EXECUTIVE SUMMARY

WASHINGTON AVIATION SYSTEM PLAN (WASP)

Connecting Communities, Moving Our Economy

EXECUTIVE SUMMARY

Washington's aviation system is an economic asset. It connects Washington's communities, no matter how remote, providing critical links to people, goods, and services.

It is a lifeline to and from isolated rural communities, especially for medical and emergency services. It enhances the quality of life for residents in their work and leisure. Our airports connect us to the world, supporting our tourism, trade, and technology sectors—and more.

The Washington Aviation System Plan (WASP), completed in July 2017, updates previous system plans to provide a current look at how the entire aviation system performs and how individual airports interact to contribute to the system as a whole. It builds on prior system plans such as the 2009 Long-term Air Transportation Study (LATS). Funding support for the WASP was provided by the Federal Aviation Administration (FAA).

Because of the breadth and significance of Washington's aviation system, the WASP was fortunate to be informed by a broad range of individuals and organizations who have a stake in its future. The WASP Advisory Committee (participant organization list on back cover of this document) served as a key resource during each step of the WASP's development, including an in-depth assessment of the current system's performance, analysis of emerging issues, and projections of forecasted needs culminating in a set of draft policy recommendations. In addition, WSDOT Aviation received significant comment from the public and local communities that helped improve and refine the final WASP document.

WSDOT's focus is on public-use airports in the state, and includes both commercial and general aviation (GA) facilities Multimodal planning was a key factor in developing the recommendations for the WASP, including integrating aviation into statewide planning, a focus on practical solutions, and highlighting consistency with the Washington State Transportation Plan and other statewide policies.

To see the entire Washington Aviation System Plan, go to http://www.wsdot.wa.gov/aviation/Planning/wasp.htm.

WASHINGTON STATE
PUBLIC-USE AIRPORTS
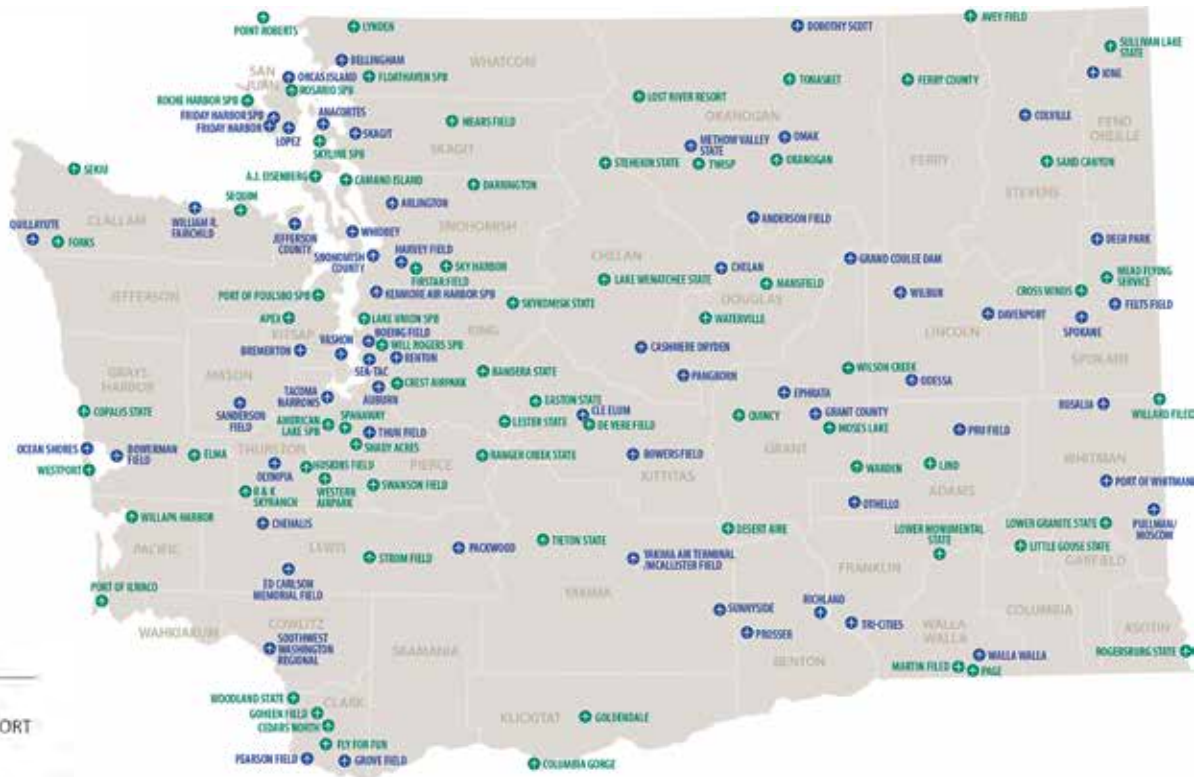
LEGEND

⊕ NPIAS AIRPORT
⊕ NON NPIAS AIRPORT

Source: Washington State
Department of Transportation,
Aviation Division

TOP PRIORITIES OF WASP

Identify issues and evaluate impacts to determine needed airport and system improvements

Develop performance goals and metrics to better meet the aviation needs of communities and the aviation system as a whole

Serve as an effective decision-making tool for the development of policies and recommendations that will advance Washington's aviation system improvements

The WASP Advisory Committee worked together to develop statewide goals and objectives for Washington's aviation system that have served as the foundation for measuring performance at the statewide and airport level. Policy recommendations advance WASP goals and objectives and support performance at the system and airport level.

GOALS

OBJECTIVES

SYSTEM PERFORMANCE MEASURES

AIRPORT METRICS

Policy Recommendations

AVIATION SYSTEM GOALS, OBJECTIVES & PERFORMANCE MEASURES

Where do we want our aviation system to be, and how will we measure its performance?

The first phase of the study included the development of system goals, objectives, and performance measures that define what is important for the system and how the system should be measured and evaluated. Airport metrics are used to measure how the airports are working toward creating a high-functioning element of the entire statewide aviation system. A statewide inventory of the aviation system was conducted for each airport to provide baseline information to inform the needs assessment. The focus on measuring performance also included a task to update airport classifications for the Washington system of airports in order to establish a more useable framework for measuring performance and more clearly define airport roles.

GOALS	OBJECTIVES	SYSTEM PERFORMANCE
AERONAUTICAL & AIRPORT SAFETY	• Attain/maintain WSDOT performance objectives and standards (FAA standards, as appropriate) • Maintain safe/clear approaches • Attain/maintain applicable FAA/state design standards/metrics	• Airports that meet WSDOT airport metrics, including National Plan of Integrated Airport Systems (NPIAS) airports that meet current FAA Design Standards • Airports with clear Part 77 approaches and threshold siting surfaces • NPIAS airports that meet current FAA/state design standards
ECONOMIC DEVELOPMENT & VITALITY	• Support transport of goods and passengers by air, including increasing service opportunities • Collaborate with airport sponsors and other agencies to maintain and support high, stable levels of community economic growth and development • Increase airport tenant revenue growth, including promoting on-airport aerospace manufacturing jobs	• Airports with documented air cargo activity (by type) and strategy/market and airports with growing (>1% per year) commercial airline service • Airports with active development partnerships with chambers of commerce, tourism bureaus, service organizations, industries, governments, and recreational user groups • Airports with business parks or landside real estate development (existing and available) and those with on-site aerospace manufacturing lessees

(CONTINUES)

GOALS	OBJECTIVES	SYSTEM PERFORMANCE
EDUCATION, OUTREACH, & COMMUNITY ENGAGEMENT	• Promote aviation education to enhance safety and community support • Increase community knowledge of the aviation system to communicate airport benefit and contribution to local communities/economies • Promote aviation activities matched to community need	• Airports that host aviation education/schools and communities with aviation educational programs • Airports that host community events that include aviation expert guest speakers related to their airport activities and roles • Airports that host community input programs that solicit feedback on airport meeting community aviation needs
INFRASTRUCTURE IMPROVEMENT, PRESERVATION, & CAPACITY	• Provide aeronautical access to airports during all weather conditions • Maintain airport facilities at established airport classification levels • Plan for new capabilities to meet emerging requirements, including NextGen technologies	• Airports with instrument approaches (by type of minimums, including CAT I/II/III) • Airports making progress toward established objectives/standards for airport infrastructure and safety • Airports that are "NextGen Ready" (parallel taxiway, other facilities)
AVIATION INNOVATION	• Support innovation in the aviation system • Support innovation in aeronautics	• Airports that partner with industry, associations, and academia • Projects that develop new aviation mobility concepts
MODAL MOBILITY, CAPACITY, & ACCESSIBILITY	• Provide adequate ground access to/from airports • Support road capacity access initiatives • Support and improve multimodal connections, including multiple transportation options for users	• Airports that are adequately accessible in terms of signage and access road quality and that provide rental or loaner cars • Airports involved in regional transportation and comprehensive plans • Airports with intermodal options (rail, public transit, seaplane)
STEWARDSHIP	• Protect the investment in the aviation system, including implementing and maintaining current airport planning documentation • Conduct requisite airport infrastructure preventive and corrective maintenance • Advocate local governments for land-use protection and height zoning	• Airports with approved master plan/airport layout plan in last five years • Airports with established preventive maintenance programs • Airports within adopted height and land use zoning for impacted jurisdiction
SUSTAINABILITY	• Reduce environmental impacts • Provide an aviation system that is sustainable • Implement airport financial sustainability measures	• Airports with stormwater pollution prevention plans, recycling programs, alternative fuel vehicles, and noise contours in last 10 years • Airports with sustainability plans that have energy conservation goals • Airports that have implemented financial sustainability measures

CLASSIFICATION SYSTEM

A NEW CLASSIFICATION SYSTEM FOR AIRPORTS WILL HELP BETTER CAPTURE SYSTEM PERFORMANCE

Description	Primary Activities	Factors to Classify Airports
MAJOR	• Commercial service • Aircraft or Aerospace Manufacturing	• Airport Reference Code (ARC) C-III or greater • Primary Activity: Commercial Service and/or Aerospace Manufacturing/ Maintenance, Repair & Overhaul (MRO) • Population over 40,000
REGIONAL	• Corporate GA and Business Travel Commuter Passenger Airline Service	• ARC B-III or Greater • Primary Activity: Corporate GA and Business Travel • Population over 30,000
COMMUNITY	• GA-Personal Transportation/Business and Recreational • Pilot Training	• Not Metro or Regional • Paved Primary Runway Surface • 15 or more Based Aircraft
LOCAL	• GA-Personal Transportation/ Recreational • Pilot Training • Agriculture	• Not Metro or Regional • Paved Primary Runway Surface • Less than 15 Based Aircraft
GENERAL USE	• GA-Personal Transportation/ Recreational including backcountry	• Unpaved Primary Runway Surface (including all seaplane bases)

EMERGING TRENDS & ISSUES

To further inform the aviation system needs assessment, the WASP reviewed in detail a series of emerging trends and issues to determine their potential impact on the system's future activities, policies, and infrastructure needs.

AIRCRAFT INNOVATION

New types of aircraft are likely to emerge over the next 20 years ranging from experimental and light sport aircraft, rotorcraft such as gyrocopters and tiltrotors, electric aircraft, and more. Each of these have their own airport infrastructure requirements.

AIRCRAFT FUELS

Aviation gasoline (AVGAS) 100LL has been the most commonly used fuel by piston aircrafts in the US general aviation fleet. However, it remains the only leaded fuel used in US transportation today. Due to its harmful environmental impact, 100LL is being phased out by the Federal Aviation Administration (FAA) to be replaced by new unleaded fuel for general aviation by 2018[1]. In addition, other fuel options such as gasoline or diesel engines are being considered.

AEROSPACE MANUFACTURING

Washington is a global leader in the aerospace industry. As of 2012, there were about 175 aerospace businesses and an additional 1,175 aerospace-related businesses in Washington, generating about $51.2 billion in revenues and about 132,500 jobs.

PREPARING AIRPORTS FOR NEXTGEN IMPLEMENTATION

The NextGen program being implemented by the FAA makes it possible for aircraft to fly and land during poor weather conditions and low visibility at more airports using satellite navigation. The FAA has set a 2020 deadline making NextGen equipment mandatory for aircraft operating within controlled airspace.

AVIATION INFRASTRUCTURE FUNDING CHALLENGES

In spite of significant infrastructure investments in recent years, there continues to be state and local airport funding challenges.

TRENDS IN GENERAL AVIATION (GA) ACTIVITY

The 2008-2013 economic downturn accelerated the decline of GA activity in the U.S. As economic stability is slowly being restored, the FAA projects slow, steady growth in the GA industry throughout 2035 and that Washington will outperform the U.S. as a whole.

FEDERAL CONTRACT TOWER (FCT) FUNDING CHALLENGES

Annual appropriations to fund the FCT Program, potential changes to the Program's cost-benefit calculation, and a proposed change that would make FCT a nonprofit all present threats to long-term sustainability or continuation of contract control towers as they are operated today. The threat is most apparent to those communities that have lower activity towers and strained financial resources.

UNMANNED AIRCRAFT SYSTEMS (UAS)

As new types of UAS technologies and products emerge, it will be necessary to develop strategies to accommodate UAS while protecting airspace safety and the privacy rights of citizens.

NEEDS

The three pillars of Washington's aviation system are air cargo, commercial airline service, and general aviation.

The performance of each of these three pillars of our system is affected by airports' runway and storage capacity, their physical condition, the adequacy of their infrastructure, and their safety. Our airports' needs are as diverse as the communities they serve. While capacity issues are a growing concern for select airports in the state, many airports are challenged to maintain the condition of their infrastructure.

As of this writing, Washington's system of airports includes over 136 public-use airports owned by cities, port districts, state, counties, or combinations thereof. Their performance is impacted by factors such as future demand, sustainable funding, and emerging issues such as Unmanned Aerial Systems and changes in aviation fuels.

During the development of the WASP, inventories and forecasts were conducted for operations and based aircraft, as well as for commercial service and air cargo to help determine future capacity and other infrastructure needs of the system. This analysis informed the development of statewide and regional strategies to support the performance of the overall system, address emerging issues, and meet capacity needs. Strategies were also developed to help individual airports better serve their customer needs, increase revenue, create a competitive advantage, and enhance ties to their communities.

AIR CARGO

COMMERCIAL AIRLINE SERVICE

GENERAL AVIATION

THREE KEY FINDINGS

AIRFIELD CAPACITY

Overall aircraft operations demand in Washington is forecast to increase from 13.6 percent of statewide capacity in 2014 to 17.1 percent in 2034. Five airports are expected to exceed 60 percent of their annual service volume in 2034 including one commercial service airport. Sea-Tac's ability to accommodate and expand air cargo activities, particularly international freighter service, should be closely monitored.

AIRCRAFT STORAGE & PARKING

Overall storage demand in Washington is forecast to increase statewide by nearly 25 percent by 2034.

About 35 percent (47 of 136) of Washington State airports are expected to have aircraft storage capacity shortfalls by 2034.

AIR CARGO

Most of the growth in air cargo within the state is driven by the increase in international wide-body aircraft air service at Sea-Tac. Sea-Tac is in the process of updating their air cargo forecasts.

POLICY RECOMMENDATIONS

The aviation goals and objectives, alternative strategies, airport metrics, and evaluation of system needs resulted in development of policy recommendations. Where appropriate, the policy recommendations included recommendations from the Washington State Transportation Plan (WTP) 2035 and the previous Long-term Air Transportation Study (LATS).

AERONAUTICAL & AIRPORT SAFETY

- 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 manmade structural obstructions to critical airspace near airports.

- Reconsider the aviation system definition and expand it to include heliports and future 'droneports'.

ECONOMIC DEVELOPMENT & VITALITY

- 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 air 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.

EDUCATION, OUTREACH, & COMMUNITY ENGAGEMENT

- 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.

INFRASTRUCTURE IMPROVEMENT, PRESERVATION, & CAPACITY

- 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.

AVIATION INNOVATION

- 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 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.

- Work with partners and stakeholders to determine whether the 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.

MODAL MOBILITY, CAPACITY, & ACCESSIBILITY

- 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.

- 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.

STEWARDSHIP

- 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 the 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.

SUSTAINABILITY

- 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.

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WSDOT

The Washington State Aviation Division is grateful for the insights and guidance offered by the Washington State Aviation System Plan Advisory Committee:

Association of Washington Business // Aircraft Owners and Pilots Association // Airlift Northwest // Alaska Airlines // Association of Washington Cities // Tri-Cities Airport // Skagit Regional Airport // Federal Aviation Administration // Felts Field // Inland Northwest Aerospace Consortium // Pacific Northwest Business Aviation Association // Pearson Field // Port of Seattle // Recreational Aviation Foundation // University of Washington // Washington Airport Management Association // Washington Association of Counties // Washington Community Airports Association // Washington Pilots Association // Washington Public Ports Association // Washington Seaplane Pilots Association // Washington State Department of Commerce // Washington State Emergency Management Division // Washington State House of Representatives // Yakima Valley Tourism