologies, including NextGen and biofuels development, to meet future aviation needs and reduce greenhouse gas emissions.

Table 9-1 summarizes the WASP policy recommendations.

Table 9-1. Summary of Policy Recommendations by Goal

GOAL	POLICY RECOMMENDATIONS
<p>Aeronautical and Airport Safety</p> 	<ul style="list-style-type: none"> ▪ Develop facility objectives and best practices for state infrastructure standards for non-NPIAS and unobligated airports. ▪ Continue to prioritize state and federal resource allocation for projects that address federal and state standards, including maintaining safe and clear approaches to airports. ▪ Continue to reduce airspace impacts due to wildlife and man-made structural obstructions to critical airspace near airports. ▪ Reconsider the aviation system definition and expand it to include heliports and future ‘droneports’.
<p>Economic Development and Vitality</p> 	<ul style="list-style-type: none"> ▪ Partner with government agencies (state, regional, airports) and industry freight representatives regarding air cargo data and needs to better understand demands, issues, and opportunities related to ground transportation, economic development, and financial investment. ▪ Building from WTP direction, collaborate with the Department of Commerce, the Washington Tourism Alliance and smaller commercial service airports to explore the feasibility of maintaining or expanding flight offerings between smaller commercial service airports to “hub” airports and promote aviation industries including maintenance, passenger service, and cargo activities throughout the State. ▪ Support implementation of strategic aviation system investments that leverage the value of the aerospace industry and commercial travel to the State’s economy.
<p>Education, Outreach, and Community Engagement</p> 	<ul style="list-style-type: none"> ▪ Update the State’s aviation economic impact study and support economic development growth at airports. ▪ Demonstrate the benefits and contributions of the aviation system to local, regional, and statewide economies through educational and stakeholder activities. ▪ Identify collaborative, systematic approaches to enhance airport participation in local, regional and statewide transportation planning activities to recognize multimodal opportunities and needs that support airport activities. ▪ Continue educational outreach programs that facilitate information sharing across the state with pilots, airports, agencies, and organizations regarding aviation subjects ranging from airspace to land use, unmanned aircraft systems/drones, and future topics arising from emerging issues.

GOAL	POLICY RECOMMENDATIONS
<p data-bbox="261 268 623 331">Infrastructure Improvement, Preservation, and Capacity</p> 	<ul style="list-style-type: none"> <li data-bbox="656 268 1399 331">▪ Legislatively direct aviation taxes and fees to fund investments in airport infrastructure. <li data-bbox="656 338 1399 457">▪ Support aviation capacity as a resource from the Legislature and WSDOT by preserving, protecting and enhancing capacity through strategies focusing on airport operations, technology, safety, and land use. <li data-bbox="656 464 1399 590">▪ Emphasize as a priority and continue partnering with the FAA, Washington State Transportation Commission, and others to develop viable solutions to provide adequate future capacity to accommodate documented growth in commercial service demand. <li data-bbox="656 596 1399 688">▪ Continue to provide funding support for pavement, including preservation and maintenance, to continue stewardship of the most critical infrastructure element of the airport system. <li data-bbox="656 695 1399 821">▪ Partner and collaborate with airports and regions identified as having aircraft storage capacity constraints to determine feasible mechanisms, such as a revolving loan fund, that can be used to accommodate facility requirements. <li data-bbox="656 827 1399 890">▪ Continue to seek to implement funding and non-funding airport infrastructure solutions.
<p data-bbox="261 903 477 934">Aviation Innovation</p> 	<ul style="list-style-type: none"> <li data-bbox="656 903 1399 1058">▪ Seek opportunities to develop and continue partnerships to sustain and grow Washington’s prominence in leading aviation innovation, fostering strategies that support education, training, maintenance, and development of innovative technologies in all areas including aerospace manufacturing. <li data-bbox="656 1064 1399 1220">▪ Continue engaging at the national level on unmanned aircraft systems (UAS)/drones policy and regulation to understand the safety, integration, privacy, and community impacts and provide the best possible integration for Washington citizens, airports, and the overall aviation system. <li data-bbox="656 1226 1399 1318">▪ Work with partners and stakeholders to determine whether government should establish policy for zones where UAS activity should be prohibited or regulated. <li data-bbox="656 1325 1399 1388">▪ Host working groups to explore possible future infrastructure needs associated with aircraft innovation.
<p data-bbox="261 1398 623 1461">Modal Mobility, Capacity, and Accessibility</p> 	<ul style="list-style-type: none"> <li data-bbox="656 1398 1399 1554">▪ Increase multimodal coordination, communication, and partnerships between airports and other modal representatives (state, regional, local transportation planning entities) that strengthens connectivity between modal planning and results in identification of policies that support multimodal needs. <li data-bbox="656 1560 1399 1623">▪ Identify signage, access roads, and ground transportation options that can be improved to support airport accessibility. <li data-bbox="656 1629 1399 1692">▪ Pursue a statewide NextGen study that will address challenging airspace issues.

GOAL	POLICY RECOMMENDATIONS
<p>Stewardship</p> 	<ul style="list-style-type: none"> ▪ Develop plans that promote stewardship of the existing investment in airport facilities that include participation by local, regional, and State government, business, and industry organizations. ▪ Support development of airport plans and municipal codes that reflect airport needs, implement land use controls for protection from encroachment, and include business planning and evaluation of revenue opportunities to promote land use compatibility and financial diversification. ▪ Partner with government, communities, academia, and industry to develop aerospace/aviation awareness, networking, and mentoring opportunities. ▪ Continue to grow partnerships and programs to promote general aviation growth.
<p>Sustainability</p> 	<ul style="list-style-type: none"> ▪ Promote sustainable best practices identified on the state and national level that lead to financially and environmentally sustainable development. ▪ Support investment in aviation technologies, including NextGen and biofuels development, to meet future aviation needs and reduce greenhouse gas emissions.

Source: WSDOT Aviation, 2016

9.9 Continuous Planning

In addition to identifying policy recommendations, an important outcome of the WASP is other recommendations that will assist WSDOT with continuing to plan for the future aviation system. As the aviation system is under constant change through internal and external factors, continuous planning is necessary to ensure the future vitality and sustainability of the Washington State aviation system. System plans are typically undertaken at various intervals ranging from 5 to 10 years depending on the needs and changes the system has experienced. If the system is examined or monitored more frequently, on a more continuous basis, WSDOT can appropriately adjust its plans and actions as new information is discovered and continue to adhere to the initial goals and objectives of the WASP.

There are several recommendations related to continuous planning that WSDOT can consider to preserve and enhance the system as well as provide for the longevity of the WASP. Some of these plans require periodic updates based on recurring information such as pavement conditions, while others may need a one-time in depth analysis of the current conditions and potential impacts such as NextGen.

The following presents a summary of continuous planning activities for WSDOT consideration.

9.9.1 Airport Pavement Management System (APMS)

Pavement is one of the most important infrastructure elements of an airport. It is critical, and required by the FAA for obligated airports, that airports have a pavement maintenance management plan,

address the condition of their pavement condition, and identify the status of implementation of maintenance activities as part of grant assurances. Maintenance and preservation of pavements is a significant capital investment and ongoing maintenance allows for repairs that help to extend the useful life of the major investments.

Approximately every five years WSDOT conducts a system-wide study of pavement to assess the relative condition of pavements for selected Washington airports. WSDOT uses this tool to identify system pavement needs, shape programming decisions for federal and state grant aid, provide information for legislative decision making, and assist airport sponsors in making informed planning decisions. The program also develops accurate pavement inventories and identifies necessary maintenance, repair, rehabilitation and reconstruction projects.

WSDOT should continue to conduct system-wide studies of pavement conditions to proactively identify the needs and priorities of individual airports and the system as a whole. By gathering this information regularly, WSDOT can monitor the implementation of appropriate maintenance, which can lead to cost savings. The last Washington APMS was conducted in 2013 and was accompanied by a manual that explained the type of deteriorations and developing and implementing a maintenance and repair (M&R) plan, including obtaining grants for rehabilitation projects.

9.9.2 Economic Impact Study

Economic Impact Studies provide a wealth of information that can be used to educate the local, regional, and state policymakers and general public on the contributions and values of aviation activities. By regularly updating the Economic Impact Study, WSDOT can provide quantifiable data on the economic and fiscal impacts of airports and aviation on a statewide and individual airport basis. The analysis can also demonstrate how aviation supports economic growth and the vitality of the state, including promoting partnership between aviation, elected officials, and organizations. It is recommended this study be updated every five years to accurately reflect the internal and external factors of the system, including the changes that are quantifiable and qualitative.

WSDOT's last Economic Impact Study was published in 2012 and estimated the total impact attributable to airport-related activity at the 135 public use airports included 248,500 jobs, \$15.3 billion in wages and \$50.9 billion in total economic activity. From a fiscal perspective, more than \$791 million in tax revenue was identified as being generated from aviation activities, with over \$548 million supporting the State of Washington general fund. Local governments collect approximately \$243 million in tax revenue.

9.9.3 State Aviation System Plan (WASP)

The WASP is the statewide aviation planning document that provides direction to WSDOT on the aviation system's needs and future development. As with many statewide planning initiatives, regular updates to the WASP are necessary to evaluate the system's function and need for changes in policy and guidance. Updating the WASP allows WSDOT to be proactive in responding to changes in the industry, and provides a strategic direction for the future. The WASP also reaffirms WSDOT's role as an advocate in the preservation of aviation facilities, safe air transportation, capacity, and mitigation of environmental impacts. It is recommended this plan be updated every five years to provide an accurate snapshot of the region and be able to proactively adjust for variations and new trends.

9.9.4 Statewide Capacity Study

As the WASP's capacity analysis revealed, there is a potential deficit in airfield and storage capacity that is anticipated to deteriorate over the next 20 years. The study also provided a cursory examination of air cargo needs which shows projected growth, however, the ability of the system to adequately serve this important segment of aviation was not evaluated. As cargo operations more commonly take place at commercial airports due to their size and available facilities, an airfield and air cargo capacity study may be conducted together. This in-depth analysis of statewide opportunities should be considered to more clearly define potential congestion that can impact the State's economy through inhibiting growth in aviation activities that are critical to the state's success. This subsequent analysis could identify appropriate and implementable strategies that could proactively address capacity issues and industry needs.

9.9.5 Best Management Practices

Through the WASP, WSDOT has established a series of Airport Metrics that identify necessary and recommended infrastructure and practices that should be implemented at airports to achieve the goals and objectives outlined in the WASP. The Airport Metrics can be used to measure an airport's contributions to the system and how each airport impacts the overall system's performance. While the Airport Metrics are tailored to airport classifications, the individual airport metrics can be compiled to evaluate the overall system's performance.

The Airport Metrics are supported by Alternative Airport Strategies that assist airports by identifying a process and a starting point for identifying various strategies that can be used by airports to better serve customer needs, increase airport revenue, create a competitive advantage, and convey the airport's ties to the community. These strategies build on the Airport Metrics, Emerging Issues, and Aviation Activities identified in the WASP and identify a range of alternatives that are focused on infrastructure improvements, education and training, stakeholder collaboration, and industry/community partnerships from which to identify potential areas of opportunity.

The information in the WASP is a framework and is not detailed for use in implementing projects or practices at an airport level. To further aid airports, WSDOT is planning to prepare a "Best Management Practices" (BMPs) publication that will provide more definition and information for airports to consider. These practices can tie into the goals, objectives, and metrics of the WASP to promote individual airports working towards a cohesive aviation system. It is recommended that WSDOT involve multiple stakeholders in the BMP study from professional consultants, current airport managers, industry leaders, and the community to provide information on a variety of topics such as administration, finances, maintenance, and compliance.

9.9.6 Statewide NextGen Analysis

The WASP's emerging issues paper summarized the FAA's plans to continue implementation of NextGen, leading to an enhanced air traffic system that provides benefits to pilots, passengers, airports, and the general public. The Puget Sound Regional Council (PSRC) developed a regional NextGen study to help the region's general aviation airports in preparing to accommodate the new technologies associated with NextGen. While NextGen satellite-based arrival procedures have been implemented at many commercial airports like Sea-Tac, most general aviation airports are not yet realizing the identified benefits of NextGen such as saving fuel, reducing emissions and noise, and improving safety.

A statewide study that evaluated how other airports throughout Washington might benefit and the best ways to implement the technologies would help WSDOT and individual airports understand the impacts on infrastructure and procedures related to the modernization of the national aviation system. The timing of such a study needs to be well coordinated with FAA to ensure the latest policy and implementation plans are considered, providing WSDOT and airports adequate time to plan and complete any related projects to support NextGen implementation.

9.9.7 Land Use Compatibility and Stakeholder Engagement

As evident in many of the policy recommendations and airport metrics, WSDOT places high emphasis on ensuring aircraft can safely operate to, from, and around airports and engaging the public and stakeholders. As part of the WASP, WSDOT has conducted obstruction studies to meet the FAA's latest guidelines utilizing Geographic Information Systems (GIS). Conducting additional studies and obtaining data in this format for more of Washington's airports helps to promote safer operations through identification of clear and protected airspace. The data can also be used as part of a program to continue encouraging local land use compatibility planning and community outreach. These plans can help ensure that future objects do not impact the airspace surrounding an airport or pose other threats and requires the support of the local municipality.

9.10 Summary

The policy recommendations set forth in the WASP establish an agenda for future consideration as WSDOT continues with the planning, programming, and development of the state's aviation system. Each policy recommendation serves as a step towards achieving the established WASP goals. As the recommendations are implemented, it is likely that aviation ties between communities throughout the state will be enhanced and Washington's airports will be poised to better serve their customers, increase revenue, partner, and improve their competitive advantage.

Implementation of policy recommendations will require a partnership. WSDOT Aviation Division, local airports and communities, and other public agencies each have a significant role in the statewide airport system and must work together to achieve the WASP's goals and objectives. The policy recommendations serve as a starting point to work together toward the continued successful development of the aviation system which supports the Washington State's transportation, economic, and safety needs.

In addition to policy recommendations, additional planning efforts needed to support implementation of the WASP were identified. These continuous planning activities identify efforts that can assist in preserving and enhancing the system and provide for the longevity of the WASP's analysis and recommendations.