WSDOT

WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION

ADVANCED AIR MOBILITY AIRCRAFT PLAN

APRIL 2025

Executive Summary

Washington State Department of Transportation (WSDOT) Advanced Air Mobility (AAM) Aircraft Plan

The Advanced Air Mobility (AAM) Aircraft Plan was developed in response to Engrossed Substitute House Bill (ESHB) 1125, Section 213(3), which directed WSDOT to evaluate the feasibility, infrastructure needs, regulatory pathways, and economic implications of incorporating AAM into Washington's transportation network. This report serves as a comprehensive guide to positioning Washington as a leader in AAM, leveraging its existing aerospace industry, multimodal infrastructure, and policy frameworks.

Purpose & Legislative Context

Per ESHB 1125 Sec. 213(3), WSDOT was tasked with exploring the transformative potential of AAM to supplement Washington's transportation system by providing low-emission aviation alternatives, improving regional connectivity, and addressing infrastructure challenges. The report specifically focuses on:

- Defining AAM: AAM refers to innovative air transportation services using electric- or hydrogen-powered aircraft, including Vertical Takeoff and Landing (VTOL), Short Takeoff and Landing (STOL), and Conventional Takeoff and Landing (CTOL) aircraft. These aircraft aim to enhance passenger mobility, cargo logistics, emergency response, and last-mile connections.
- Infrastructure Readiness: Existing aviation infrastructure, such as general aviation airports and heliports, could be modified to support AAM operations. However, new vertiports—specialized landing and charging facilities—will be necessary to accommodate increasing operational demand. The study assesses Washington's readiness and identifies investment needs.
- Regulatory Coordination: Given the evolving nature of AAM policy at the Federal Aviation Administration (FAA) level, the plan examines how state agencies can work collaboratively to ensure seamless integration while complying with national standards.
- Economic and Environmental Impacts: AAM presents new economic opportunities in aerospace manufacturing, air cargo, and multimodal transportation, potentially positioning Washington's aviation and clean energy sectors as national leaders. The plan also outlines sustainability benefits, including reduced greenhouse gas emissions and noise pollution.

Key Findings & Implementation Pathway

Washington's strong aerospace industry, commitment to clean energy, and multimodal transportation assets make it a prime candidate for AAM expansion. However, early adoption will require targeted investments, public-private collaboration, and a clear policy framework. The report outlines a phased implementation approach:

1. Near-term (2026-2030)
    - FAA Certification: Early VTOL and STOL aircraft expected to receive regulatory approval.
    - Initial Infrastructure Modifications: Airports and heliports upgraded for preliminary AAM operations.
    - Strategic Vertiport Development: First-generation vertiports planned in urban, suburban, and transit-adjacent locations.
    - Public Awareness & Stakeholder Engagement: Outreach to local governments and transportation agencies.
2. Mid-term (2030-2040)
    - Expansion of AAM Networks: Deployment of regional air mobility services to connect underserved areas.
    - Integration with Statewide Transportation Plans: AAM incorporated into Washington's long-term multimodal strategy.
    - Automation & Traffic Management: Advances in airspace coordination and automation will enable higher-frequency operations.
3. Long-term (2040-2050)
    - Statewide Vertiport Network: Fully functional AAM facilities integrated across Washington.
    - Widespread Autonomous Operations: Transition to fully automated aircraft, streamlining air mobility.
    - Sustainable Energy Corridors: Hydrogen and electric aviation infrastructure linked to Washington's clean energy ecosystem.

Policy Recommendations

To facilitate AAM development, the report proposes the following policy

strategies:

1. Legislative Alignment
    - Integrate state and federal policies to support AAM regulatory evolution.
    - Update Washington's aviation and transportation laws to accommodate VTOL aircraft, vertiport siting, and autonomous aviation systems.
    - Secure funding for statewide vertiport development via grants, public-private partnerships, and federal programs.
2. Infrastructure Investment
    - Prioritize vertiport deployment in key urban, suburban, and rural regions.
    - Invest in high-voltage charging and hydrogen fueling infrastructure for AAM aircraft.
    - Establish public-private partnerships to accelerate vertiport construction.
3. Stakeholder & Public Engagement
    - Conduct public outreach to address concerns about safety, noise, and airspace integration.
    - Build collaborative working groups with local governments, industry leaders, and academic institutions to inform policy decisions.
    - Develop accessibility frameworks to ensure AAM benefits all communities, including rural areas and underserved populations.

Conclusion

The WSDOT AAM Aircraft Plan establishes a strategic vision for Washington to embrace next-generation aviation technologies, improving mobility, sustainability, and economic resilience. By investing in vertiport infrastructure, refining regulatory frameworks, and fostering multimodal integration, Washington can position itself as a national leader in Advanced Air Mobility, unlocking economic opportunities and environmental benefits that align with statewide transportation goals.

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ADVANCED AIR MOBILITY AIRCRAFT PLAN

1. ENVISIONING ADVANCED AIR MOBILITY

Advanced Air Mobility or "AAM" is an emerging transportation mode that offers an alternative to the way we build and operate aircraft. AAM offers new aircraft that rely on electricity from batteries or hydrogen fuel cells to create reduced- or zero-emission aviation. AAM proposes new aviation markets that feature on-demand aviation services to support passenger mobility, goods delivery, and emergency response in diverse locations—from densely populated urban centers to hard-to-reach remote locations (Cohen et al., 2021; Reiche et al., 2018).

What is AAM?

NASA defines AAM as "an air transportation system that moves people and cargo between places previously not served or underserved by aviation – local, regional, intraregional, urban – using revolutionary new aircraft that are only just now becoming possible."

AAM capitalizes on the timely convergence of new technologies and industry investments in electrification, automation, emerging aircraft—including vertical takeoff and landing (VTOL) aircraft, uncrewed aerial systems, and air traffic management that can foster innovations such as new aircraft, passenger and cargo transportation services, and other aviation business models (Cohen et al., 2021).

1.1 Planning for the Future

The following AAM Aircraft Plan presents an overview of AAM and its potential role in supplementing Washington's multi-modal transportation system to increase connectivity for people and cargo statewide and beyond.

Rethinking Aviation Based in Vancouver, Canada, Harbour Air is developing a conventional passenger aircraft that use rely solely on electrical power.

1.1.1 About the AAM Aircraft Plan

In response to federal and statewide initiatives to explore AAM development, the Washington State Department of Transportation's (WSDOT's) Aviation Division undertook research, convened a Technical Assistance Committee (TAC), and developed the following AAM Aircraft Plan. TAC members from the following businesses and agencies were invited to participate in the TAC: members represented the following businesses and agencies:

- Federal Aviation Administration (FAA)
- Aircraft Owners and Pilots Association (AOPA)
- General Aviation Manufacturer's Association
- National Business Aviation Association (NBAA)
- Pacific Northwest Economic Region (PNWER)
- Washington Department of Transportation (WSDOT)
- Washington State Department of Commerce
- Washington State Transit Association
- Port of Benton
- Port of Everett
- Port of Longview
- Port of Moses Lake
- Port of Walla Walla
- King County
- Snohomish County
- City of Arlington
- City of Chehalis
- Colville Airport
- Spokane Airport
- Archer
- Eviation
- Joby Aviation
- Wisk Aero
- State Energy Office
- Washington Office of Equity
- Washington State Department of Ecology

1.1.2 AAM Aircraft Plan Objectives

Project-related research was presented to the TAC for review and discussion during a series of four meetings to address the following objectives:

- Evaluate the opportunities and challenges associated with incorporating AAM into the State's multi-modal transportation network safe, sustainable, and equitable manner.
- Develop a near-term policy plan to advance AAM at a statewide level. The AAM Aircraft Plan will help the State to coordinate, collaborate, and implement actions to achieve outcomes beneficial to Washington residents.

The following plan summarizes the agency findings and identifies policy recommendations to further the development of Advanced Air Mobility and underscores the State's commitment to being a leader in the aviation and aerospace industry.

1.2 Envisioning an AAM Ecosystem

AAM is an emerging transportation mode that would include the use of new technology, new infrastructure, and operations in new markets and new places. Although AAM includes the use of aircraft, it would function not simply as aviation, but as a complementary mode that links aviation to other modes and geographies. The following sections describe anticipated AAM aircraft, infrastructure, and its divergence from conventional aviation aircraft and infrastructure.

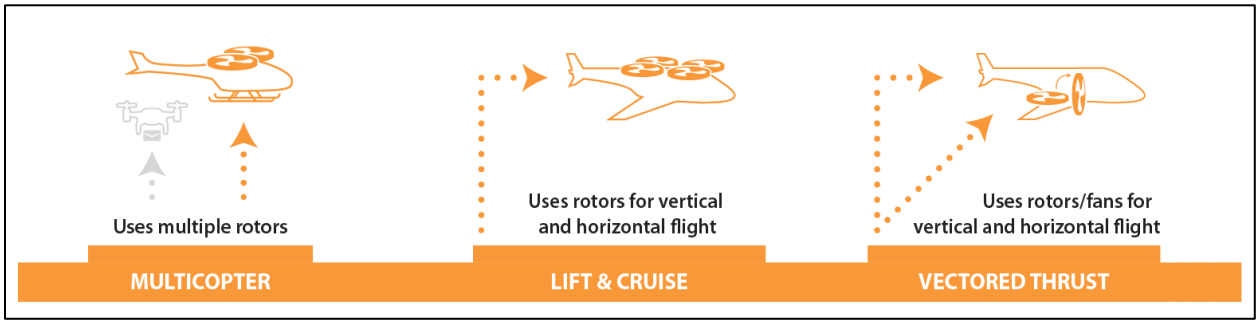
1.2.1 An Emerging Aircraft Paradigm: Aircraft with or without Airports

AAM aircraft designs differ from traditional aircraft in several ways. First, AAM features the use of emerging electric or hydrogen-powered engines, some of which can operate using shorter runways or without runway. Three types of AAM aircraft include:

- **CTOL – Conventional Takeoff and Landing aircraft:** Fixed-wing aircraft that include new technology but require runways and airports for takeoff and landing.
- **STOL – Short Takeoff and Landing aircraft:** Aircraft that require up to 500 feet for takeoff and landing. STOL aircraft do not necessarily require paved runways, making them well suited for emergency and military transport.
- **VTOL – Vertical Takeoff and Landing aircraft:** Aircraft that operate similarly to helicopters and can take off and land without runways.

The emergence of Distributed Electric Propulsion (DEP) systems is central to AAM, and the term "AAM" has become synonymous for aircraft operations that feature electric controllers, battery systems, and are capable of electrically powered vertical takeoff and landing. Such aircraft fall into three categories: multicopter, lift and cruise, and vectored thrust (**Figure 1-1**).

Figure 1-1: AAM Aircraft Categories



Source: ACRP, 2024.

At the beginning of 2025, approximately 600-800 companies were identified in the AAM industry, but only a small number will be able to deliver an aircraft that could be certified by the FAA and made ready for production at an industry scale by 2026. Top-rated firms for achieving these goals for passenger transport include Joby Aviation, Archer, Eve Air Mobility, Pipistrel, and Wisk (Boeing). Top-rated OEMs identified for cargo transport include Beta Technologies and Pipistrel (AAM Reality Index, 2025).

Environmental Benefits

The use of eVTOL aircraft powered by electric- or hydrogen-powered engines has the potential to offer environmental benefits such as:

- **Reduced or Zero Emission Operations**: Electric- or hydrogen-powered aircraft engines provide reduced or zero emissions during operation, thereby reducing the amount of aviation-related greenhouse gases (GHGs) produced. Reduced or zero emission operations further industry efforts toward more sustainable aviation.
- **Comparatively Quieter Operations**: Compared to combustion engines, electric- or hydrogen-powered aircraft are comparatively quieter and can potentially reduce aircraft noise exposure.
- **Greater modal integration:** Since STOL and VTOL aircraft do not require traditional runways for takeoff and landings, these aircraft offer new opportunities for first-/last-mile transportation connections. As AAM emerges, it will be important to integrate AAM operations with existing transportation hubs, such as multimodal centers and ride-sharing services. (Caltrans 2024).

1.2.2 New Infrastructure

AAM will require an extensive infrastructure network. During initial operations, at least one end of an AAM trip is likely to occur at an airport, but new facilities will be needed to accommodate AAM operations outside of airports and heliports as operations increase and new aircraft are added to the fleet. New locations for eVTOL takeoff and landing, referred to as "vertiports," will be similar to heliports and categorized by FAA as a new and specialized type of vertiport (AAAE, 2025). Vertiports are envisioned for development in urban and suburban areas in association with multimodal transportation hubs, such as transit centers, train stations, event venues, and near highway corridors. In rural areas, AAM is envisioned to increase access to nearby cities, medical facilities, and provide links to other transportation facilities such as regional airports and passenger rail facilities (see Chapter 2).

Vertiports

The FAA defines a vertiport as special type of heliport. Typical components associated with a vertiport would include designated areas for aircraft parking, charging facilities, and other components identified in FAA Engineering Brief (EB) 105A, Vertiport Design (see Section 4.2 for more details).

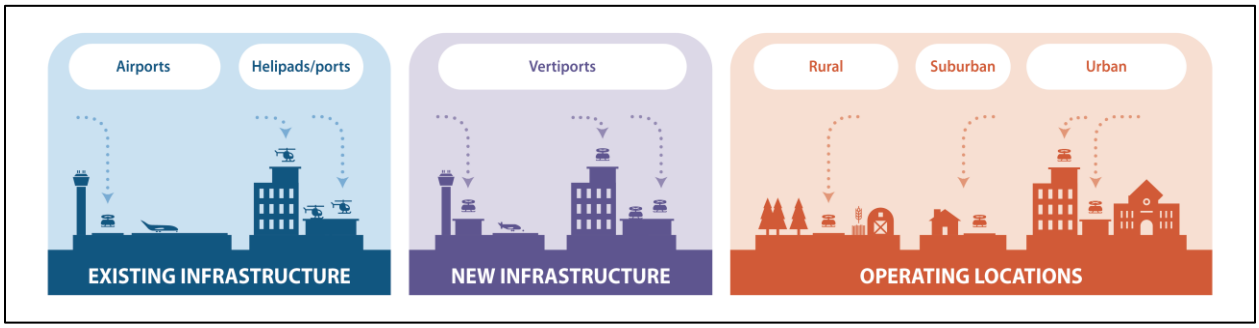
Vertiport: An area of land, water, or a structure used, or intended to be used, to support the landing, takeoff, taxiing, parking, and storage of powered-lift aircraft or other aircraft that the vertiport design and performance standards established by the Administrator can accommodate (FAA, 2024).

Although not defined in EB 105A, some variations in terminology are proposed in industry literature to describe the scale of proposed AAM operations and to identify the size of the vertiports that support various operational tempos. In such cases, the term "vertiport" is used as an umbrella term to include variations, such as:

- **Vertistop:** A minimally developed vertiport for boarding and discharging passengers and cargo (i.e., no fueling, defueling, maintenance, repairs, or storage of aircraft, etc.) (ACRP, 2024).

- **Vertihub:** An area of land or a structure that supports high-frequency electric, hydrogen, and hybrid VTOL operations with associated buildings and facilities. A vertihub would include multiple takeoff and landing positions, multiple aircraft parking positions, passenger amenities, charging infrastructure, battery/hydrogen-fuel cell swapping capability, thermal management, maintenance, repair, and overhaul services (MROs), battery pack changes, and high-speed data operations (FAA 2024).

Figure 1-2: Conceptual Vertiport Facilities and Locations

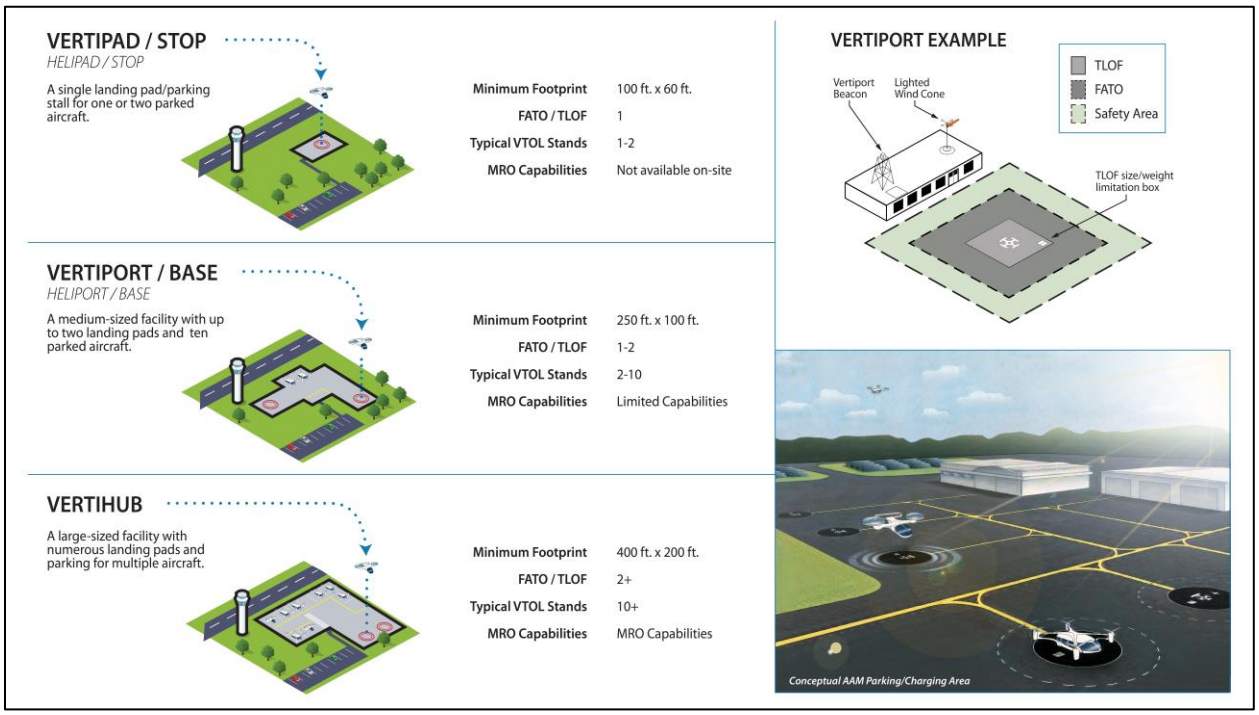


Source: Modified from ACRP, 2024.

Since vertiports will require substantial electric infrastructure for charging, some experts envision that vertiports and vertihubs will also serve as multimodal facilities that could integrate electric vehicle charging and a depot for shared automated vehicles (Cohen and Shaheen, 2024). It is imperative that vertiport siting be performed to ensure safety to passengers, non-passengers, and property, which will require planning and collaboration with local governments and agencies (Ison, 2023). Estimates for facility sizes are shown in **Figure 1-3.**

The Mineta Transportation Institute recently published a framework for vertiport site suitability analyses. Broadly, the framework recommended that public agencies conduct preliminary use case analysis with high-priority considerations for vertiport placement. This process includes acquiring data such as zoning, census statistics, and infrastructure, conducting analysis, incorporating findings into land use planning, and engaging stakeholders on the potential impacts of vertiport placement (Wei et al, 2023).

Figure 1-3: AAM Facility Classification



Source: Modified from ACRP, 2024.

Energy and Other Infrastructure Needs

AAM aircraft—CTOL, STOL, and VTOL—are typically powered by electricity from batteries or hydrogen fuel, and these power needs could be significant as the tempo of operations increases. Although Washington has already initiated efforts to develop new energy sources for aviation (see section 1.5) and previous studies have indicated that sufficient electrical power is available at some of Washington's general aviation airports (WSDOT 2022), it is unlikely that all airports or proposed vertiport locations have the necessary infrastructure to meet the voltage and charging rate demands of electric aircraft. The ability to get adequate electric power to a vertiport will be a critical consideration when initiating operations, modifying existing infrastructure (airports and heliports), or siting new vertiports. New fee structures may also be required.

According to the 2019 NIA-NASA Urban Air Mobility (UAM) Electric Infrastructure Study, the typical airport electrical infrastructure requirements for vehicle charging include a concrete pad to accommodate electrical components that is 500 feet long by 170 feet wide and supports a minimum of three 600-kilowatt (kW) eVTOL vehicle chargers (Black & Veatch, 2019). Depending on the number of chargers and power demand, the utility distribution system at a vertiport site may need to be upgraded to alleviate overloading the equipment during peak charging. High-voltage, fast-charging infrastructure will be needed for each parking position, meaning that the amount of energy will increase as the tempo of AAM UAM operations increases.

The National Renewable Energy Laboratory (NREL) conducted several studies sponsored by the FAA pertaining to AAM. A 2023 study, *Vertiport Electrical Infrastructure Study,* includes research to identify the electric load demands associated with introducing eVTOL. When considering electrical infrastructure upgrade needs, NREL contacted several OEMs who reported peak direct-current charging loads of 300 kilowatts (kW) to 1 megawatt (MW), and it recommended that vertiports plan for charging loads of 1MW or higher (NREL, 2023).

In addition to charging facilities, other power and infrastructure will be required to support forthcoming AAM operations:

- Battery swap or hydrogen fuel cell swap facilities
- Battery cell recycling
- Thermal management/cooling capabilities
- Aircraft rescue and firefighting (ARFF) facilities/training for local firefighters
- High-speed data processing and cybersecurity

Cybersecurity systems will be critical for aircraft electrification. The FAA sponsored a study by NREL to evaluate key considerations of cybersecurity systems, including the stakeholder landscape associated with energy storage systems onboard aircraft. The study, *Addressing Electric Aviation Infrastructure Cybersecurity Implementation,* considers ground vehicles relevant to the aviation sector and the facility requirements applicable to future charging systems. In addition, the report offers guidance for integrating cybersecurity strategies during the initial stages of design and procurement to make operational infrastructure more defensible and resilient (NREL, 2022).

1.3 New Aviation Uses

Emerging AAM aircraft can accommodate a variety of built environments and support a variety of uses. Urban Air Mobility (UAM) use cases, such as flights supporting air taxi service in urban/suburban areas, may span 50 miles or less. Regional air mobility (RAM), which would enable passenger travel or cargo transport between regional population centers or connect rural areas to urban centers, may span distances up to 500 miles. The various roles or use cases associated with AAM can support passenger mobility, logistics and goods delivery, aeromedical services, emergency response or disaster relief operations, and other professional and industrial uses (Cohen et al, 2024).

Table 1-1 provides a more detailed description of envisioned and emerging use cases.

Table 1-1: Envisioned AAM Use Cases

Use Case	Description
Urban Air Mobility (UAM)	
Airport Shuttle	Scheduled or on-demand transport between major and regional airports and between city centers or suburban locations. During the early stages of AAM implementation, it is anticipated that most trips will originate or end at an airport.
Air Taxi (on-demand)	On-demand air taxi uses are envisioned to transport people within a city or its metro region. Air taxis could originate at airports or employment centers to accommodate one or multiple passengers.
Corporate Aviation	Transportation between corporate campuses and business destinations, interfacility corporate transport, regional campus transport, campus-to-customer transport, and specialist team mobility.
Local Package Delivery	Transportation of small packages and on-demand commerce from or between airports, distribution centers, manufacturers, and retailers to end consumers.
Emergency Services	Medical services transportation, including medical evacuation, hospital-to-hospital, and equipment transportation, organ delivery, and search and rescue. Both VTOL and small unmanned aircraft systems (sUAS) are envisioned for this use case.
Regional Air Mobility (RAM) Mission and Use Cases	
Regional Airport Shuttle	Scheduled or on-demand transportation between major and regional airports. Regional service could enable travelers to reach airports in remote areas or airports not served by the FAA's Essential Air Service Program.
Emergency Response / Disaster Recovery	Emergency response could include medical evacuation, hospital-to-hospital patient transport, medical equipment transport, and organ delivery across regions. In addition, Regional Air Mobility (RAM) could support search and rescue operations, emergency evacuation, or disaster recovery operations using available (and often underutilized) airports in remote areas. RAM operations could also support Emergency Response and Disaster Recovery if transportation facilities become damaged or unavailable due to natural disasters or extreme weather events.
Cargo and Freight Delivery Mission	
Logistics/Goods delivery	Transportation of heavy cargo, freight, and on-demand commerce between airports, distribution centers, and manufacturers and from retailers to consumers. Can also be used to support intermodal goods delivery for next-/last-mile connections

Source: Adapted from Cohen et al, 2024; Caltrans 2024.

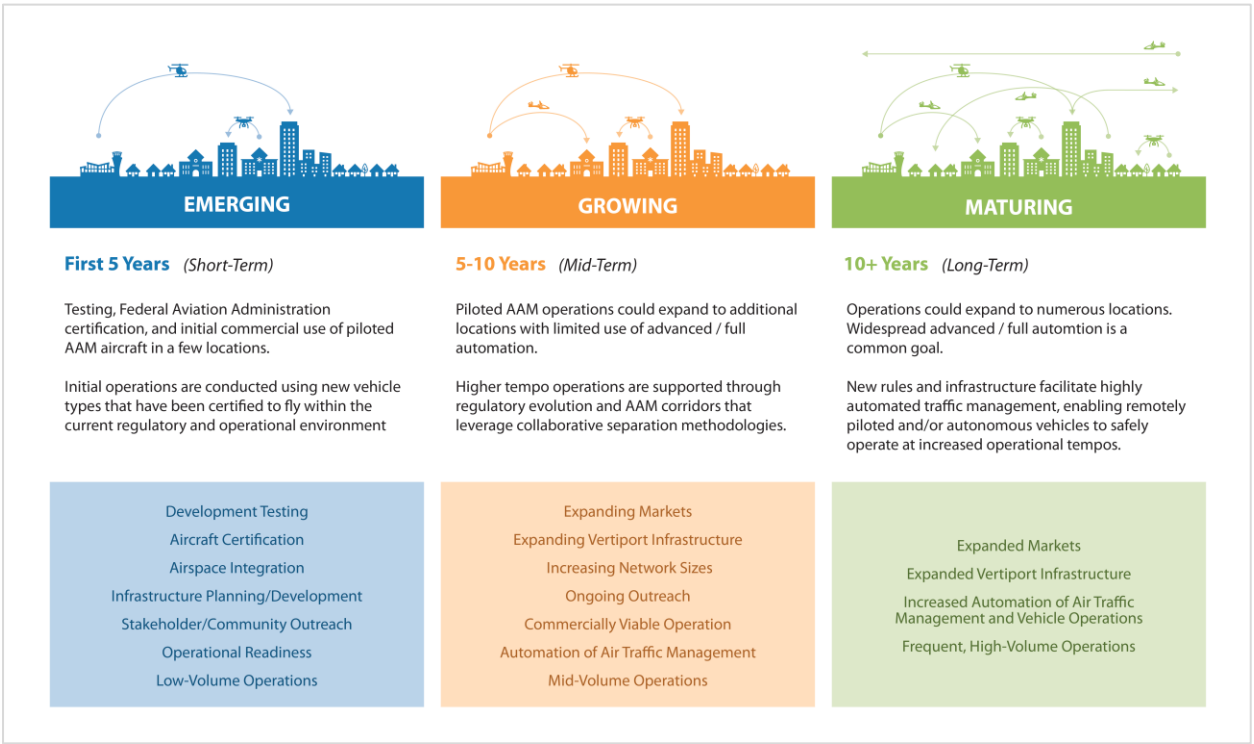
1.4 Envisioned Implementation and Timeframe

The FAA has proposed a "crawl-walk-run" approach to AAM deployment. The approach recognizes that AAM will be deployed by integrating existing aviation operations and available infrastructure with only slight modifications. While the FAA envisions integrated AAM operations at one or more key locations by 2028, it may be possible that some aircraft may be certified for operation as soon as 2025 and enter service before 2028. However, aircraft certification is only one step towards commercial operations, which also require operators' certification and the needed physical and digital infrastructure to enable safe flight. The FAA is working to support these initial efforts while developing a path for implementing more advanced concepts to support increased automation, an increased frequency of operations, and integration in the National Aviation System. AAM operations are anticipated to reach maturity over 20 to 30 years. Emerging technology will be the primary catalyst for infrastructure development and the identification of operational routes. The issues that will most influence the evolution of AAM routes and operations include:

- The use of crewed and uncrewed aircraft operations,
- Airspace integration and the pace of operation, and
- Available transportation and energy infrastructure. (FAA 2023a)

The timeline depicted in **Figure 1-4** offers an estimated timeline for AAM deployment and phasing.

Figure 1-4: Relative timeline for AAM Deployment.



Source: ACRP, 2024.

1.5 Meeting the Future: Washington's Aviation Edge

1.5.1 Pride for its Aviation History

Washington has supported the dynamic aviation and aerospace industries for more than 100 years. The State is home to The Boeing Company (Boeing), which remains a leader in civil and military aircraft production and continues to support the nation's defense and airspace industries. Looking ahead, Boeing has partnered with Wisk to support AAM development.

The contribution of Boeing and other aviation industry firms has helped Washington to be ranked consistently as the No. 1 State for aviation and aerospace manufacturing by Aerodynamic Advisory; but it is not only manufacturing that contributes to Washington's success. In the two most recent versions of the Aerospace Competitive Economics Study (ACES, 2022), Washington was identified as the most competitive business environment for aerospace manufacturing based on several factors including the availability of labor and education, the presence of the aerospace industry, and its record performing research and innovation. In addition to Boeing, Washington's Seattle-centered aerospace production cluster includes three counties (Snohomish, King, and Pierce), which include dozens of Boeing suppliers as well as emerging aerospace technology companies. The strong partnerships between industry and education will help the State to maintain its strong base of qualified aerospace employees (ACES, 2022).

Enthusiasm for the Future

Washington continues to look forward through an aviation lens. For a decade, WSDOT, elected officials, and local agencies have worked to position the state as a leader in forthcoming AAM operations. Through previous and ongoing study, collaboration, and funding, Washington has set itself up to be an early adopter of AAM. Previous efforts include:


TAC PRO

May 31, 2023

theaircurrent.com

BOEING TAKES WISK FULLY UNDER ITS WING

BY JON OSTROWER & ELAN HEAD

WISK'S GEN 6 FULLY AUTONOMOUS EVTOL IS NOW BOEING'S CLEAN SHEET PASSENGER AIRCRAFT DESIGN FOR THIS DECADE

After years of waffling and speculative commitments to next-generation technologies and new aerospace entrants, Boeing has formally adopted Wisk, bringing the autonomous air taxi aspirant fully under its strategic ownership.

Wisk CEO Brian Yutko, who was Boeing's chief engineer of sustainability and future mobility before taking the reins of the electric vertical take-off and landing developer in February, announced the development at a Boeing media event in South Carolina on May 31. He declined to share the terms under which Boeing bought out its joint venture partner Kittyhawk, the pioneering eVTOL developer funded by Google billionaire Larry Page.

Boeing and Kittyhawk established Wisk in 2019, with Boeing as the majority investor, to develop Kittyhawk's Cora eVTOL, the two-seat predecessor to the four-seat "Generation 6" aircraft that Wisk unveiled last year. Kittyhawk, which was independently pursuing its own autonomous eVTOL projects,

TAC PRO

Boeing is partnered with Wisk, an AAM OEM who is well positioned to develop the first autonomous eVTOL aircraft for certification.

Source: TAC PRO, May 31, 2023

Artist Rendering of F-47.

The Boeing Company continues to be central to the economies of King County, Washington State, and the nation. In early 2025 Boeing's Defense division was selected by the U.S. Government to manufacture the Boeing F-47 stealth fighter jet, galvanizing the company's role as a leader in aviation nationwide.

Source: U.S. Air Force press release, March 21, 2025

- *Washington Electric Aircraft Study* (WSDOT, 2018), which explored electric aircraft service and infrastructure to incorporate aircraft operations throughout the State;
- *Washington Electric Aircraft Feasibility Study* (WSDOT, 2022), which considered methods to estimate future energy and power demands for electric aircraft operations at two regional airports.
- *Supporting OEMs/AAM Entrants*. Washington-based OEMs include, but are not limited to, Wisk, Eviation, MagniX, and nearby Vancouver-based Harbour Air.
- *Pacific Northwest Economic Region's (PNWER's) Regional Infrastructure Innovator (RIA)*. The RIA focuses specifically on multistate and multi-jurisdictional initiatives that advance resilient supply chains, connect urban and rural communities, and accelerate economic growth (PNWER). In addition to considering the critical role of aviation in State and national supply chains, PNWER has explored the role of AAM in recent supply meetings and events.
- *Innovation in Securing Federal Funding and Congressional Support.* The City of Chehsalis was recently awarded an approximately $1M grant to support a proposed hydrogen fueling facility as part of the proposed Chehalis Hub for Aviation Innovation and Sustainable Energy (CHAISE) at the Chehalis-Centralia Airport. The City has also requested funds to plan and construct 10 multimodal chargers at six public-use airports in and around the Seattle-Tacoma Bellevue metropolitan area and the larger Puget Sound Region. These efforts have gained the ongoing support of U.S. Senator Maria Cantwell and others.

The following AAM Aircraft Plan recognizes the State's leadership in aviation innovation, and it builds upon efforts to provide a policy roadmap leading to the initial development and operation of AAM during the next three to five years. The proposed roadmap incorporates input and links to other statewide plans, such as the Washington Aviation System Plan and the Washington Transportation Plan, to provide a framework that supplements existing systems and infrastructure and addresses known transportation needs.

2. AVAILABLE INFRASTRUCTURE

To enable near-term implementation, AAM is anticipated to use existing infrastructure, such as heliports, commercial service airports, and underutilized General Aviation (GA) airports, although modifications/ enhancements will likely be required. New infrastructure will be essential as new aircraft and new use cases for AAM emerge, as operations occur outside of aviation facilities. Chapter 2 considers existing transportation infrastructure that could be used to facilitate the integration of AAM by:

- Summarizing the State's multimodal transportation system and associated infrastructure; and
- Considering notion AAM facility siting and operation.

2.1 Transportation System Overview

The Washington Transportation Plan 2040 and Beyond identifies the following vision:

> *Washington's Transportation system safety connects people and communities fostering commerce and economic opportunity for all, operating seamlessly across boundaries, and providing travel options to achieve an environmentally and financially sustainable (WSDOT WTP 2040).*

WTP 2040 provides a framework for statewide, regional and local transportation plans including subsequent modal plans, regional transportation plans, and local comprehensive plans. The four Focus Areas and Action Items associated with WTP 2040 are:

- Maintain and Preserve Assets
- Manage Growth and Congestion
- Enhance Multimodal Connections and Choices
- Align Funding Structure with Multimodal Vision.

The following discussion provides an overview of Washington's transportation system assets as drawn from the subsequent modal plans that comprise WTP 2040.

2.1.1 Aviation

That State of Washington supports a diverse aviation system upon which residents rely—especially those in rural communities. The system includes a total of 134 commercial and GA public-use airports, 64 of which are included in the National Plan of Integrated Airport System (NPIAS) and are eligible to receive federal funding through the Airport Infrastructure Program (AIP) and state funding from the Airport Aid Grant Program (plus local matches).

The State classifies airports according to a five-level classification system reported in the 2017 WASP (see **Table 2-1**).

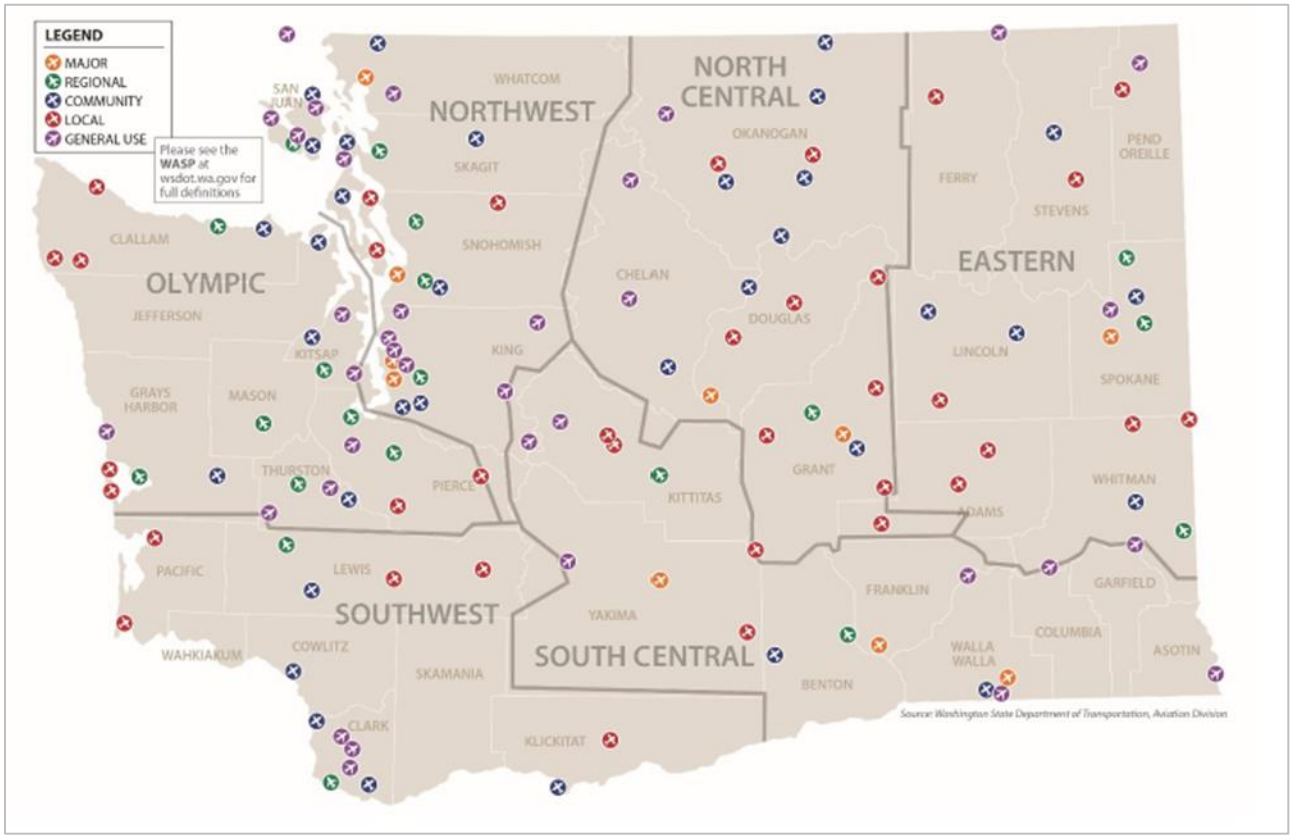
Table 2-1: Washington State Airport Classifications

Category	Description
General Use (26%)	Airports with GA-personal transportation or recreational (including backcountry) as primary activities and include unpaved runway surfaces.
Local (27%)	Airports with GA-personal transportation or recreational, pilot training, and agriculture as primary activities and a paved primary runway surface, less than and 15 based aircraft. Local airports are neither metro nor regional airports.
Major (7%)	Airports with commercial service, aircraft or aerospace manufacturing, and maintenance, repair, & overhaul (MRO) as primary activities, designated with airport reference code (ARC) C-III or greater, a population over 40,000.
Regional (15%)	Airports with corporate GA, business travel, and commuter passenger airline service as primary activities, designated as ARC B-III or greater, and a population over 30,000.
Community (25%)	Airports with GA-personal, transportation/business, recreational, and pilot training as primary activities, include a paved primary runway surface, support less than 15 based aircraft, and are not metro nor regional.

Source: Washington Aviation System Plan, 2017. Available at: https://wsdot.wa.gov/sites/default/files/2021-10/aviation-washington-aviation-system-plan-summary.pdf

As described in the Washington Aviation System plan, the three pillars of Washington's aviation system are air cargo, commercial airline service, and general aviation use, all of which may be influenced or affected by forthcoming AAM aircraft operations (WASP, 2017). **Figure 2-1** identifies airports by classification.

Figure 2-1: Washington Aviation System Airports



Source: WASP, 2017

2.1.2 Public Transportation

Public transportation is an umbrella term that includes a variety of integrated transportation modes to support the transportation of people. Public transportation modes include, but are not limited to, passenger ferry service, light rail, streetcar, monorail, intercity rural bus service, vanpool, and Medicaid and non-emergency transportation. Corresponding infrastructure includes ferry vessels and terminals, public roads, transit centers, buses, bus shelters and stops, bus rapid transit platforms, bike parking and storage, train tracks for light and monorail, etc. (WSDOT, 2018b). In 2016, the state public transportation system served 221 million passengers through:

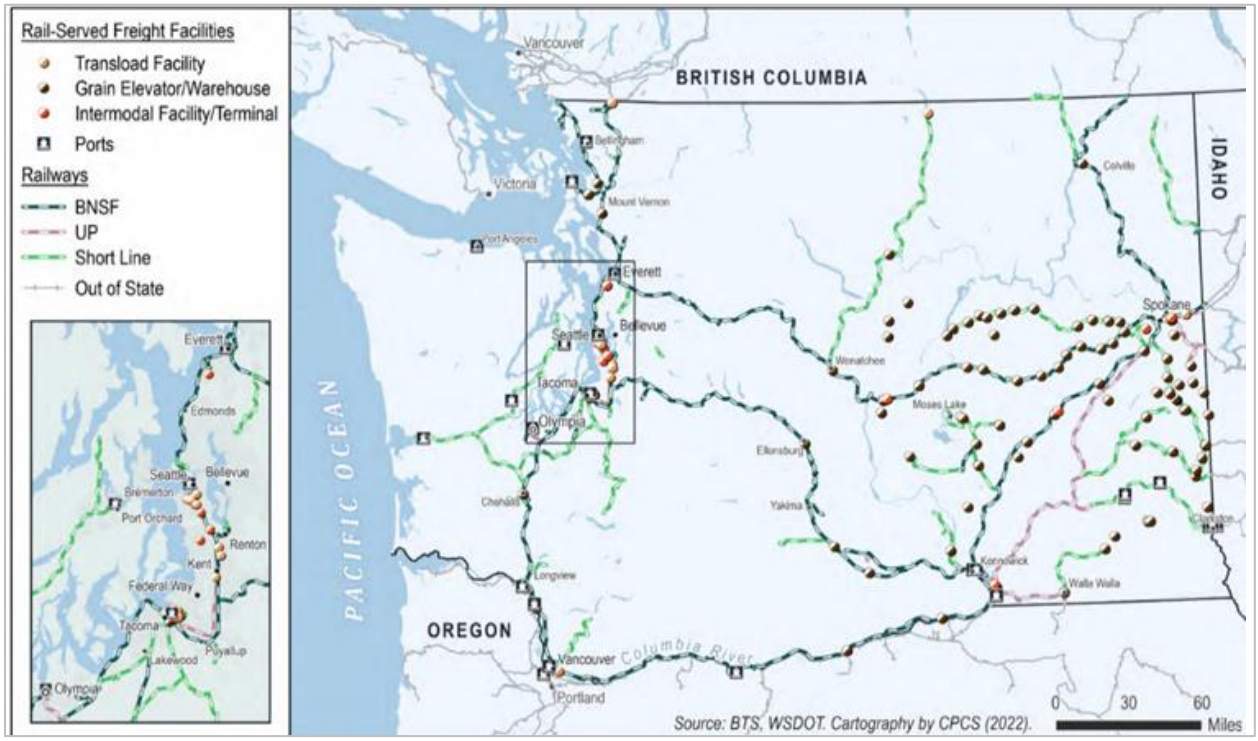
- Thirty-two local transit systems spanning 28 counties.
- Six Medicaid brokerages serving all 39 counties.
- Seven privately operated inter-city services.
- Fifty community and specialized transportation services.
- Twelve tribal government public transportation services.
- A total of 238 park-and-ride facilities. (WSDOT, 2018b)

The State's long-distance transit routes are a critical asset that serves those without vehicles, residents of rural areas, and low-income persons. Transit services enable users to access a variety of services/destinations such as tribal centers, military bases, college and universities, hospitals and major medical centers, commercial airports, and correctional facilities (WSDOT, 2018a).

2.1.3 Rail Facilities

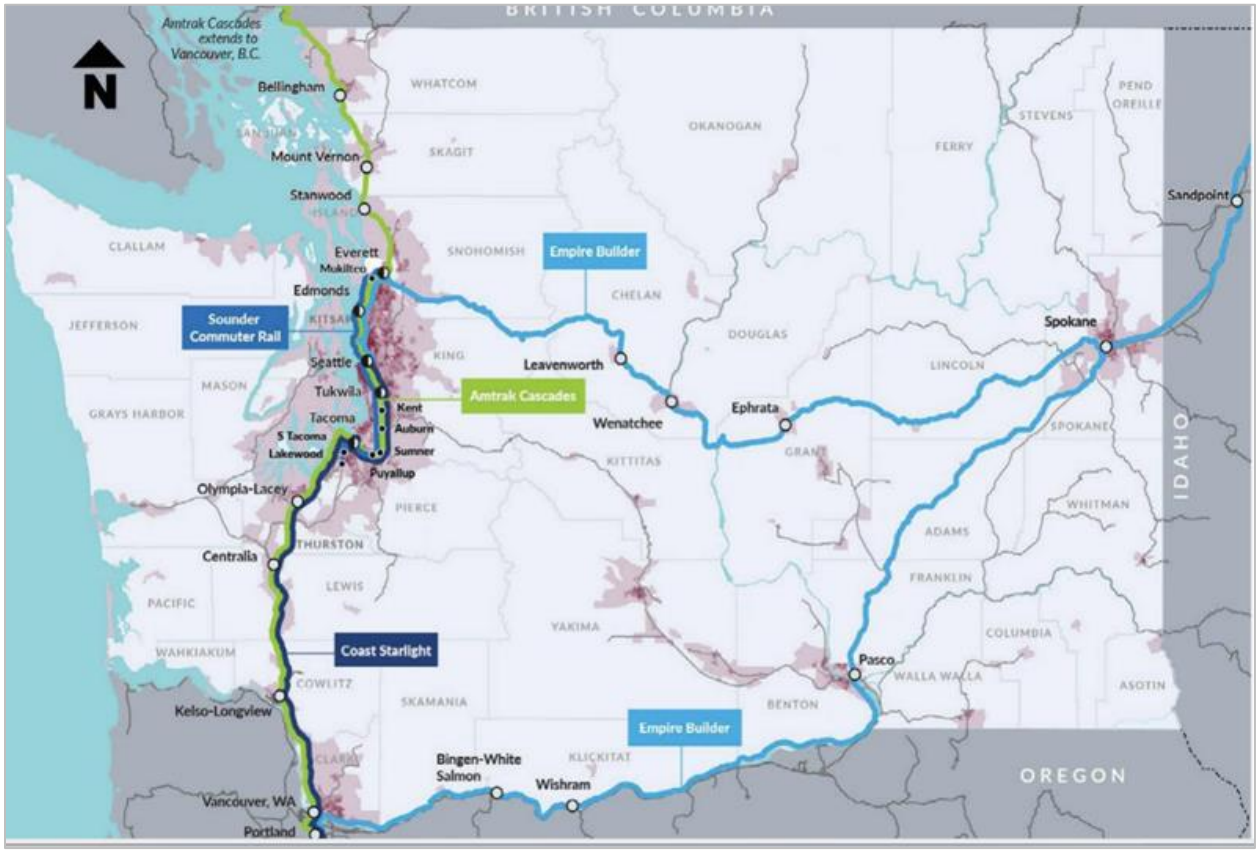
Washington includes more than 3,000 miles of rail track used by Class I, II, and III railroads to support the movement of goods and people. Class I railroads represent 60 percent of the State's rail infrastructure and carry the largest portion of freight and passengers (see **Figure 2-2**). Twenty-nine railway companies operate on these tracks and moved 95 million tons of cargo in 2022. The top commodities carried by rail include grains and other agricultural products. Passenger rail service operated by Sounder, and Amtrak, and several tourist trains share these freight tracks (WSDOT 2019; see **Figure 2-3**).

Figure 2-2: Washington's Freight Railroads and Adjacent Facilities



Source: WSDOT, 2022

Figure 2-3: Passenger Rail Routes



Source: WSDOT, 2019

2.1.4 Waterways

Located on the Pacific coast, Washington is characterized by numerous waterways that are integral to its transportation systems. Major waterways include the Pacific Ocean coast, Lake Chelan, the Columbia-Snake River system, and the Salish Sea. The State's multimodal transportation depends on its ports and to transport goods and people to support intra- and inter-state transport.

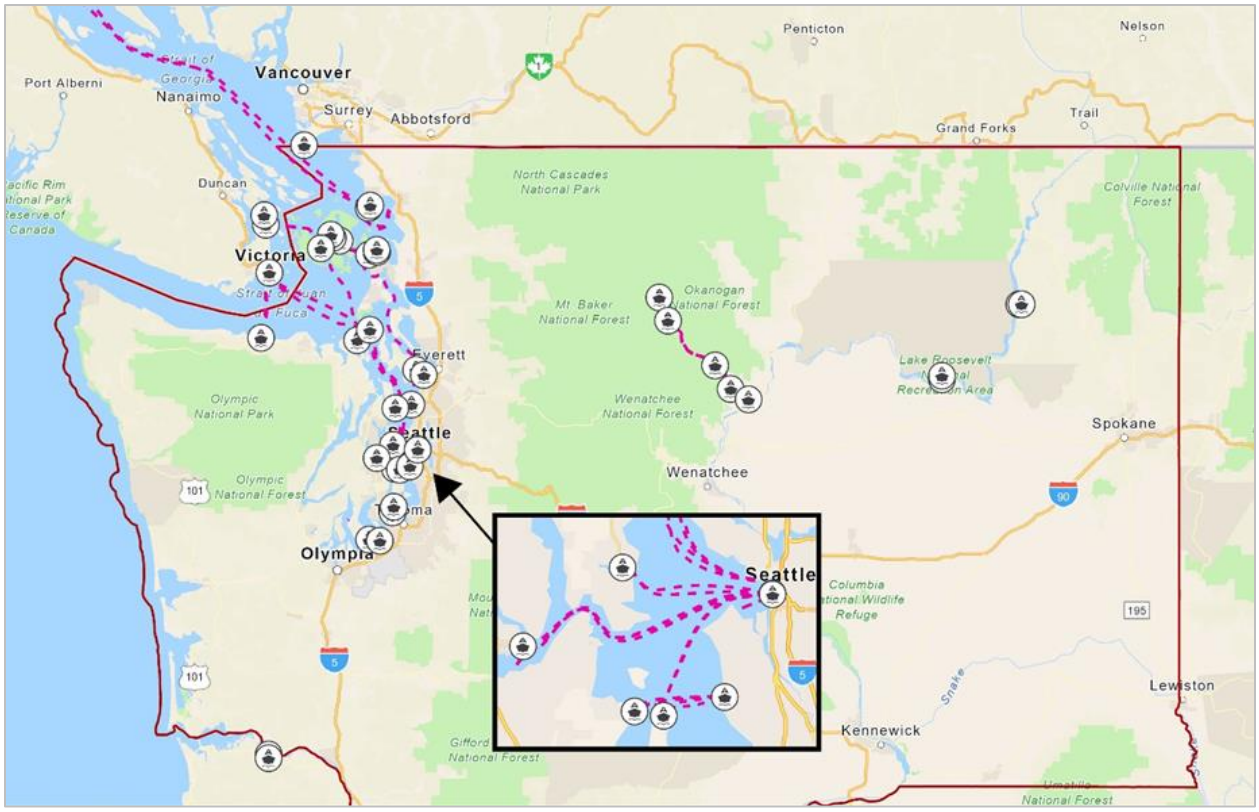
Ferry System

WSDOT operates one of the largest ferry systems in the world, transporting more than 24 million passengers annually (see **Figure 2-4**). The Puget Sound Ferry System is vital as it is the only source transportation access for the 27,000 residents of Vashon Island and the 300,000 businesses and residents of the Olympic and Kitsap peninsulas. The Ferry system is currently challenged by increasing passenger use and an aging fleet (WSDOT, 2018a).

Marine Ports

The State's system of 158 marine terminals processes millions of tons of freight annually. The system includes 72 terminals on the Columbia River, 81 on the Salish Sea, and five on the Pacific coast (see **Figure 2-4**). Washington's Ports are operated by port districts, and many include intermodal rail and air facilities. Most bulk goods are transported through the Ports of Everett, Grays Harbor, Kalama, Longview, Olympia, Pasco, and Vancouver.

Figure 2-4: Ferry Routes and Ports



Source: WSDOT, 2018b

2.1.5 Highway System

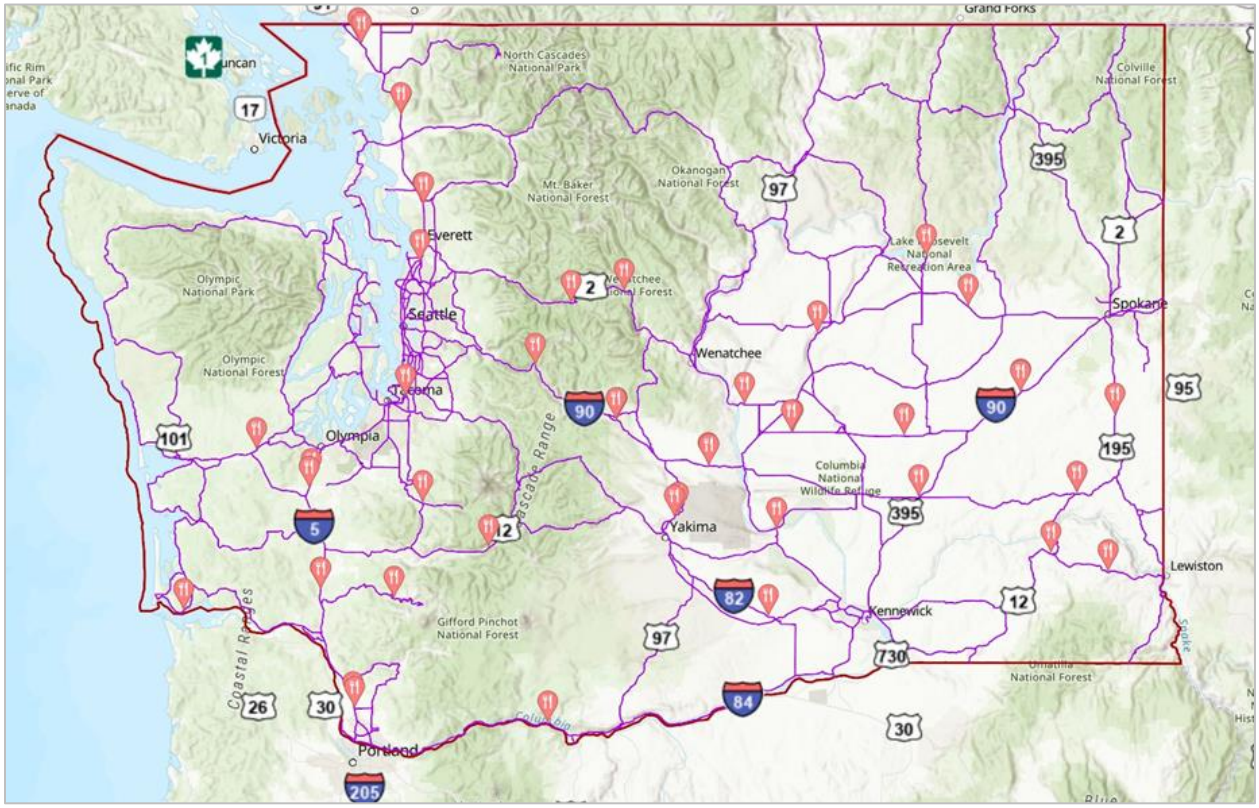
Highways in Washington State contain Interstate Highways, US Routes, and State Routes that play a critical role in domestic and international trade and in our nation's defense system (WSDOT, 2025).

Portions of seven major interstates pass through Washington state, the three most significant being:

- **Interstate (I)-5**, which runs north-south from the Portland/Vancouver Area, through Seattle, and onto the Canadian Border;
- **I-90**, which connects Seattle with Eastern Washington and points east; and
- **I-82**, which is an east-west route serving the Yakima region.

Interstate highways are supplemented by four auxiliary routes that form bypasses around major metropolitan areas in the state, including Seattle and Vancouver (see **Figure 2-5**). The highway system includes four border crossings with Canada, three of which operate 24 hours per day, as well as 47 safety rest areas.

Figure 2-5: Highways and Rest Stops



Source: WSDOT, 2025

2.2 Use of Existing Infratructure for AAM Deployment

AAM deployment is envisioned to occur in three stages referred to by the FAA's Concept of Operations as "walk, crawl, run." AAM is likely to include the use of existing infrastructure during its first phase of entry into service (EIS) operations, and existing airports, heliports, and parking structures have been proposed for vertiport development; however, the use of these facilities is limited by their location, size, and structural capability. In addition, these facilities will likely require modification to address AAM-specific needs, such as charging facilities, passenger processing facilities, high-speed data connections, etc.

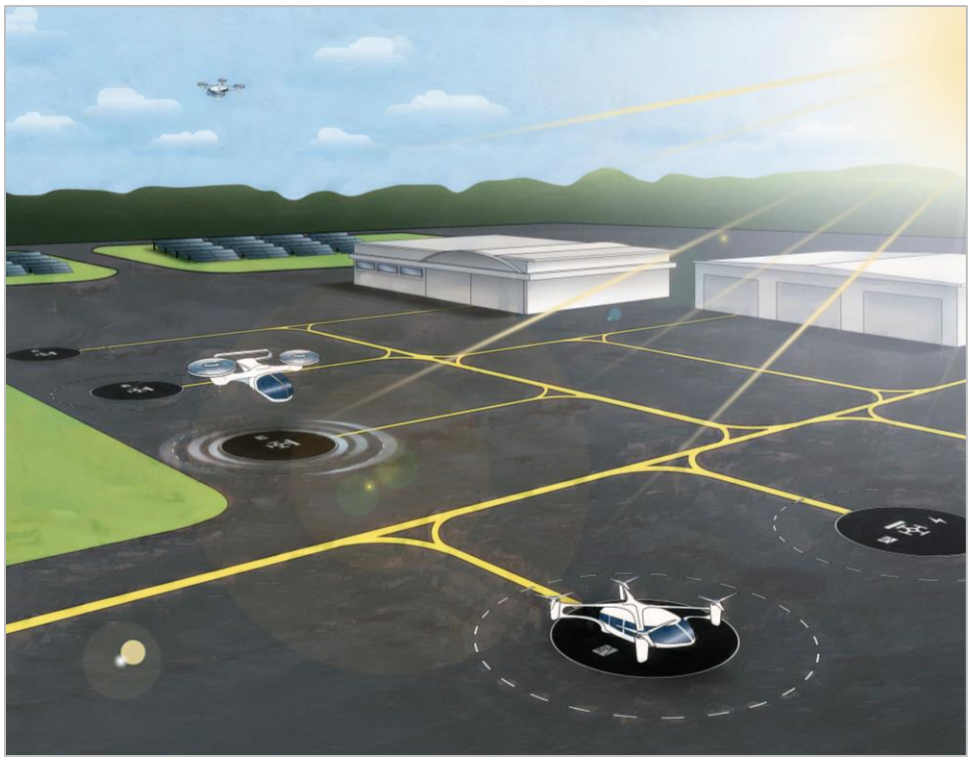
The following discussion was informed by a recent presentation to the American Association of Airport Executives provided by WSP USA (AAAE, 2024).

2.2.1 Airports

Existing infrastructure, including runways, taxiways, instrument and visual procedures, and surveillance systems, can be used to support AAM operations. It is anticipated that VTOLs would use existing procedures and patterns to arrive and depart from an airport and either taxi or hover between a runway and a designated landing/parking area. Existing parking or other paved apron areas could be repurposed to support parking, charging, and passenger loading.

Vertiport sites proposed on or near existing airports must consider the proximity to airport facilities, specifically runway centerlines, critical and operating areas, and imaginary surfaces. In addition to locating the vertiport facilities with sufficient separation from conventional flight operations, the vertiport's ingress/egress routes must be mapped to avoid interference with the runway and its operational areas. The FAA identifies separation distances between the FATO and runway centerline for small, large, and heavy aircraft and helicopters in Advisory Circular C 150/5390-2D, *Heliport Design* (FAA, 2023b). These distances provide a point of reference for defining similar distances for AAM vehicles.

Figure 2-6: Conceptual AAM Parking and Charging Area



Source: Mead & Hunt, Inc. 2024.

The use of existing aviation infrastructure and procedures could streamline the entry of AAM operations into the National Airspace System by eliminating or reducing the need for new or modified approach and departure procedures. In the case of towered airports, air traffic controllers will be able integrate AAM traffic with existing conventional flight operations. This coordinated use also ensures that the site and its procedures meet basic FAA requirements for aircraft separation and safety.

Heliports

A recent study undertaken by WSP considered the dimensions of 6,886 U.S. heliports to determine whether their dimensions were sufficient to provide the 50-foot controlling dimension identified for some of the largest proposed VTOL aircraft (WSP, 2024). The results indicated that approximately 40 percent of the total number of U.S. heliports would be able to accommodate VTOL aircraft with a controlling dimension of greater than 50 feet. In addition, less than 30 percent of the heliports could provide a 50-foot controlling dimension and comply with the other criteria set forth in FAA Engineering Brief 105 (EB 105) (WSP, 2024). The study concluded that that larger VTOLS would be incompatible with most available heliports, and the use of existing heliports will need to be considered on a case-by-case basis.

Rooftops and Parking Structures

The construction of vertiports on top of existing parking structures has been proposed to accommodate multi-modal trips in urban areas. AAM aircraft are much heavier than automobiles, and it is likely that many will not be able to accommodate aircraft and other associated AAM infrastructure. In addition to meeting the dimensional requirements presented in EB 105A, parking structures proposed for AAM operations would be required to demonstrate the load bearing/structural integrity to support forthcoming AAM aircraft (anticipated to be heavier than automobiles), charging equipment, or batteries and must include sufficient utility infrastructure to support power requirements and MROs.

Vertiport Access and Intermodal Connectivity

Several passenger and cargo use cases rely on connectivity to other modes of transportation, such as intermodal freight facilities, transit services and infrastructure, and roadway access and parking facilities:

- A recent study by the Mineta Transportation Institute (MTI) indicates that travel times of 20 minutes or distances of up to 0.25 mile are acceptable for passengers seeking desirable modes of transit (Wei et al., 2023).
- Cargo use cases may also benefit from direct access to multimodal facilities or logistics centers, such as road, rail, inland, and maritime ports.
- For vertiports located at an existing airport, passenger-centric uses may benefit from having easy access to passenger terminals and/or general aviation facilities.

The use of existing structures will require evaluation on a case-by-case basis

Terrain and Obstacles

Terrain and obstacles within the vicinity of a vertiport must be considered for flight safety. Sites proposed in urban areas, cargo yards, and other areas may include tall structures that could affect or interfere with flight operations by creating obstructions or causing turbulence (FAA, 2023c). In addition, vertiports proposed for intermodal cargo transport must consider the presence of cranes or similar equipment used to move, load, or unload cargo. The placement and permanence of the equipment should be considered to limit interference with flight operations.

2.3 Notional Vertiport Development

WSDOT identified proposed vertiport locations using available guidance from the FAA, such as EB 105A, *Vertiport Design*. The notional layouts were developed for standalone vertiports facilities that could be incorporated into existing airport facilities and operating areas. Although the FAA's proposed vertiport design criteria identify the need for downwash caution areas (DCAs), they were not included in these footprints as the draft guidance does not provide specific separation guidelines and implies that DCAs can depend on the siting of a specific facility.

2.3.1 King Street Staton, Seattle

King Street Station is a major transit hub in Seattle's Pioneer Square neighborhood. The location is near to several Amtrak routes, commuter trains, the Link light rail system, and Seattle's streetcar system. It is also located near the Seattle Ferry Terminal.

King Street Station provides access to many destinations, including downtown Seattle, the Pioneer Square National Historic District, the Chinatown-International district, and Lumen Field and T-Mobile Park. A vertiport located at or near the King Street Station would likely be a high-traffic station and would eventually require a complex vertiport with multiple takeoff and landing areas. **Figure 2-7** and **Table 2-2** summarize site characteristics.

Figure 2-7: Notional Vertiport at King Street Station

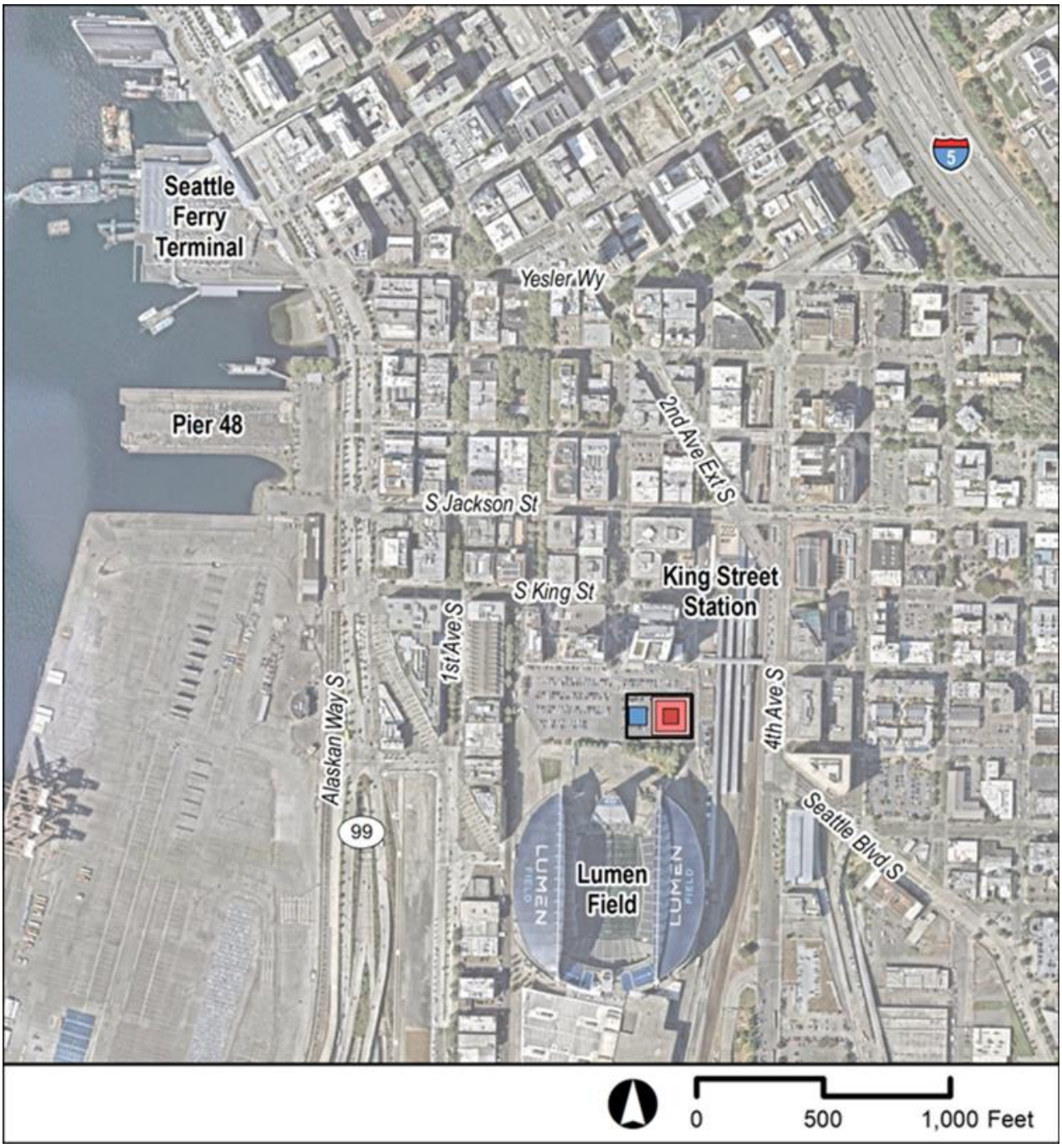


Table 2-2: Site Characteristics

Proposed Site	King Street Station Lumen Field, Seattle
Location	Lumen Field Parking Lot
Use Cases	▪ Airport Suttle (Boeing Field) ▪ Air Taxi - major event venue
Ownership	First and Goal, Inc.
Nearby Features	▪ Port Infrastructure ▪ Residences within 1000 feet of the station ▪ Interstate-90 within 1 miles of the station
Zoning/Land Use	Consistent with Comprehensive Plan Guidance and WTP 2040
Key Takeaways	▪ Lack of available space for expansion ▪ Would remove parking from Lumen Field area and require setbacks ▪ Located among dense development ▪ Opportunities for intermodal development

2.3.2 Evertt Station

Everett Station is a multimodal station transit station that includes connections for train and bus services. The station is also a stop on Amtrak's Cascades and Empire Builder lines, as well as a commuter rail station. Everett Station is also served by Greyhound and Northwestern Trailways intercity buses and several local transit bus lines, including bus rapid transit and express routes. The station offers long-term parking for both passengers and buses and provides access for rideshare and bikes. The station is adjacent to Interstate 5. Long-term station plans identify an expansion of transit services including light rail services, high-speed rail, and additional parking.

Everett Station also provides community-focused amenities and services, such as community meeting spaces, classrooms, veterans' services, career development services, and a private tuition-free preschool. The station's future plans also include multi-family, transit-oriented development and adjacent mixed-use development.

Figure 2-8 shows the potential placement of a vertiport at the station and approximately 0.25 mile southeast of one of the station's park-and-ride lots. **Table 2-3** summarizes site characteristics.

Figure 2-8: Notional Vertiport at Everett Station

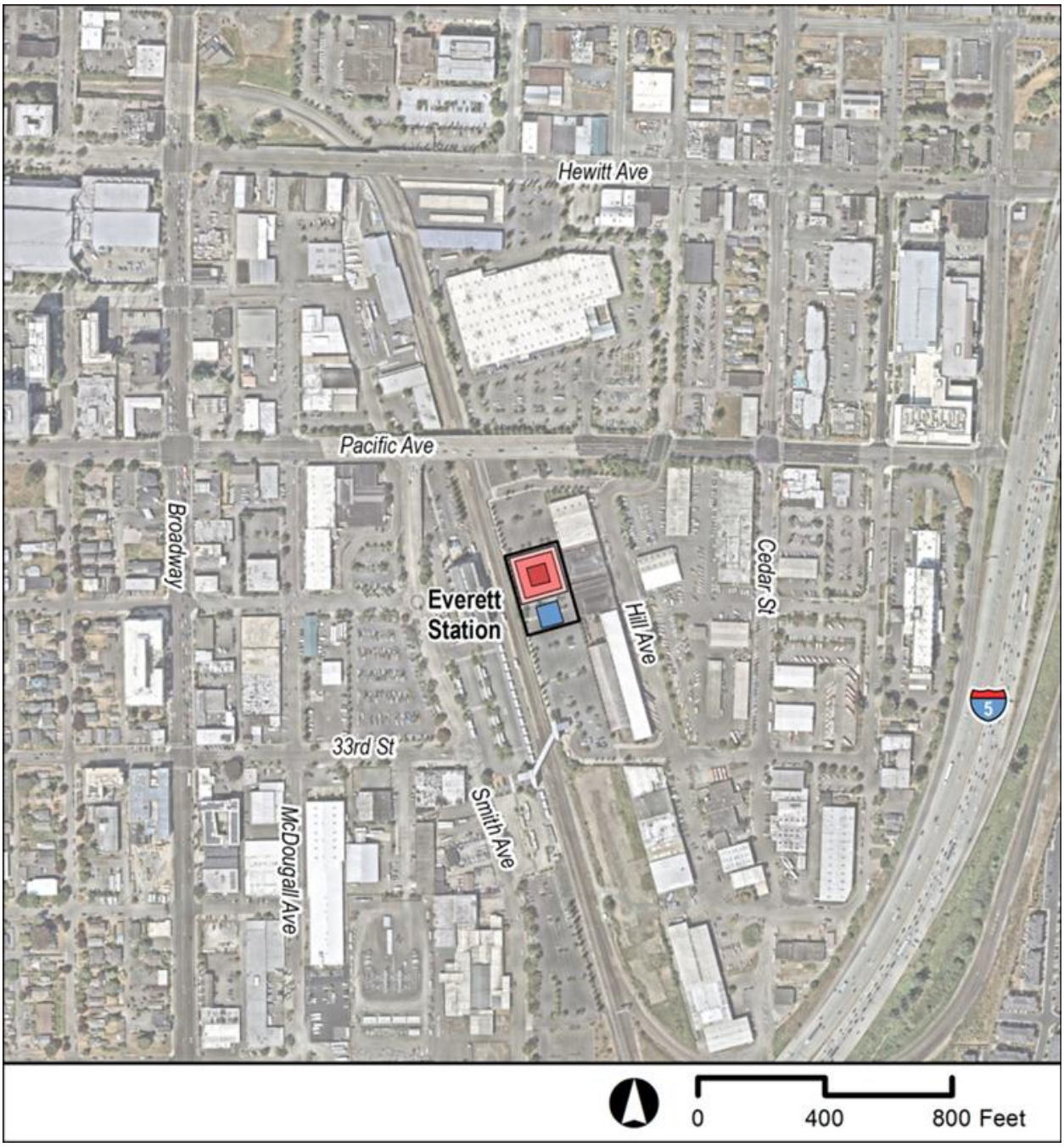


Table 2-3: Site Characteristics

Proposed Site	Everett Station
Location	Everett Station Parking Lot
Use Cases	▪ Airport Shuttle (Payne Field) ▪ Air Taxi ▪ Intermodal Regional Connectivity (Connections to passenger rail, commuter rail, express bus, bus rapid transit)
Ownership	Central Puget Sound Regional Transit
Nearby Features	▪ Pre-K school within 100 feet ▪ K-12 school within 2,500 feet ▪ Residences within 800 feet of vertiport site ▪ Place of Workship within 1,500 feet
Zoning/Land Use	▪ Consistent with Comprehensive Plan Land ▪ Inconsistent with Land Use Compatibility Guidance
Key Takeaways	▪ Available space ▪ Consistent with current/planned intermodal facility ▪ Existing land use challenges

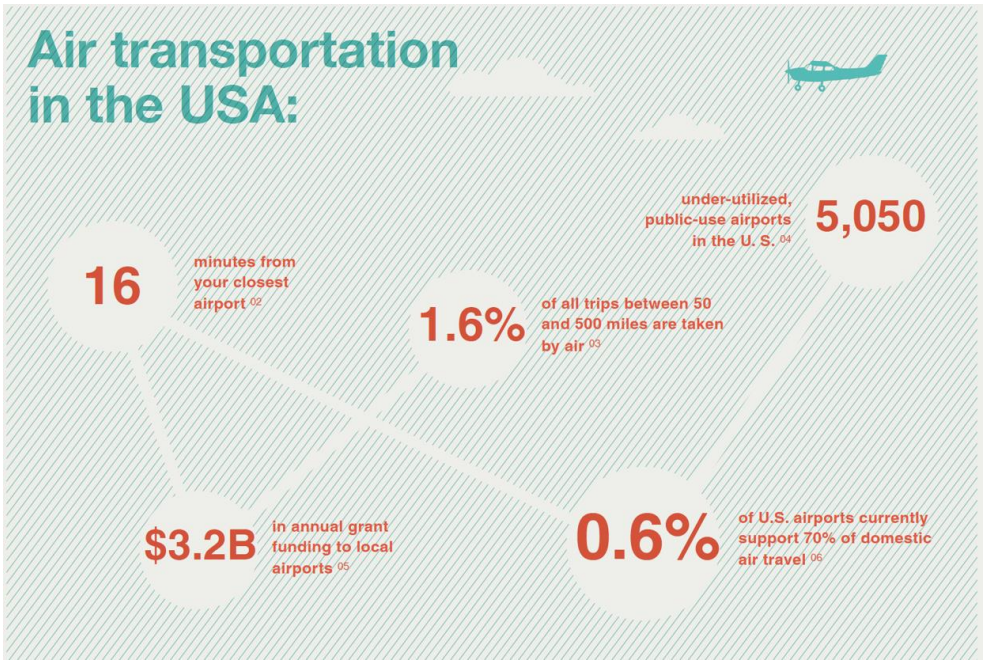
2.4 Conclusions

Both notional facilities would be consistent with transportation planning goals that seek to improve connectivity and serve densely populated areas, and both would support the air taxi and shuttle services envisioned to occur at the outset of AAM deployment. In both cases, existing development would pose concern based on the presence of nearby residences and schools, and each would be inconsistent with current land use compatibility guidance from the FAA and WSDOT.

3. REGIONAL ECONOMIC OPPORTUNITIES

In 2021, NASA published *Regional Air Mobility: Leveraging Our National Investments to Energize the American Travel Experience,* which examined the potential of regional air mobility to improve mobility and logistics and to provide economic benefits to communities nationwide. NASA notes that only 30 of the approximately 5,000 public-use airports in the United States serve more than 70 percent of air travelers. As summarized in **Figure 3-1**, there is a significant untapped potential to use many public-use airports to accommodate travel in the short-to-medium haul range or to support logistics hubs, multi-modal hubs, clean energy production and storage, and community resources.

Figure 3-1: Air Transportation in the USA



Source: NASA, 2021b

This section considers the economic opportunities that Regional Air Mobility (RAM) might offer to the State of Washington.

The potential economic benefits of AAM, particularly RAM, include reduced time and cost for movement of people and goods, increased connectivity for rural areas of the state to the employment centers along the I-5 and I-90 corridors, and increased opportunities for business and hospitality in Washington's smaller communities. Economic benefits support the WTP2040 vision, goals, and cross-cutting topics (see Chapter 2).

The 2020 *Washington Aviation Economic Impact Study* (AEIS) provides further data to support this analysis. The AEIS uses the following terminology and definitions when analyzing aviation's economic benefits:

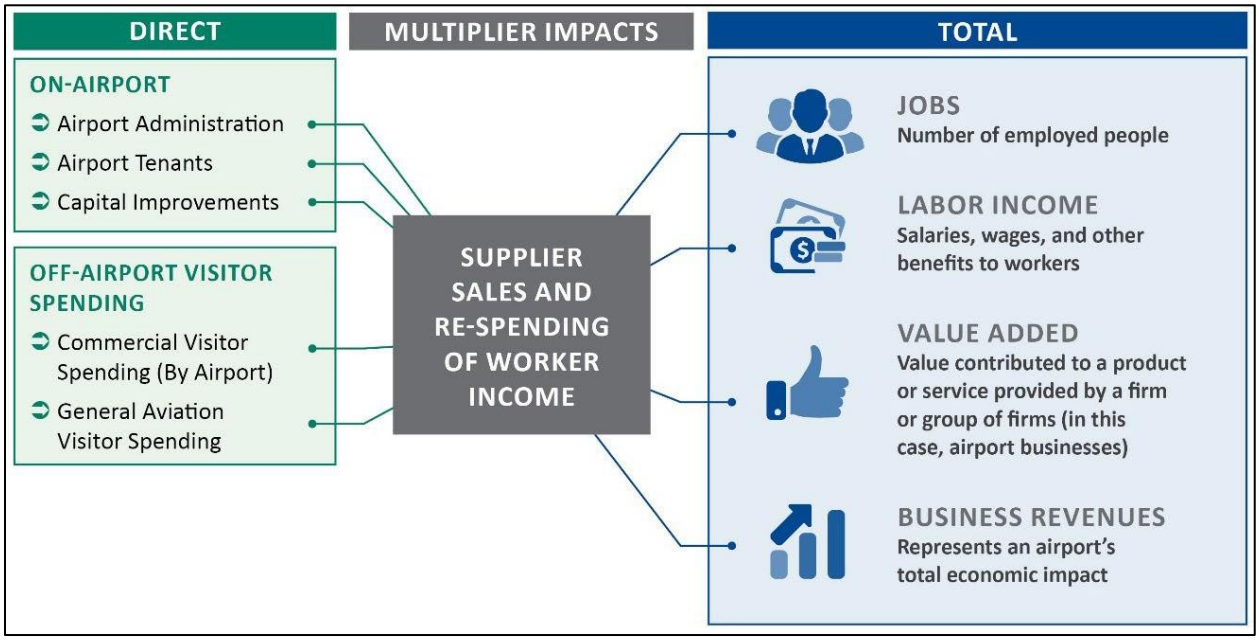
- **Direct impacts.** The initial effects resulting from economic activities occurring on airport property and spending by out-of-state or international visitors who arrive by air.
- **Multiplier impacts:**
  - Supplier Sales: portions of direct revenues used to purchase goods and services from Washington businesses.
  - Income re-spending: income earned by workers from direct and supplier sales transactions that are then spent in the state. (WSDOT, 2020a)

Measure of Impacts

- **Jobs:** Total number of full- and part-time employees.
- **Labor Income:** Total employee compensation, including wages and benefits. (Labor income is part of value-added measures.)
- **Value Added:** Business revenues earned minus the costs of purchasing goods and services from other businesses. Direct value-added measures the economic contribution of each aviation-related business establishment in Washington. Value added represents an industry's contribution to Washington's Gross State Product (GSP) and the U.S. gross domestic product.
- **Business Revenues:** Represent industry sales or "output." Direct business revenues include expenditures needed to administer airports, sales of goods and services by airport tenants, budget expenditures by public sector agencies located on airports, capital expenditures, and visitor spending in Washington's hospitality-related sectors.

Figure 3-2 illustrates the relationship between impact types and measures (WSDOT, 2020a).

Figure 3-2: Summary of Direct and Indirect Airport Economic Impacts



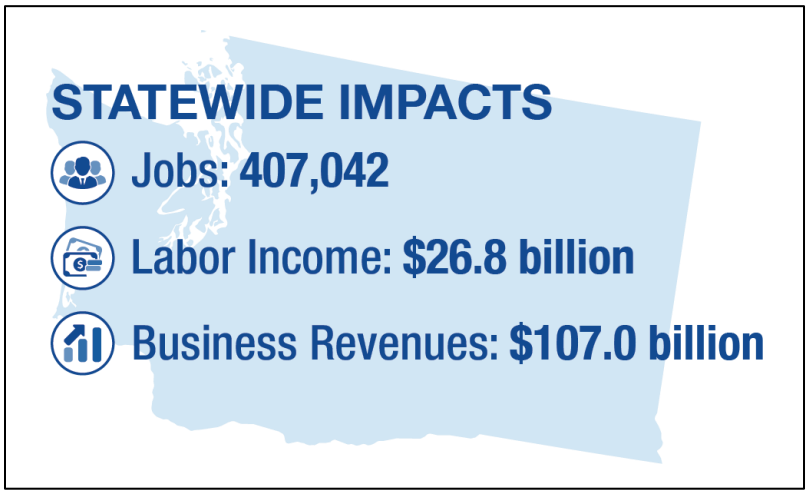
Source: WSDOT 2020a.

3.1 Complement a Robust Aviation Industry

Washington is a leader in the aerospace industry. Aerospace provides jobs and revenue, both on and off the airport, from activities including manufacturing, passenger operations, logistics, corporate and personal air travel, and agriculture. Airports also serve as economic generators through activities such as design and construction, adjacent property development, and ingress points for travelers and visitors who come to Washington for business and tourism (WSDOT, 2022a).

Airports serve as regional job centers and often influence the development and composition of surrounding economies. Washington's airports support between 8 and 12 percent of the state economy, including nearly 9 percent of all jobs and 8 percent of labor income. Additionally, for every direct job created or direct dollar generated, the multiplier effect creates nearly an additional two jobs or an additional $0.50 within Washington (WSDOT, 2020a).

Figure 3-3: Washington's Airports: Statewide Economic Impacts



Source: WSDOT 2020a

More broadly, aviation contributes to Washington's economy in six "key aviation activities" that provide essential services to the State's business community, are fundamental to the state's economic strength, or both:

- Commercial passenger service
- Agriculture
- Pilot training
- Business and corporate aviation
- Air cargo
- Aerospace manufacturing

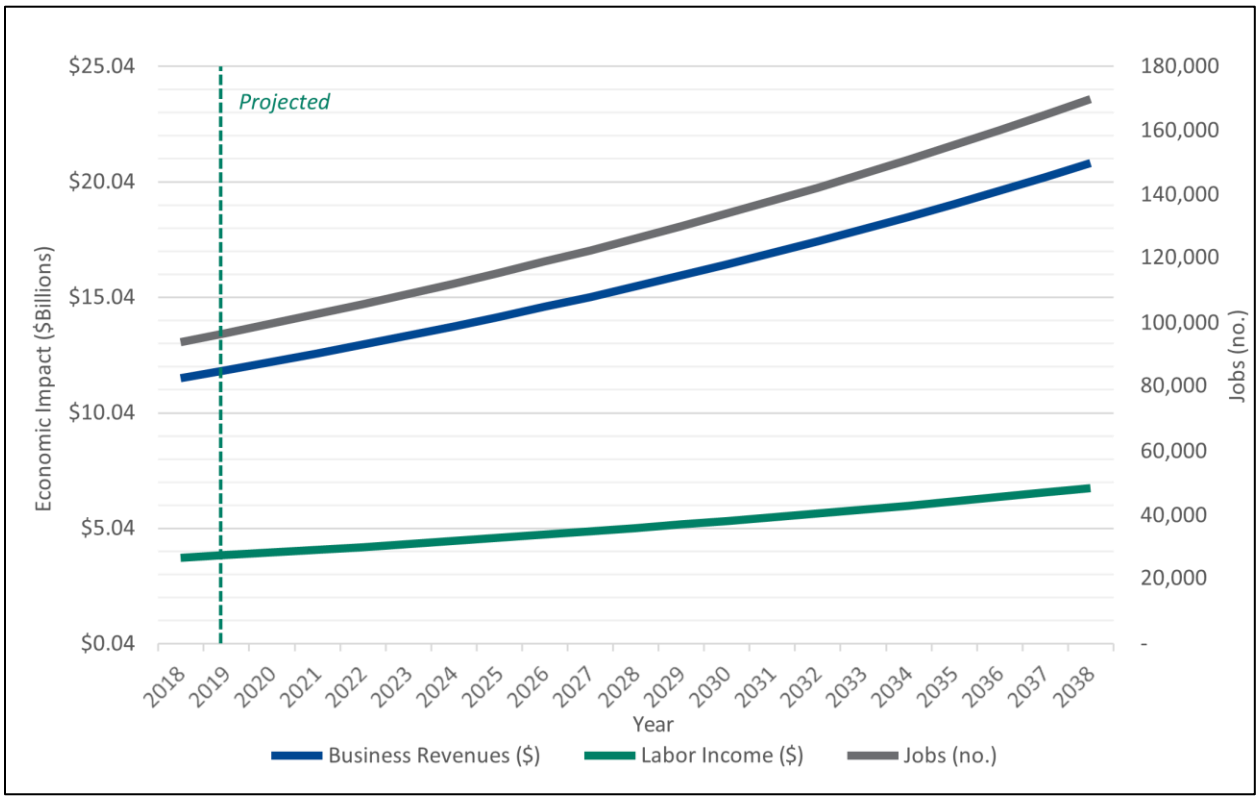
Table 3-1 presents the direct economic impacts of these "key aviation activities."

Table 3-1: Direct Economic Impacts of Washington's Key Aviation Activities.

Key Aviation Activity	Jobs (no.)	Labor Income ($)	Value Added ($)*	Business Revenues ($)
Commercial passenger service	94,015	$3,752,745,000	$11,537,634,000	$11,537,634,000
Agriculture	251	$10,231,000	$117,845,000	$117,845,000
Pilot training and certification	1,079	$47,863,000	$139,848,000	$139,848,000
Business and corporate travel	690	$26,513,200	$80,725,400	$80,725,400
Air cargo	3,511	$296,313,000	$1,117,718,000	$1,117,718,000
Aerospace manufacturing	63,798	$9,435,516,000	$52,083,152,000	$52,083,152,000
Total	**163,343**	**$13,569,181,200**	**$65,076,922,400**	**$65,076,922,400**

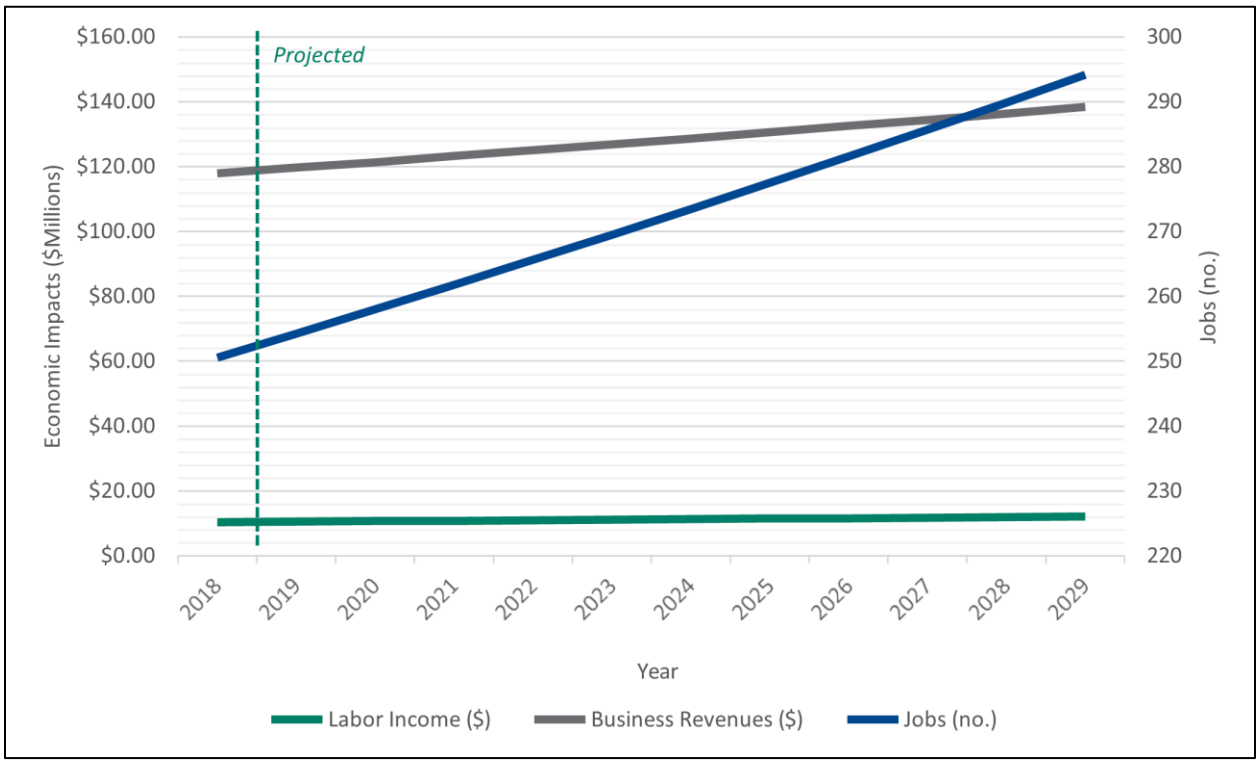
Source: Excerpted from WSDOT 2022a, Table 3-1

Figure 3-4: Economic Forecast Commercial Passenger Activity, 2019-2038



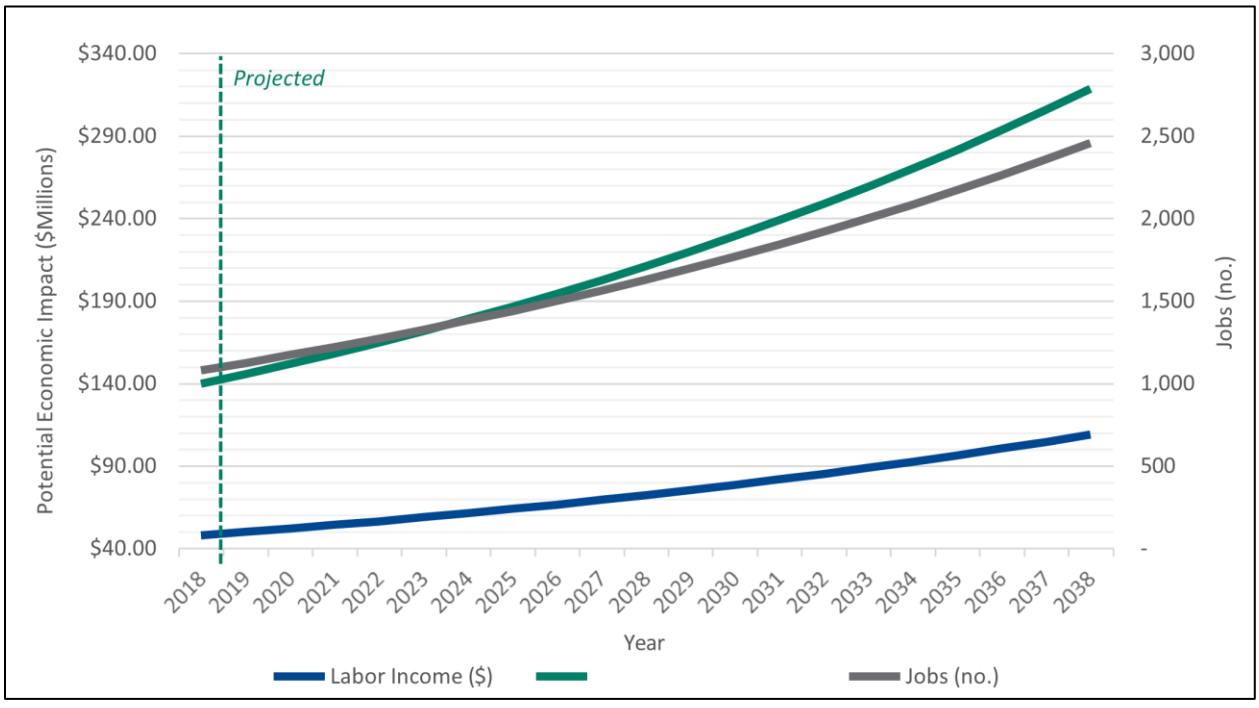
Source: Excerpted from WSDOT 2020a, Figure 3.3

Figure 3-5: Economic Forecast Agriculture, 2019-2038



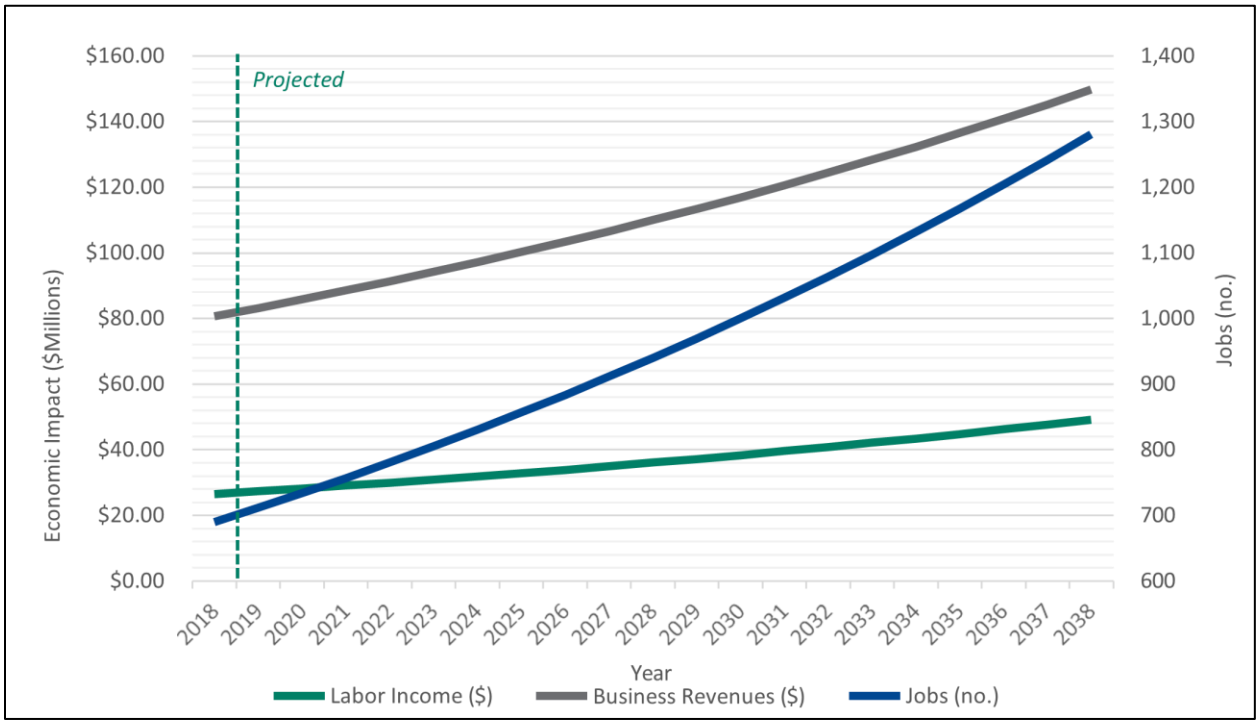
Source: Excerpted from WSDOT 2020a, Figure 3.5

Figure 3-6: Economic Forecast: Pilot Training and Certification, 2019-2038



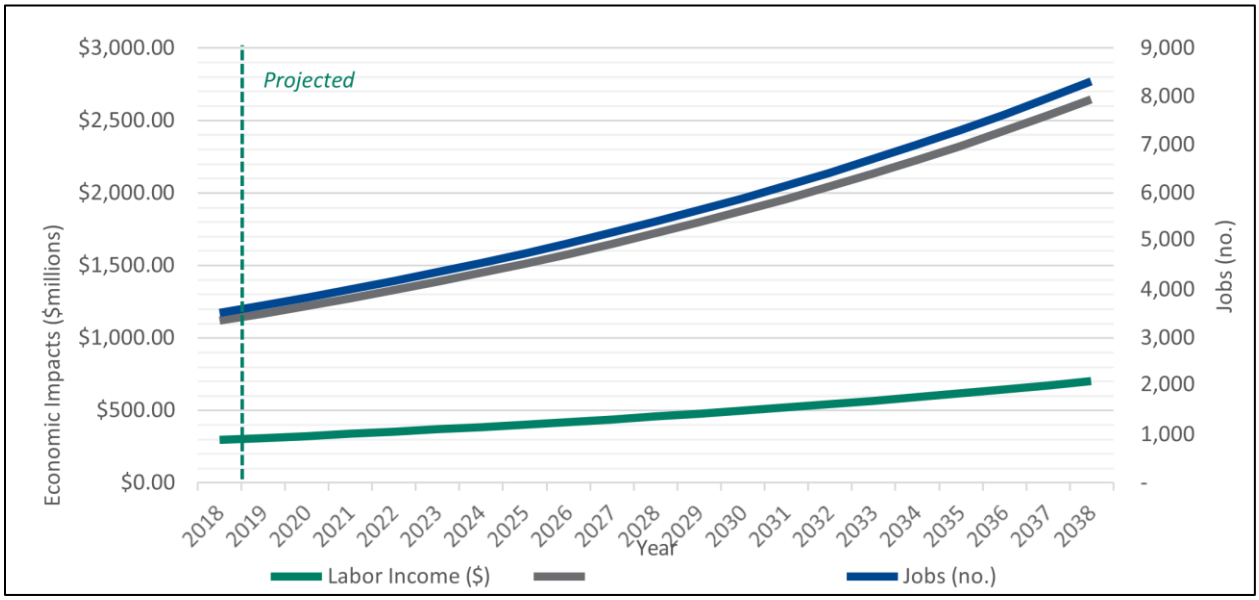
Source: Excerpted from WSDOT 2020a, Figure 3.6

Figure 3-7: Economic Forecast: Business and Corporate Aviation, 2019-2038



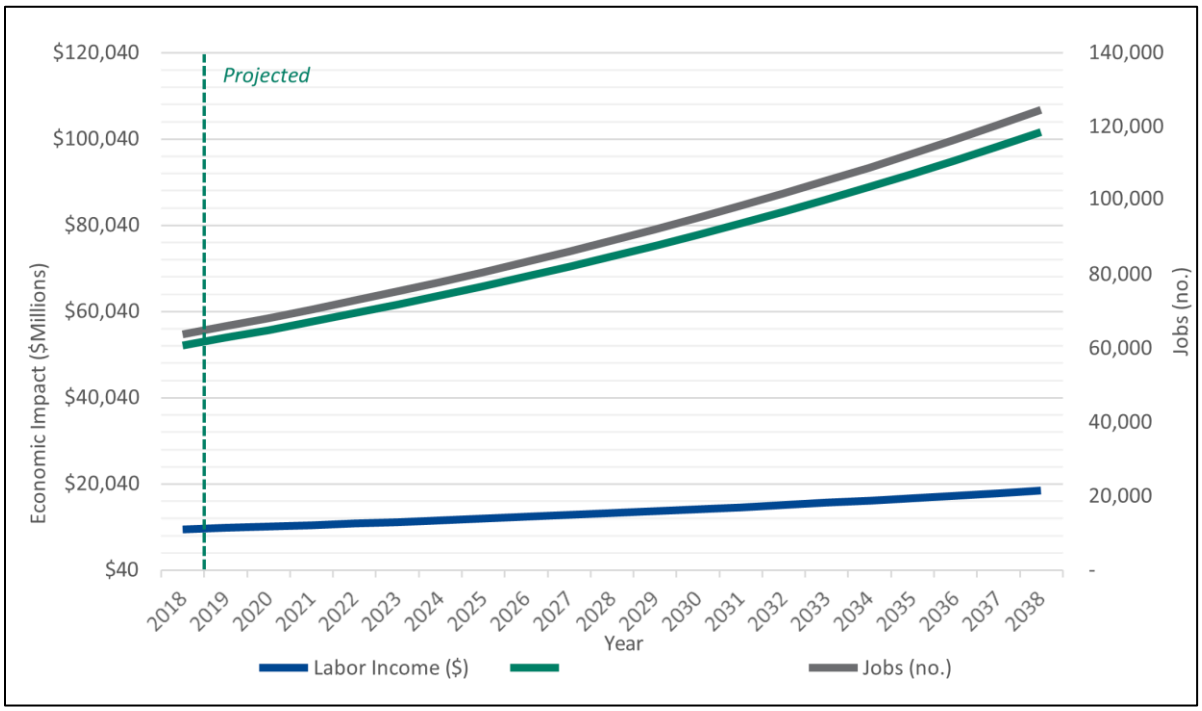
Source: Excerpted from WSDOT 202a, Figure 3.9

Figure 3-8: Economic Forecast - Air Cargo, 2019 - 2038



Source: Excerpted from WSDOT 2020a, Figure 3.11

Figure 3-9: Economic Forecast - Aerospace Manufacturing, 2019-2038



Source: Excerpted from WSDOT 2020a, Figure 3.13

In the past few years, other states have considered the potential economic impacts of AAM, which can provide additional data to project the potential environmental impacts that RAM might create in Washington. The most recent study was conducted by the State of Utah, which found that the potential economic impact to the State of Utah from the AAM industry and ecosystem during the 20-year period from 2025-2045 could:

- Create over 11,000 new full-time aerospace industry and other jobs in the State.
- Generate over $8 billion in new business activity and related stimulus.
- Produce $1.8 billion in local, state, and federal tax revenues. (UDOT, 2025)

3.2 Supplemental/Redundant Supply-chain Planning

From our aerospace manufacturers to our growers, Washington state relies on robust supply chains to produce, grow and ship our products to the world. One supply chain shock can disrupt the entire system, driving shortages and raising costs. Our legislation will get the government, businesses and manufacturers working together to identify gaps and build capacity to prevent supply chain disruptions before they happen. It will strengthen American manufacturing jobs, keep our store shelves stocked and lower costs for American families.

U.S. Senator Maria Cantwell (D Wash), Ranking Member of the Senate Committee on Commerce and co sponsor with U.S. Senator Marsha Blackburn (R Tenn) of the bipartisan Promoting Resilient Supply Chains Act of 2024 (U.S. Senate, 2024).

Regional air cargo has been used for a long time to move goods to manufacturers, wholesalers, retailers, and end users. In regions such as the Pacific Northwest, where terrain and weather can be challenging, and roads are often congested, using smaller aircraft for logistics makes sense. Additionally, with the increase in e-commerce, boosted by the recent pandemic, and the expectation of same-day and next-day delivery, there is a growing demand for air cargo. Moreover, Washington is home to Amazon, one of the leading companies in developing and expanding e-commerce delivery. FedEx and UPS have been using smaller planes to move cargo from large distribution centers at major airline hubs to smaller airports as a next-to-last-mile strategy for some time. According to the NASA, FedEx operates more than 200 Cessna 208 Caravan aircraft and is adding the larger Cessna 408 SkyCourier to its fleet (NASA, 2021a). Expanding the network of airports that can accommodate logistics services – both air and ground – and reducing operating costs through cleaner and more efficient propulsion systems helps to make air cargo a more affordable logistics option for next-to-last and, in some cases, last-mile delivery.

The AEIS looked more closely at the economic impacts from air cargo and found the following sectors in particular benefit from air cargo. Since air cargo is a significant use case for AAM, this analysis provides a baseline from which to extrapolate the quantity and types of benefits that regional air mobility might provide in the air cargo industry (WSDOT, 2020a).

Table 3-2: Leading Sectors by Job Generation from Air Cargo

Direct			Total (including direct and multiplier effects)		
Industry	Jobs (no.)	Percent	Industry	Jobs (no.)	Percent
Transportation Equipment Mfg.	7,070	44%	Transportation Equipment Mfg.	7,854	21%
Computer and Electronic Mfg.	1,886	12%	Health Care and Social Assistance	3,548	9%
Health Care and Social Assistance	1,085	7%	Professional, Scientific & Technical Services	2,693	7%
Crop Production	840	5%	Business Services	2,206	6%
Construction & Buildings	736	5%	Retail Trade	2,156	6%
Other (48 sectors)	4,621	28%	Other (48 sectors)	19,660	52%
Total	**16,238**	**100%**	**Total**	**38,117**	**100%**

Source: WSDOT 2020a, excerpted from table 3.26

In the Pacific Northwest, the Washington-based Pacific Northwest Economic Region's (PNWER's) Regional Infrastructure Accelerator (PNWER RIA) is working to improve supply chains in the state and region. PNWER's Innovative Supply Chains initiative "advances resilient supply chains and logistics hubs by integrating innovative technologies, data-driven solutions, public-private investments and smart infrastructure to enhance the region's trade competitiveness" (PNWER, 2025). The PNWER RIA looks for opportunities to develop multimodal energy and transportation infrastructure that adds to the overall efficiency of the cargo transportation system.

3.3 Establish Economic, Transportation, and Energy Corridors

The success of regional air mobility is dependent on the availability of a network of airports for passenger and cargo movement. A single airport that has infrastructure for electric aircraft does not offer much utility other than for pilot training. In its 2020 Electric Aircraft Feasibility Study (WSDOT EAFS), WSDOT Aviation looked at the State's 134 public use airports to identify beta test sites for a network of airports equipped for electric aircraft. Requirements included the availability of a 3,000-foot runway, the need for aviation services, connectivity to airports within 500 nautical miles, existing on-airport aerospace manufacturing, the presence of a fixed-base operator, geographical dispersion, and the availability of jet fuel at the airport to support hybrid electric aircraft (WSDOT, 2020b).

While much has changed in five years, such as the increased focus on STOL and VTOL aircraft that would not require runways, some of the conclusions in the EAFS stand. For example, it has become increasingly clear that a network of airports is necessary to support the development of electric aircraft operations and larger transportation network needs. While many of the requirements listed above are necessary, they are insufficient to create the vision that will improve the socioeconomics of the communities where these airports are located. To create efficiencies and effectiveness, an airport network should also parallel the passenger and cargo needs of the communities in which the airports are located, support and augment the energy infrastructure for both ground and air travel and reflect the transportation corridor needs of the state and the larger region. In this way, RAM can help to catalyze the development of clean energy corridors and broaden the economic opportunities for more rural communities.

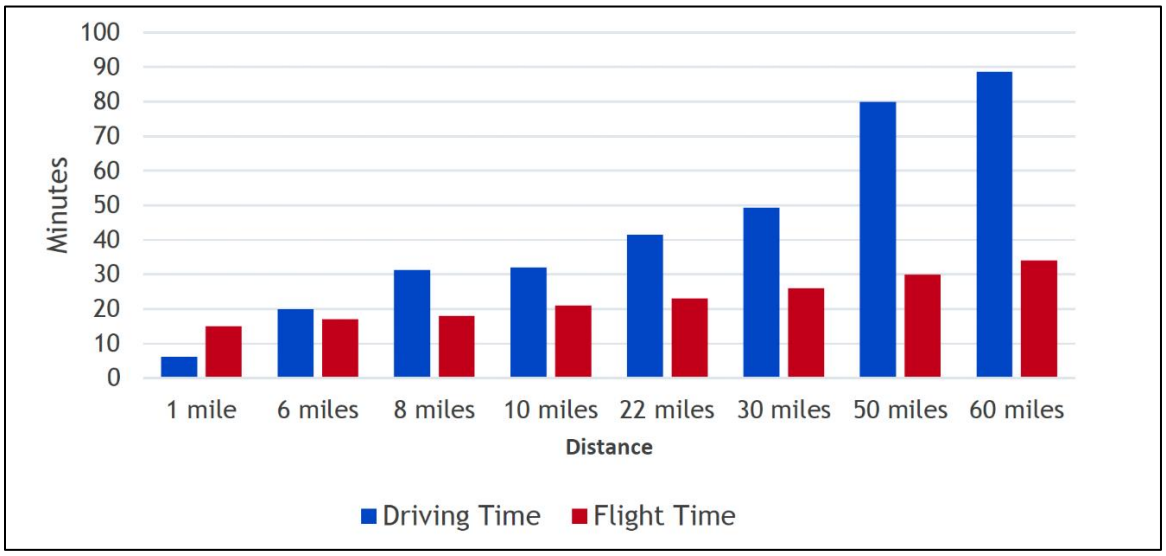
RAM has the potential to support other modes of transportation, including trucking and rail. Rather than competing with these modes, RAM can help to connect the nodes of a network that then utilize modes such as rail, road, or sea to move greater distances more efficiently. RAM could be implemented to connect large cargo distribution centers to last-mile delivery modes such as trucks, vans, and even smaller unmanned aerial systems (UAS/drones). Co-locating multiple modes at airports would provide opportunities to concentrate energy and vehicle infrastructure development and maintenance activities for multiple modes.

The state of Ohio commissioned a report in 2021 that looked at the potential statewide economic impacts of AAM. The report concludes that improving transportation from outlying areas not only helps the residents of those smaller communities but also expands the customer base for larger urban areas. The report presents the following findings from the 2018 Autonomous Aircraft Study done by Securing America's Future Energy (SAFE), an energy policy research organization:

- A 1% improvement in accessibility to a region's central business district improves regional productivity by 1.1%.
- A 10% increase in average speed of transportation, all other things being constant, leads to a 15-18% increase in the labor market size, resulting in a 2.9% increase in productivity.
- A 10% improvement in access to labor increases productivity and regional output by 2.4%. Securing (SAFE, 2018)

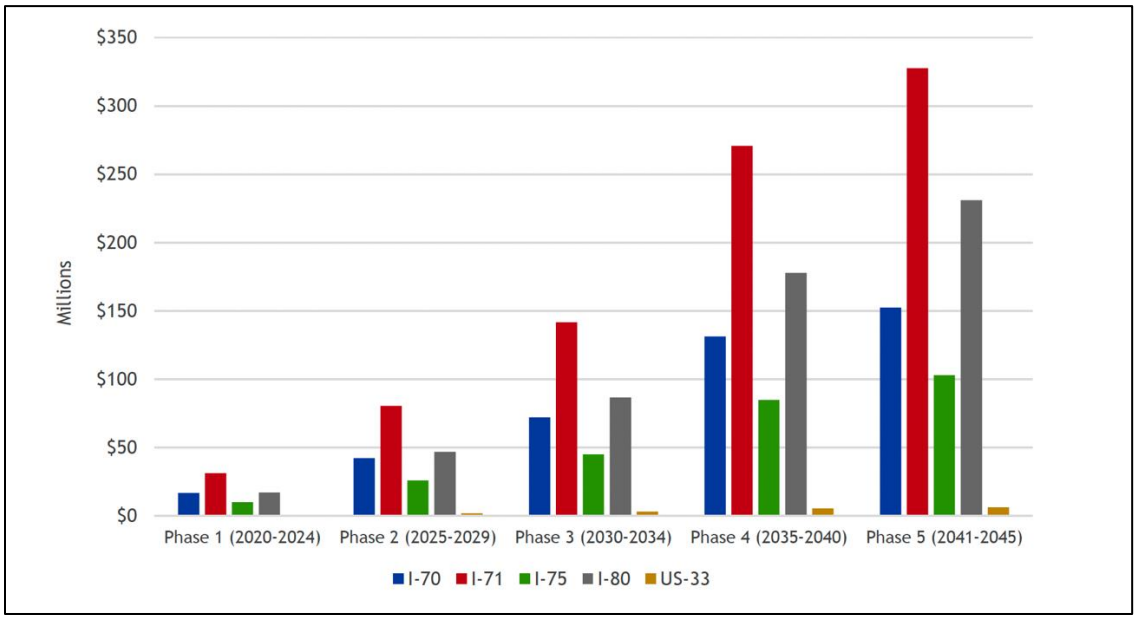
The Ohio report considered the effect of driving vs flying in terms of time. The time savings starts to become significant in as little as 20 miles. The Ohio report also looked at the increase in revenues from cargo based on a buildout of a regional air cargo system along the six interstate corridors running through Ohio (ODOT, 2021).

Figure 3-10: eVTOL-Ground Aircraft Commute Travel Time Comparison



Source: ODOT, 2021. Excerpted Figure 20, page 41.

Figure 3-11: Cargo Revenues by Corridor



Source: ODOT 2021. Excerpted Figure 14, p.31.

In the Pacific Northwest, the City of Chehalis was awarded an almost $1 million federal grant for a feasibility study to develop a multimodal hydrogen fueling facility at Centralia-Chehalis Airport as part of the Chehalis Hub for Aviation Innovation and Sustainable Energy (CHAISE) (Cantwell, 2024). Additionally, a group of six airports, spearheaded by Centralia-Chehalis Airport, has applied for federal funding for electric aircraft charging infrastructure. Finally, the PNWER RIA will work with partners to analyze funding opportunities for medium and heavy-duty parking and refueling infrastructure at the proposed Umpqua Indian Development Corporation Truck Parking Facilities along I-5 near Roseburg, OR, and the St. Regis Hydrogen Mobility Hub along 1-90 near St. Regis, MT. The multi-airport energy infrastructure effort holds promise to benefit not only each airport participant, but the regional transportation network as well.

3.4 Community Benefits

The creation of a network of AAM airports that support RAM for people and cargo would provide multiple benefits to both the airports and their host communities. Currently, most of the public-use airports in Washington are underutilized. While some of the State's public-use airports offer scheduled service, many are used only by business and hobby pilots. A network of airports equipped with electric charging offers the for these underutilized airports to become mobility, logistics, energy, and first responder hubs, thereby increasing their value and the economic opportunities for their communities while offering opportunities for sustainable operations and increased resiliency in the event of an emergency.

3.4.1 Mobility Opportunities

An airport that serves as a multimodal hub provides residents and visitors with a time-saving and convenient way to travel to and from that community using air transport and last-mile ground transportation using car, transit, rail, or active transportation. This door-to-door access opens the community to more business and allows its residents to more easily access neighboring communities and urban centers. As mentioned previously, AAM/RAM must be linked to other travel modes, and providing a last-mile connection is critical. General Aviation may include vacant land that could be used for transit, shared-ride services, or automobile parking.

3.4.2 Logistics Opportunities

Similar to passenger travel, cargo transport is another AAM use case that may capitalize on the use of GA airports. Cargo that typically moves in large aircraft across the country still requires connections to reach its final destination. The use of RAM to shrink the next-to-last mile leg of the journey could facilitate connections or conveyance to a last-mile mode. Moreover, the use of GA airports and emerging AAM aircraft to provide connections to rail facilities could enhance the usefulness of rail logistics without the need for or reduced long-haul trucking. Providing short-haul cargo transport would also alleviate road congestion associated with truck use, especially during inclement weather.

Energy Opportunities:

In some cases, airports may include vacant property that could be used to produce and store electricity. Different options include solar, wind, and hydrogen production. The energy developed at GA airports could be used to fuel aircraft, airport ground fleets, transit vehicles, and personal automobiles. Moreover, the development of microgrids can enable airport operations to continue during a regional power outage and provide support to communities during an emergency. According to NASA, 146 airports across the country have already begun a total of 225 renewable energy projects (NASA, 2021a).

First Response Opportunities

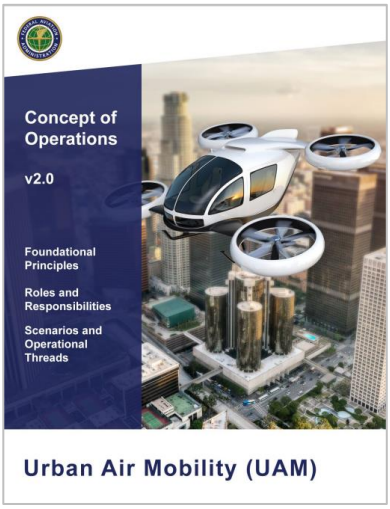
Washington and the Pacific Northwest lies in a geographic area prone to volcanic activity, earthquakes, fires, and flooding. Because of its topography, ground access to remote areas during a natural disaster may be difficult or impossible. Air access is a vital lifeline for remote communities during emergencies. GA Airports and AAM aircraft may increase opportunities to stage emergency response and to provide energy for refueling emergency vehicles, maintaining communications, and providing transportation to nearby medical facilities. These benefits apply as well to law enforcement and firefighting services.

Washington's geography and topography have created a dense urban region in the northwest with more rural regions in the east and south. With the increasing cost of housing and increasing levels of road congestion, exploring ways to facilitate travel across the state boosts the socioeconomic opportunities of its residents, making it possible to live in more affordable communities yet still access the urban core for employment, education, medical facilities, and other needs.

4. REGULATORY AND POLICY ENVIRONMENT

The FAA's Urban Air Mobility Concept of Operations V. 2.0 focuses on the movement of people and cargo in metropolitan areas (FAA, 2023a). Initial operations will rely on the existing aviation system, as CTOL, STOL, and some VTOL aircraft will use existing takeoff and landing areas. However, even initial operations of AAM operations using VTOL aircraft will require the use of vertiports — designated areas or structures for the takeoff and landing that will be located at airports. Vertiport development is anticipated to be collocated with or adjacent to other transportation facilities including:

- Transit Centers
- Heliports
- Passenger Rail Stations
- Marine Ports
- Inland Ports
- Park and Ride Facilities (FAA, 2023a)



FAA Concept of Operations V. 2.0 provides focuses on the movement of people and cargo in metropolitan areas (FAA, 2023a).

The FAA's subsequent Innovate 2028 plan targets scaled AAM operations by 2028m to provide a forward-looking perspective and highlights the FAA's AAM Infrastructure Pilot Program as a target ground for vertiport development.

Chapter 4 summarizes the federal and state regulations and guidance that will govern forthcoming AAM infrastructure development and operations.

4.1 Federal Regulations and Guidance

Several laws, FAA regulations, and guidance will apply to forthcoming AAM operations. Additional regulations are anticipated during the next few years as aircraft become certified for operation.

4.1.1 Advanced Air Mobility Coordination and Leadership Act

The U.S. Congress passed the Advanced Air Mobility Coordination and Leadership Act in October 2022 "to plan for and coordinate efforts to integrate AAM aircraft into the national airspace system, and for other purposes" (Public Law No. 117-203; U.S.C., 2022). The Act recognizes AAM as a "key area of sustainable transportation" and required the establishment of a working group at the federal level to plan and coordinate efforts for the development of a mature AAM ecosystem in the United States. The law requires the development of an AAM national strategy and the formation of an AAM Interagency Working Group (AAMIWG). The U.S. Department of Transportation is leading the development of the national strategy.

4.1.2 FAA Reauthorization Act of 2024

In May 2024, President Biden signed House of Representatives (HR) Bill 3935 into Public Law as the FAA Reauthorization Act of 2024 (Public Law 118-63; U.S.C. 2024). The law authorizes the FAA and related revenue authorities through September 30, 2028, and communicates congressional priorities for how the agency carries out its mission to provide the safest, most efficient aerospace system in the world (FAA, 2025a). The Act includes a significant focus on AAM and includes several sections of that refer specifically to AAM including

- Sec. 951: Definitions
- Sec. 952: Sense of Congress on FAA Leadership in AAM
- Sec. 953: Application of National Environmental Policy Act of 1969 (NEPA) categorical exclusions (CATEX) for vertiport projects
- Sec. 954: AAM Working Group amendments
- Sec. 955: Rules for operation of powered-lift aircraft
- Sec. 956: Advanced propulsion systems regulations
- Sec. 957: Powered-lift aircraft entry into service
- Sec. 958: Infrastructure supporting vertical flight
- Sec. 959: Charting of aviation infrastructure
- Sec. 960: AAM infrastructure pilot program extension
- Sec. 961: Center for Advanced Aviation Technologies
- Sec. 1041: Definitions
- Sec. 1042: Interagency working group
- Sec. 1044: FAA unmanned aircraft system and AAM research and development
- Sec. 1045: Partnerships for research, development, demonstration, and testing (Public Law 118-63). (U.S.C., 2024)

Source: ww.transportation.house.gov

4.1.3 FAA Guidance - FAA Advisory Circular 150/5390-2D, Heliport Design

FAA regulations regarding the siting of new AAM Infrastructure continue to emerge as aircraft are proposed for certification and new use cases are envisioned. Nevertheless, the development of new vertiports, both on and off airports, is envisioned in the near term, and proposed vertiports must be developed in accordance with existing FAA regulations and guidance.

FAA Advisory Circular (AC) 150/5390-2, *Heliport Design*, describes the FAA's standards for heliport planning, design, and construction. Currently, the AC addresses three types of heliports:

> *The FAA defines a heliport as, "an area of land, water or structure used or intended to be used for helicopter landings and takeoffs and includes associated buildings and facilities"*
>
> *(FAA 2023b).*

- GA heliports, which include private and commercial heliports.
- Transport Heliports, which support commercial air operations (such as air taxi service) and off-shore operations and are equipped with passenger amenities.
- Hospital heliports, which support the rapid transport of patients to medical facilities.

The FAA intends to revise its AC and classify vertiports as a fourth type of heliport that:

- Operates as a standalone facility;
- Is optimized for the needs of power-lift aircraft and special-class rotorcraft with three or more propulsors and include specialized needs for fueling and operation;
- Provides for high-frequency operations with quick turnaround times; and
- Provides passenger amenities (Bassey, 2025).

By classifying vertiports as a new type of heliport, the FAA hopes to simplify or streamline infrastructure development, approvals, and implementation at the State level (Bassey, 2025).

Supplemental Guidance: Engineering Brief 105A, Vertiport Design

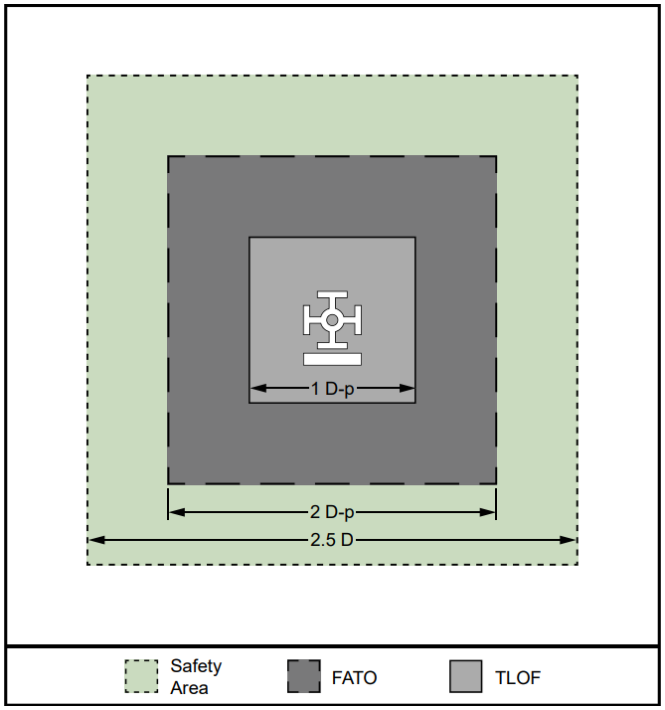
Although the FAA intends AC 150/5390-2D, *Heliport Design*, to serve the basis for vertiport design for the near future (through 2026), it has developed supplement guidance through Engineering Brief (EB) 105A, *Vertiport Design* (FAA, 2024).

EB 105A provides design guidance for both the modification of existing helicopter/airplane landing facilities to accommodate VTOL aircraft and for the development of new vertiports. The FAA clearly states that EB 105A was developed to present a "prescriptive and conservative approach" in the absence of validated VTOL aircraft performance data. The FAA emphasizes that the EB will continue to be revised as the AAM industry matures (FAA, 2024).

As shown in **Figure 4-1** and described in EB 105A, vertiport design includes three important dimensions:

- **Takeoff and Liftoff Area (TLOF):** The load-bearing surface centered on the final approach/takeoff area.
- **Final Approach and Takeoff Area (FATO):** The load-bearing area over which the aircraft completes the final phase of approach to hover or land and from which it takes off. Two ingress/egress paths are required.
- **Safety Area (SA):** The SA is a defined area surrounding the FATO intended to reduce the risk of damage to aircraft accidentally diverging from the FATO. (FAA, 2024).

Figure 4-1: Vertiport Design and Dimensions



Source: FAA, 2024

EB 105A focuses on performance-based landing geometry and creates a subset of the controlling dimensions: D represents the diameter of the smallest circle enclosing the entire VTOL aircraft, and it is used to identify the dimensions of the Safety Area (see **Figure 4-1**). Dp represents the diameter of the smallest circle enclosing just the propulsion units, and it is the metric used to calculate the size of the Final Approach and Takeoff Area (FATO) and the Touchdown and Liftoff Area (TLOF). EB 105A also specifies sizing and clearance for VTOL parking positions supporting air or hover taxiing and identifies a downwash/outwash caution area (DCA). The Engineering Brief also provides guidance for additional vertiport components including charging infrastructure, battery swapping capacity, maintenance, repair and overhaul (MRO) services, Aircraft Rescue and Firefighting (ARFF) facilities, and high-speed data requirements. (FAA, 2024)

Forthcoming Guidance: Unified Vertical Lift Infrastructure Advisory Circular

FAA plans to publish a new Unified Vertical Lift Infrastructure AC to replace AC 150/5390-2D and EB 105A that will include a new definition of heliports and provides specific vertiport standards. The AC will leverage commonalities between conventional helicopter and vertiport designs while reflecting the different characteristics of emerging aircraft, such as size, weight, propulsion, energy requirements and technological differences in operations. Research for the new AC will be completed during the 2025 calendar year. (Bassey, 2025)

4.1.4 National Environmental Policy Act of 1969

The National Environmental Policy Act of 1969 (NEPA) "requires Federal agencies to assess the environmental effects of their proposed actions prior to decision making" (EPA, 2025). NEPA is often referred to as an "umbrella law" because it serves as a framework that outlines the multiple laws and regulations that could apply to a proposed federal action.

The federal agency responsible for carrying out a federal action through funding or approvals is responsible for complying with NEPA (EPA, 2024). For an aviation action or project, the FAA serves as the lead federal agency to implement environmental analyses in accordance with NEPA, and the airport owner would serve as the project sponsor. The FAA would serve as the lead federal agency for proposed projects that occur on federally obligated airports (i.e., airports that receive federal funds). NEPA would apply to proposed projects that would modify an Airport Layout Plan (ALP), such as the construction or modification of facilities on airport property. Proposals to construct a vertiport and associated equipment on airport properties would be required to comply with FAA regulations implementing NEPA (FAA, 2006).

Projects Involving other Federal Agencies

Since different agencies have different regulations implementing NEPA, a vertiport constructed at another federally obligated facility, such as a transit station, intermodal rail facility, or marine port, could be subject to NEPA in accordance with multiple lead agencies, such as the Federal Transit Administration, or Maritime Administration, as well as applicable state and local environmental laws and regulations.

4.1.5 FAA Advisory Circular (AC) 150/5190-4B, Airport Land Use Compatibility Planning

Airport-compatible land uses are defined as "those uses that can coexist with a nearby airport without constraining the safe and efficient operation of the airport or exposing people living or working nearby to potential negative environmental or safety impacts" (FAA, 2022). Incompatible land uses are uses that can affect current or future airport operations or expose people to aircraft noise or safety risks.

The FAA developed FAA Advisory Circular (AC) 150/5190-4B, *Airport Land Use Compatibility Planning*, to help state, county, and local governments improve compatible land use planning to prevent the creation of problematic land uses and to protect and preserve valuable aviation infrastructure and airport approach and departure areas (FAA, 2022b). WSDOT relied on this AC to develop its statewide guidance, *Airports and Compatible Land Use Guidebook* (WSDOT, 2011).

FAA Advisory Circular (AC) 150/5190-4B identifies six issues to evaluate when evaluating the compatibility of a specific land use with aviation:

- Aircraft Noise Exposure
- Airspace
- Visual Obstructions
- Wildlife (including protected species)
- Protection of People and Property
- Development Density (FAA, 2022)

Although the FAA can require federally obligated airports to address land use compatibility as a condition of funding, it cannot regulate local land use or make local land use decisions. Only state and local laws, policies, and regulations can affect local decision making. (FAA, 2022).

Since the 1950s, federal guidance has sought to separate airports and population centers in an effort to prevent nuisance and to reduce the number of people potentially affected by aircraft operations. Based on this early guidance, many commercial service airports were constructed in locations that were outside of urban centers. However, several AAM use cases, such as air taxi, shuttle, and commuter use, would operate within urban centers, which is contrary to the FAA's existing guidance. Revised guidance will be required from the FAA to address the development of vertiports and aircraft operations in areas that are densely populated and include existing uses that might not be compatible with aircraft operations.

4.1.6 Anticipated Federal Authorizations for Vertiport Development

Although the federal permits and authorizations are required to develop heliports/vertiports and AAM infrastructure in non-airport locations are still evolving, some conclusions can be drawn regarding likely permit requirements and approvals associated with the construction of a new vertiport and proposed AAM operations at a federally obligated airport. The following FAA reviews would apply:

- **Takeoff and Landing Siting Approval**. Applicants would be required to prepare and submit Form 7480-1*, Form FAA 7480-1 - Notice for Construction, Alteration and Deactivation of Airports,* to obtain FAA approval to establish a new vertiport that would not be associated with a current airport or heliport or to modify an airport to include a heliport/vertiport. (FAA, 2020.)
- **FAA Airspace Review and Hazard Determination**. Applicants or host airports would be required to prepare and submit FAA For 7460-1*, Notice of Construction or Alternation,* to construct or altern an airport or heliport. The FAA will conduct an airspace review to determine whether the proposed project to determine whether the proposed facility poses a hazard to air navigation/inefficient use of navigable airspace (FAA, 2025).
- **NEPA compliance** to support Airport Layout Plan (ALP) modification and proposed AAM operations.
- **At existing airports, Airport Layout Plan (ALP) review and approval** will be required to identify the location of proposed Infrastructure and equipment.

Potential challenges associated with vertiport permitting could include potential delays during airspace reviews for vertiports (beyond the standard 90 days) due to conflicts between urban AAM operations and existing land use policies (e.g., zoning restrictions in dense areas).

4.2 State Regulations and Guidance

4.2.1 Revised Code of Washington

Two sections of the Revised Code of Washington address aeronautics: Title 47, Public Highways and Transportation, and Title 14, Aeronautics.

Chapter 47.68 Aeronautics

Title 47 of the Revised Code of Washington (RCW), Public Highways and Transportation, establishes WSDOT and its responsibility for "all powers, duties, and functions vested by law in the department of highways, state highway commission, the director of highways, the Washington toll bridge authority, the aeronautics commission, the director of aeronautics, and the canal commission, and the related powers duties and functions of the department of commerce" (RCW 47.01).

WSDOT oversees the development and maintenance of transportation infrastructure, manages state-funded transportation programs, and coordinates with regional and local agencies to ensure integrated and efficient transportation solutions. WSDOT also ensures compliance with environmental regulations (Washington State Legislature, 2025).

RCW Chapter 47.68 refers specifically to Aeronautics. Chapters relevant to forthcoming AAM operations are summarized in **Table 4-1**.

Table 4-1: Chapters relevant to forthcoming AAM operations

Chapter	Relevance
RCW 47.68.010 Statement of Policy.	Identifies the State's purpose to: ■ Further the public interest and aeronautical progress by providing for the protection and promotion of safety in aeronautics; ■ Cooperate in effecting uniformity of the laws and regulations relating to the development and regulation of aeronautics in the several states consistent with federal aeronautics laws and regulations; ■ Grant to a state agency such powers and imposing upon it such duties that the state may properly perform its functions relative to aeronautics and effectively exercise its jurisdiction over persons and property within such jurisdiction; ■ Assist in the development of a statewide system of airports; ■ Cooperate with and assist the municipalities of this state and others engaged in aeronautics; ■ Encourage and develop aeronautics by establishing only such regulations as are essential in order that persons engaged in aeronautics of every character may so engage with the least possible restriction, consistent with the safety and the rights of others; and ■ Provide for cooperation with the federal authorities in the development of a national system of civil aviation and for coordination of the aeronautical activities of those authorities and the authorities of this state. (RCW 47.68.10)
47.68.070 General Powers	The section states that: ■ WSDOT has general supervision over aeronautics within this state. ■ WSDOT shall cooperate with and assist the federal government, the municipalities of this state, and other persons in the development of aeronautics. ■ Municipalities are authorized to cooperate with the department in the development of aeronautics and aeronautical facilities in this state.
47.68.090 Aid to Municipalities, Indian tribes – Federal Aid	Requires WSDOT to make available its engineering and other technical services, with or without charge, to any municipality or person desiring them in connection with the planning, acquisition, construction, improvement, maintenance, or operation of airports or air navigation facilities.
47.68.170 State Airways System	Enables WSDOT to designate, design, and establish, expand, or modify a state airways system that will best serve the interest of the state. The system shall be supplementary to and coordinated in design and operation with the federal airways system. It may include all types of air navigation facilities, whether publicly or privately owned, if the facilities conform to federal safety standards.
47.68.210 Rules – Standards	Enables WSDOT to perform such acts, issue and amend such orders, make, promulgate, and amend such reasonable general rules, and procedures, and establish such minimum standards, consistent with the provisions of this chapter, as it shall deem necessary to perform its duties hereunder; all commensurate with and for the purpose of protecting and insuring the general public interest and safety, the safety of persons operating, using or traveling in aircraft or persons receiving instruction in flying or ground subjects pertaining to aeronautics, and the safety of persons and property on land or water, and developing and promoting aeronautics in this state
47.68.310 Enforcement of Aeronautics Laws	It is the duty of the secretary, the department, the officers and employees of the department, and every state and municipal officer charged with the enforcement of state and municipal laws to enforce and assist in the enforcement of this chapter and of all other laws of this state relating to aeronautics.

Source: RCW 47.68, Aeronautics

Title 14, Aeronautics

Title 14 RCW, Aeronautics, authorizes and empowers cities, towns, port districts, or counties to acquire, maintain, and operate facilities to operate aircraft and authorizes the establishment of county airport districts (RCW 14.08.290), enables political subdivisions to develop, adopt, and administer airport zoning regulations (RCW 14.12).

4.2.2 Growth Management Act

The State of Washington's Growth Management Act (GMA) refers to a series of statutes that require the fastest-growing cities and counties to develop a comprehensive plan to manage their population growth in an effort to:

- Avoid sprawl by concentrating new development in urban growth areas;
- Ensure that adequate public facilities are provided for new development;
- Protect environmentally critical areas and conserve agricultural, forest and mineral lands by directing development elsewhere;
- Coordinate local plans and regulations regionally to ensure fair and efficient allocation of locally undesirable but regionally essential facilities, while compelling state compliance with local plans and regulations.

Although only 28 of Washington's 39 counties are required to fully comply with the GMA, these counties include 95 percent of the State's population. The 28 counties that fully comply with the GMA must develop comprehensive plans that include mandatory plan elements such as:

- Essential Public Facilities Element, which address airports, transit authority facilities, and state or regional transportation facilities.
- Transportation Element, which addresses facilities and service needs (e.g., air, water, and ground transportation facilities and services) and an analysis of funding capability to providing needed facilities.

Other elements are associated with land use, housing capital facilities planning, utilities, rural development, climate change resiliency, and ports. (RCW 36.70A.070)

4.2.3 Airport Land Use Compatibility Plans

The GMA considers airports to be essential public facilities, and its implementing regulations at RCW 36.70 require towns, cities, and counties to discourage encroachment of incompatible development adjacent to public use airports through the adoption of comprehensive plan policies and development regulations. To assist local agencies in preventing encroachment, WSDOT prepared the *Airport and Compatible Land Use Program Guidebook*.

The Guidebook reflects and implements the guidance set forth by FAA (see Section 4.1.5) and helps airports and jurisdictions to work cooperatively to prevent encroachment (WSDOT, 2011).

4.2.4 State Environmental Policy Act of 1971

The State Environmental Policy Act of 1971 (SEPA) requires agencies to identify and evaluate the potential impacts alternatives and mitigation associated with a proposed project, including the direct, indirect, short-term, long-term, and cumulative effects. Agencies must encourage public involvement in decision making and integrate SEPA with planning and licensing procedures. (RCW 43.21C)

Local agencies considering the development of AAM infrastructure, such as vertiports, or the modification of an airport or heliport to accommodate AAM, will likely be required to undertake a SEPA analysis prior to determining whether to approve the proposed infrastructure. SEPA does not provide specific methods for evaluating proposed projects but requires that projects consider their potential effects on such items as: energy and natural resources, environmental health, land use, transportation, public services, and utilities. (State of Washington Department of Ecology, 2025)

4.3 Integration of Federal and State Regulations and Guidance

The FAA's mission is to "provide safest, most efficient aerospace system in the world" (FAA 2025a), and the agency will play a critical role in the integration of emerging CTOL, STOL, and VTOL aircraft and other innovative aviation technologies into the National Airspace System (NAS). As a federal agency, the FAA regulations often pre-empt state and local regulations, especially in areas directly related to aviation safety and airspace management; however, states can enact laws in areas not specifically covered by FAA regulations, provided they do not conflict with federal laws (FAA, 2023).

Table 4-2 summarizes the FAA roles and regulations, their relationship to state and local agency roles and regulations, and how they will be associated with AAM implementation at the State and local level.

Table 4-2: Federal, State and Local Roles in AAM Infrastructure Development and Operation

Federal Role/Regulation by Category	Relationship to State and Local Agencies
Safety Regulations: The FAA issues and enforces regulations and minimum standards for the manufacturing, operation, and maintenance of aircraft. It also certifies pilots and airports that serve air carriers. With regard to AAM, the FAA will: ▪ Certify aircraft prior to operation ▪ License pilots of new vehicles	States cannot regulate aviation safety or the operation of flight vehicles directly; FAA laws and regulations pre-empt state laws. **AAM Implementation:** The State will have no role in aircraft or pilot certification.
Airspace and Air Traffic Management: The FAA manages the safe and efficient use of navigable airspace and operates a network of airport towers, air route traffic control centers, and flight service stations. The FAA has exclusive authority over the use of airspace, including AAM operations.	States cannot regulate airspace or air traffic control; these areas are exclusively under FAA jurisdiction. **AAM Implementation:** States and local municipalities can work with the FAA to develop air traffic management solutions for AAM, but they must adhere to FAA guidelines and cannot independently regulate airspace use.

Federal Role/Regulation by Category	Relationship to State and Local Agencies
Air Navigation Facilities (NAVAIDs): The FAA builds, installs, maintains, and operates visual and electronic aids to air navigation, including radar facilities and communication systems.	States may not regulate FAA air navigation facilities, but they can collaborate with the FAA on local infrastructure projects. **AAM Implementation:** States and local municipalities can participate in planning and developing AAM infrastructure such as vertiports, but infrastructure planning and development must conform to FAA standards for navigation facilities.
Environmental Regulation: The FAA develops and enforces programs to identify and disclose the environmental effects of civil aviation. Proposed development that uses federal funding or requires federal authorizations must comply with NEPA.	States and local governments implement environmental regulations for projects that use public funds or require discretionary actions. **AAM Implementation:** State and local governments are required to implement federal aviation regulations and guidance associated with AAM through the development of local regulations and ordinances.
Civil Aviation Abroad: The FAA promotes aviation safety internationally, exchanges aeronautical information with foreign authorities, and participates in international conferences.	AAM Implementation States and local municipalities have no jurisdiction on international aviation matters. States and local agencies would not have a role in international AAM operations. **AAM Implementation:** Washington's border and the potential for international AAM operations may require state and local agencies to consider both U.S. and Canadian AAM regulations, standards, and guidance for new infrastructure, especially with regard to items associated with security and passenger processing.
Unmanned Aircraft Systems (UAS): The FAA regulates the operation of UAS, ensuring that safety and efficiency are maintained throughout their integration into the NAS alongside traditional aviation and AAM vehicles.	States can regulate aspects like privacy and law enforcement use of UAS but not flight operations nor airspace use. The FAA provides guidance to state and local governments on how to develop regulations on the integration of UAS and AAM technologies that are complementary to and do not conflict with federal laws.
Advanced Air Mobility (AAM): The FAA oversees the integration of AAM, including vertical takeoff and landing (VTOL), conventional takeoff and landing (CTOL), and short takeoff and landing (STOL) aircraft into the NAS. This includes setting safety standards, certifying aircraft and pilots, and developing infrastructure. The FAA is actively engaging with local, state, tribal, and territorial governments to integrate AAM operations. This includes planning for infrastructure, power needs, and community impacts of AAM vehicles.	**AAM Implementation:** States and localities play a significant role in the planning and implementation of AAM infrastructure, such as vertiports and charging stations, but must comply with FAA regulations to ensure safety and airspace management

4.4 Summary

It is important to note that WSDOT does not approve proposed airport or heliport operations, nor does it issue operating permits for aviation facilities. However, its charge to further aeronautics progress, promote unity with public laws, and assist in the development of a statewide system means that it will have a meaningful role in AAM development and implementation at the State level. Specific responsibilities are likely to include:

- Assisting the federal government, the municipalities of this state, and other persons in the development of new infrastructure and facilities
- Establishing or amending rules and procedures to ensure the general public interest and safety of persons operating, using or traveling in aircraft and to protect the safety of persons and property on land or water, and developing and promoting aeronautics in the State

5. PUBLIC OUTREACH AND EDUCATION

When most people think about air travel, they think about airplanes that travel hundreds of miles per hour and over great distances between airports. AAM challenges these perceptions by offering new types of aircraft to transport people and cargo to urban and rural locations that are not always served by traditional aircraft (ACRP 2024). As previously noted, some emerging aircraft do not require the use of runways, and AAM is likely to provide connections to existing surface transportation/multimodal infrastructure (such as transit stations) and include the use of new infrastructure (vertiports that will be developed in locations that are not associated with aviation).

While AAM has the potential to provide new opportunities for travelers, it will also challenge both travelers and those living near airports, vertiports, and within the view of flight paths. In some cases, both travelers and bystanders could become uncomfortable or even fearful as they observe low flying aircraft in new locations.

Chapter 5 identifies the diverse stakeholders who will be directly or indirectly affected by forthcoming AAM operations, potential concerns, and available outreach and education strategies that could be provided by the State and local agencies in advance of AAM operations.

5.1 Stakeholders, Roles, and Responsibilities

Initial AAM operations are anticipated to begin by 2030 and increase over the next 25 to 30 years. Stakeholder engagement and outreach should begin now to enable agencies, decision-makers, and members of the public to make informed decisions about how AAM can be integrated into their communities and the transportation system.

5.1.1 Identifying Stakeholders

AAM involves a wide range of public and private stakeholders with diverse roles and perspectives about AAM, its implementation, and its effects. The following roles would apply to AAM implementation in the State of Washington:

- **Federal Agencies (FAA):** The FAA will certify aircraft and develop regulations and guidance aimed at maintaining a safe and efficient national airspace system.
- **State and Local Agencies:** WSDOT, state agencies, districts (including airport operators), and local agencies must plan, approve, adopt, implement, and enforce local transportation programs to comply with federal, state, and local requirements.
- **Local Agencies:** Local agencies and decision makers are responsible for approving proposed infrastructure and integrating AAM into the local transportation system. Local agencies are also responsible for ensuring that proposed infrastructure and operations are consistent with federal, state, and local regions. (ACRP, 2024)

Table 5-1 summarizes the agencies and stakeholders that are likely to be directly involved in stakeholder outreach.

Table 5-1: Potential AAM Stakeholders

Stakeholder/Stakeholder Group	Examples
Community Stakeholders A community stakeholder is generally defined as an individual, group, organization, or business that has an interest or concern in the community or in a geographic area or jurisdiction.	Not for Profit Organizations ■ Residents/homeowners associations ■ Conservation groups Community-based organizations (CBOs) ■ Schools or churches ■ Health care agencies ■ Social service groups Members of the Public ■ Residents ■ Transit users/Transportation groups (e.g., bicycle coalition) ■ Local businesses
Federal Agency A department or other agency of the executive branch of the federal government with the authority to establish regulations, policies, and standards or to allocate funding or provide approval for funding for AAM-related activities. Such agencies might also provide authorization for AAM infrastructure or operations, such as environmental approvals for proposed infrastructure.	■ National Aeronautics and Space Administration (NASA) ■ U.S. Department of Transportation (USDOT) and its modal agencies (Federal Aviation Administration, Federal Transit Administration, Federal Highway Administration, etc.) ■ U.S. Environmental Protection Agency
State Agency Any department, commission, council, board, committee, institution, legislative body, agency, government corporation, educational institution or official of the executive, legislative, or judicial branch of the government of a state.	■ Washington State Department of Transportation ■ Department of Ecology ■ Department of Commerce
Local and Regional Agencies	■ Metropolitan Planning Organization (MPO) ■ Council of Governments (COG) ■ Airport Authority ■ Counties and cities ■ Districts
Industry Non-government entities with direct involvement in AAM activities or organizations involved in the planning, development, integration, or deployment of AAM.	■ Pilot organizations ■ Aircraft manufactures/OEMs ■ Airlines and service providers ■ Fixed-based operators
Schools and universities	■ Research academies ■ Trade schools/workforce development

Source: Mead & Hunt, Inc. Adapted from ACRP, 2024.

5.2 Anticipated Community Concerns

The use of new aircraft and operations in new locations, such as in urban areas, at transit stops, or even new operations at airports, will draw attention. In addition, the introduction of lower-flying aircraft could pose alarm to those living or working beneath new flight paths. Engaging stakeholders and providing both education and outreach about AAM in advance of operations may reduce potential fears or potentially adverse public perceptions of AAM. Sections 5.2.1 through 5.2.5 identify potential community concerns.

5.2.1 Visual Pollution/Overflight

The presence of low-flying aircraft associated with AAM operations could create unwanted visual disturbances (visual pollution) or fear among observers who are unaccustomed to aircraft operations or low-flying aircraft, and perceptions will likely vary based on the location and land use (urban vs. rural), frequency of operations, aircraft size, and other characteristics. Similarly, views of multiple aircraft in close proximity, such as near a vertiport with a high volume of air traffic, could pose concern to those nearby. A 2021 survey by the European Union Aviation Safety Agency (EASA) on the potential societal barriers associated with AAM found that 19 percent and 16 percent of survey respondents raised concerns about visual pollution from drones and air taxis, respectively (EASA, 2021; ACRP, 2024).

Visual Sound and Perception Study

Eve Air Mobility, a leading OEM, undertook a study to better understand perceptions of eVTOL sight and sounds at urban and suburban locations. The study compared the general perceptions of eVTOL sound to other aircraft sounds in the urban environment. More than 100 people were interviewed from New Youk City, San Francisco and Orlando.

The study showed that in general, subjects reported lower levels of annoyance for eVTOL flyovers and takeoffs when compared to helicopters at the same altitudes. Operations in areas with higher ambient noise levels showed a trend of lower annoyance scores compared to operations in quieter ambient environments. Aircraft visibility influences aural annoyance; higher annoyance scores were reported when flight was visible during takeoff and noi aural annoyance was reported when overflight was not observed.as no annoyance was reported when overflight was not observed. (Eve Air Mobility, 2025).

5.2.2 Noise

Noise is the primary complaint citied by those living near airports. While it is anticipated that emerging aircraft will be comparatively quieter than conventional aircraft, the type of noise by emerging aircraft will be unfamiliar and vary substantially based on aircraft design. Factors that would also affect aircraft noise exposure include, but are not limited to:

- Frequency of operation
- Duration of noise exposure
- Type of day
- Location of noise exposure / proximity to sensitive land uses
- Ambient noise
- Aircraft altitude
- Aircraft visibility

Aircraft noise exposure and land use compatibility policies have been used for decades to prevent excess noise exposure and annoyance, but these policies may not suffice for emerging eVTOL aircraft. A recent study of helicopter and eVTOL noise suggests that current land use compatibility guidance may be inadequate for rotor and eVTOL aircraft operations, and new symmetrical noise impact zones should be developed that are centered around heliports and vertiports (Ison, 2023). The development of new standards could help to prevent or resolve potential conflicts with community members and AAM facility operators.

5.2.3 Safety

Concerns about the safety of AAM users, other aircraft, and those living near or beneath travel corridors may arise prior to and during the initiation of AAM operations. Advance public outreach by state and local agencies can help to address or reduce potential safety concerns by proving targeted messages about the role of FAA in aircraft and pilot certification, facility certification, and the integration of AAM in the national airspace system. At the local level, agencies can provide education and outreach to explain their role in promoting safety through the application of land use and zoning codes, building and fire codes, and through careful local decision-making processes that consider the potential effect of proposed infrastructure and operations. (APA, 2024)

5.2.4 Privacy

Physical and data privacy concerns may pose concerns to proposed AAM operations. Communities may be concerned about the potential intrusion of low-altitude aircraft over homes, yards, and public gathering spaces, and potential AAM users may be concerned about the collection, sharing, and management of personal/consumer data when making travel arrangements and embarking on trips. (APA, 2024)

A physical invasion of privacy can occur when aircraft knowingly enter the land or airspace above the land of another person without permission to capture a visual image or sound recording. Other concerns have been raised about governmental use of small drones and potential civil liberty and privacy concerns. Some privacy concerns may be mitigated through zoning and the siting of proposed vertiports locations. (APA, 2024)

While studies on the potential physical privacy impacts of AAM are limited, some emerging research on the privacy issues related to small drones may provide some insight. Several qualitative and quantitative studies examining the perception of bystanders about drone privacy have found that the public has notable concerns relating to stalking, photo/video recording, the sharing of recorded information, and the use of small drones near residential land uses (APA, 2024). Some states, including the State of Washington, have passed laws to protect the privacy rights of individuals from aerial surveillance.

Since 2015, the State has prohibited the use of drones and model aircraft in areas where there is a reasonable expectation of privacy, and it has prohibited users of drones and model aircraft to monitor or record institutional or personal information that could be found on computer or electronic displays (WAC 182-110-070). It is possible that similar regulations would be developed in association with AAM operations.

5.2.5 Transportation Access and Social Impacts

Three general concerns have been expressed in association with AAM infrastructure development:

- Neighborhood Impacts associated with vertiport development;
- Affordability and access to AAM travel; and
- Benefits associated with allocation of public resources (APA, 2024).

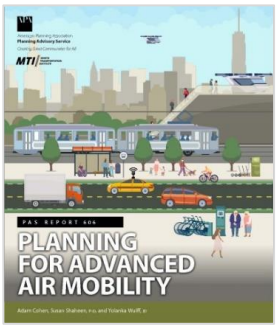
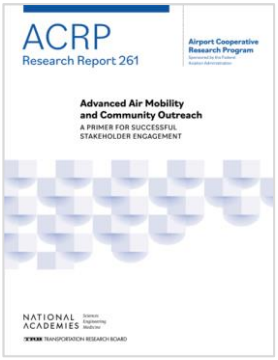
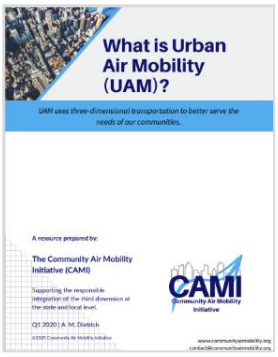
Transit-oriented development (TOD) seeks to optimize density and mixed land use around transit stations to create vibrant, connected, and walkable communities. The American Planning Association (APA) identified vertiports as similar development catalysts through the creation of vertiport-oriented development (VOD) near multimodal centers. However, some TODs have caused indirect impacts, such as gentrification and residential displacement, to neighborhoods that include transit facilities and cautions that vertiports could cause similar impacts. Local communities must consider similar effects when siting new vertiports (APA, 2024).

The affordability of AAM travel and access to AAM for people with disabilities also pose concerns. Planners have raised concerns that passenger service will be affordable only to wealthy travelers who wish to avoid congestion, especially at the initiation of AAM operations. Other concerns are associated with route development and vertiport placement and who would be served by proposed facilities.

5.2.6 Summary

State, regional, and local agencies will be responsible for identifying, avoiding, and minimizing the direct and indirect effects of forthcoming AAM infrastructure development and operations, and they will be responsible for identifying a framework for considering the potential effects of AAM operation and provide opportunities for meaningful public outreach and education prior to the development of proposed infrastructure. Several sources and publications are available to assist public agencies conduct successful stakeholder engagement and community outreach in support of AAM, such as:

Table 5-2: Engagement and Outreach Resources

Resource	Available at	Cover
APA's Planning Advisory Service Report 606, *Planning for Advanced Air Mobility* (APA, 2024)	https://www.planning.org/publications/report/9286262/#:~:text=PAS%20Report%20606%2C%20Planning%20for%20Advanced%20Air%20Mobility%2C,considerations%20for%20AAM%20development%20and%20potential%20community%20impacts.	
ACRP Report 261, *AAM and Community Outreach: A primer for Successful Stakeholder Engagement* (ACRP, 2024)	*https://nap.nationalacademies.org/catalog/27627/advanced-air-mobility-and-community-outreach-a-primer-for-successful-stakeholder-engagement*	
NASA's *Advanced Air Mobility Community Integration Considerations Playbook* (NASA, 2023	https://ntrs.nasa.gov/api/citations/20230010184/downloads/AAM-Community-Integration-Considerations-Playbook.pdf	
The Community Air Mobility Initiative (CAMI), a public educational non-profit provides educational materials and resources for state, regional and local decision makers. provide guidance and materials for successful stakeholder engagement and community outreach (CAMI, 2025)	https://www.communityairmobility.org/	

5.3 Stakeholder Outreach Approach and Strategy

While AAM and its integration with other transportation modes can benefit communities and the environment, it can also result in unanticipated impacts. Community planners and decisionmakers will need to incorporate AAM into modal and regional transportation plans, comprehensive plans, and facility master plans, among others, and regulatory and environmental review will be required prior to plan approvals and funding at the federal, state, and local level. Multiple opportunities for engagement are associated with these planning and review processes; however, AAM stakeholder and community outreach should begin prior to the development of specific plans.

5.3.1 Overall Stakeholder Outreach Strategy

To prepare for forthcoming AAM implementation, the State could spearhead efforts to help local agencies better understand and prepare for AAM. In turn, regional and local planners could use the materials and strategies identified at the State level to educate agency stakeholders and the public. Key stakeholders and outreach strategies are summarized in **Table 5-3**.

Table 5-3: Key Stakeholders and Outreach Strategies

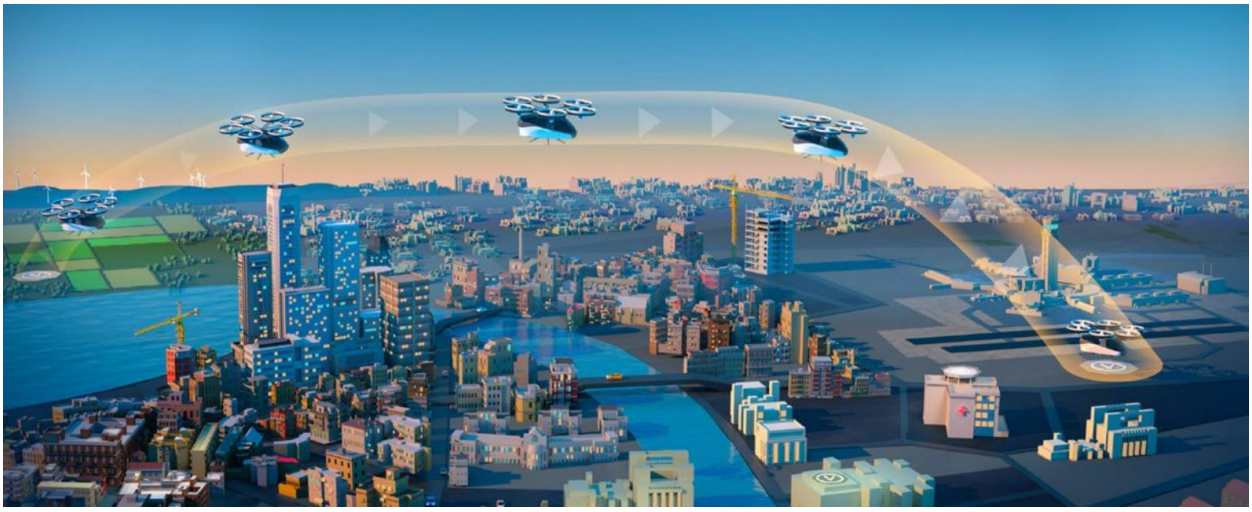
Stakeholder	Outreach Strategy and Milestones
WSDOT	■ Provide foundational education about AAM to: — Other State Agencies — Regional Transportation Agencies — Airports ■ Work with the Department of Commerce to integrate AAM into Growth Management Act Regulations and Policies, including: — Comprehensive Plans — Economic Development Plans ■ Work with industry leaders and state officials to revise Airport Land Use Compatibility guidance to address AAM. ■ Work with the Department of Ecology to develop guidance for the review of proposed AAM infrastructure and operations pursuant to SEPA.
Airport Operators	■ Work with OEMs to understand AAM integration into the airport environment. ■ Using materials provided by WSDOT, educate airport community and neighbors about AAM.
Regional Transportation Planning Agencies (Councils of Government)	■ Using materials prepared for WSDOT, consider the use of AAM in regional plans.
Local Planning Agencies	■ Adapt data provided by WSDOT to reflect local concerns and communities. ■ Conduct public outreach through outreach to: — Local officials — Community-based organizations and leaders — Neighborhood groups and associations
Industry (OEMs)	■ Work with existing airport operators. ■ Provide demonstrations at community events.

5.3.2 Leverage Available Frameworks, Networks, and Materials

In planning for and public outreach, it will be critical to build upon existing partnerships, plans and frameworks (ACRP, 2024) such as:

- **Agency partnerships**, such as working groups, committees, and task forces. In addition, state and local agencies may have ongoing relationships with public or community outreach consultants who can assist with public outreach and education.
- **Plans and planning frameworks**, such as the WTP 2040 and its' modal plans, airport plans, and local comprehensive plans.
- **Available research and materials**. Considerable work has been completed to develop stakeholder outreach materials that can be adapted to address local interests and circumstances (see Section 5.2).

6. AAM VISION AND ROADMAP



Source: FAA, 2023c

6.1 AAM Vision for Washington

Although AAM can be considered transformational in its potential to transport people and goods, it is not envisioned as a standalone system, but as a new technology to supplement the State's robust multimodal transportation system and its vision to connect people and communities, operate seamlessly across boundaries, and provide travel options that are environmentally and financially sustainable (WTP, 2024).

6.1.1 Systemwide Benefits

As described in earlier, AAM can contribute to that vision by supporting the broad policy goals presented in both the Washington Aviation System Plan and the broader WTP 2040:

- Safety
- System Preservation (and enhancement)
- Mobility and Access
- Economic Vitality
- Environment and Health
- Technology and Innovation (Energy)
- Resilience
- Funding

AAM could contribute to these policy goals by:

- Providing a reduced- or zero-emission transportation alternative that links to commercial aviation, transit, and cargo facilities (supports policy systemwide goals of: mobility and access, economic vitality, technology and innovation, and resilience).
- Providing additional opportunities to increase utilization funding, and improvements to the State's 134 pubic-use airports (supports systemwide goals of system preservation and enhancement).
- Supporting emergency and law enforcement services statewide (supports system-wide goals of safety and resilience).

6.1.2 A Phased Approach

Chapter 6 charts a vision for providing the regulatory and policy infrastructure needed to implement initial AAM operations by 2030 and support scalable operations over the next 30 years (see **Table 6-1**).

Table 6-1: Timeline

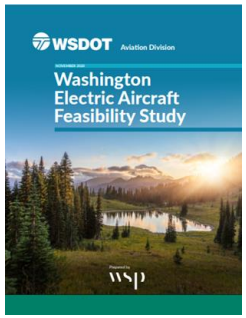
Year	Anticipated Milestone(s)
2026	Early entrant AAM vehicles enter service
2027	First Vertiports become operational
2028	Aircraft production expands Aircraft operations expand to include regional operations
2029	AAM/UAM service begins in targeted cities
2030	Ongoing expansion of services to include regional travel
2035	Vertiport network expansion Increased tempo of operations in Cities/regions
2040	Increased Vertiport network
2050	Integration of AAM infrastructure into airports and communities

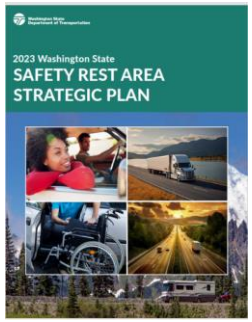
Source: Adapted from FAA Innovate28 (FAA, 2023c)

6.1.3 Infrastructure Preservation and Investment

WSDOT considered the needs of the transportation system as whole when preparing the subsequent policy roadmap (see Chapter 2). While AAM cannot replace these other modes, it may provide opportunities to provide alternatives to existing transportation services and/or offer opportunities to reduce or delay expensive facility expansions. **Table 6-2** summarizes the challenges facing the State's modal systems and opportunities to supplement or offset those challenges using both private and public investment in AAM.

Table 6-2: Modal Opportunities, Challenges, and Potential AAM Applications

Mode	Opportunities	Challenges	AAM Applications
Aviation 	■ Diverse system and Facilities ■ Valued economic engine ■ Available infrastructure ■ Existing intermodal connections (freight) ■ Ongoing energy "push"/energy hub development	■ Historically underfunded ■ Infrastructure modification ■ Capacity challenges at SEATAC ■ Spatial challenges (ramp space/hangar space) ■ Inconsistent access (east-west)	■ Enhance alternative energy use /energy hub development ■ Provide new services and revenue streams ■ Support Infrastructure modernization and enhancements ■ Supports existing businesses and OEMs (Boeing, Wisk)
Marine Ports	■ Existing intermodal Freight terminals ■ Many port districts include airports already ■ Potential STOL/VTOL opportunities in constrained spaces ■ Supports alternative energy infrastructure goals	■ Spatial constraint (no room for facility expansion) ■ Potential airspace constraints (cranes, other equipment)	■ Alternative mode for to transporting high-value goods ■ Potential alternative freight opportunities with emerging freight aircraft (i.e., pipistrel) ■ Provides over-water transport to areas without designated ports to offer first-/last-mile access ■ Increased frequency of trips to/from ports
Freight Rail	■ Acknowledged as critical infrastructure for domestic, international, and military transport uses ■ Existing intermodal use (22 ports include rail) ■ Intermodal use already (22 ports)	■ No ownership of rail lines and some adjacent land ■ Spatial constraints ■ Development constraints	■ Provides transport to areas not served directly by rail lines for first-/last-mile access ■ Opportunities for increased trip frequency
Ferry System	■ Critical infrastructure for commuters and island residents ■ Close interaction with marine and aviation resources	■ Capacity to accommodate increasing ridership ■ Aging fleet	■ Offset or alternative to ferry transport during off-peak hours ■ Emergency transport for island residents ■ Supplemental mode to assist with increased ridership.

Mode	Opportunities	Challenges	AAM Applications
Transit System (Ferry/ Commuter Rail/Park-n-Ride)	▪ Existing intermodal transit lines (ferry, passenger/commuter rail, park-n-ride) ▪ Ownership of facilities adjacent to rail lines	▪ Congestion near transit stations ▪ Spatial constraints at/near transit centers ▪ Many located in dense urban areas with existing land use conflicts	▪ Option to serve/supplement transit routes during off-peak hour ▪ Opportunity to supplement/replace routes with low density of user ▪ Potential offset for more expensive infrastructure (additional terminals and parking areas) ▪ Urban taxi service is likely to be initial AAM use case
Roads and Highway System, including Charging Stations and Rest Stops 	▪ Existing intermodal links (ports, railroads, airports) ▪ Existing/growing electrical and hydrogen vehicle charging infrastructure ▪ Communication infrastructure ▪ Emergency response	▪ Increased congestion at intermodal sites ▪ Charging compatibility	▪ Potential use of rest stops as staging areas for emergency evacuation areas ▪ Potential use of rest stops as AAM emergency landing areas ▪ Potential use of electric and hydrogen infrastructure for AAM system/route planning ▪ Potential link to park-n-ride areas for commuters ▪ Potential synergies with existing communication and charging infrastructure during route planning ▪ Potential funding by AAM operators and system users for rest stop development/enhancement

6.2 Policy Roadmap

The AAM Aircraft Plan explores near-term opportunities for AAM implementation and infrastructure development in the near term; however, opportunities for forthcoming operations must be supported by a foundation of thoughtful and predictable policy foundation that:

- Builds on existing regulations, policy, and agency infrastructure;
- Considers existing transportation system needs, values, and goals;
- Incorporates available research; and
- Respects resource availability and constraints.

WSDOT developed the following policy roadmap based on available research, project-specific research, and input from its Technical Assistance Committee. Working together, the group identified a broad policy approach that addresses the following topics described in Sections 6.2.1 through 6.2.5:

- Legislation and Funding
- Guidance and Best Practices
- Infrastructure Evaluation and Development
- Agency and Community Outreach
- Fostering Collaboration

6.2.1 Legislation and Funding

Responsibility	WSDOT Aeronautics and Legal Counsel, Department of Finance, State legislature
Timeframe	■ Months 1-6: Review and revise legislation ■ Months 7-12: Legislative Initiatives

Review and Revise Legislation

WSDOT's primary focus during 2025 and early 2026 is associated with regulatory and policy review. The purpose of regulatory review is two-fold:

- To incorporate AAM-related Federal laws and regulations into State regulations and codes.
- Incorporate AAM into existing State Regulations and Codes, which in term will be incorporated or modeled by local agencies.

As discussed in Chapter 4, the federal government has enacted several pieces of legislation associated with envisioned AAM operations, and the 2024 FAA Reauthorization Act underscores the commitment of lawmakers to make the U.S. a global leader in AAM. Based on the emphasis placed on AAM in the FAA Reauthorization Act of 2024, WSDOT should review RCW Title 14 and identify whether it requires revision or amendment to coincide with recent legislation associated with AAM.

Regulatory review must be a priority, as legislation would be required to revise state codes and enable revisions to local codes. Regulatory review must include, but is not limited to, Title 47 RCW, *Public Highways and Transportation*, and Title 14, *Aeronautics*. Specific codes to be reviewed for possible modification include, but are not limited to:

RCW 47.68.80, Drafts of Legislation, Other Duties

Enables WSDOT to draft and recommend necessary legislation to advance the interests of the state in aeronautical matters before federal agencies and other state agencies.

- RCW 46.68.020 - Definitions
- RCW 47.68.100 - Acquisition and disposal of airports, facilities, etc.
- RCW 47.68.130 - Contracts or leases of facilities in operating airports
- RCW 27.68 .170 - State airway system
- RCW 47.68.210 - Rules - Standards
- RCW 47.68.420 - Unpiloted aircraft system coordinator - Duties - Department
- RCW 14.12.010 - Definitions
- RCW 14,12.090 - Airport zoning requirements

Several studies undertaken by WSDOT have identified shortfalls in transportation funding, including aviation. A 2014 Airport Investment Study identified that the State's existing funding programs were not sufficient to meet the identified aviation system needs. Only 64 of the State's 134 airports are included in the National Plan of Integrated Airport System (NPIAS) and eligible to receive funding under the federal airport improvement plan (AIP) funding; however, public use facilities included in the Washington Aviation System Plan (WASP) are eligible to receive grants from the Airport Aid Grant Program administered by WSDOT Aviation.

The WASP Economic Development and Vitality goal identified a need to support the ability of airports to advance business opportunities that can create prosperity for the airport environment and the communities they serve. This is also a goal of the WTP, which recommended actions that coincide with forthcoming AAM operations such as:

- Promoting strategies that address the "first and last mile" of freight connectivity, including prioritizing key connections to ports, freight terminals, agriculture storage facilities, and airports.
- Working with the Legislature to provide investment in designated freight corridors by making connections with ports.
- Collaborating with the Department of Commerce, the Washington Tourism Alliance and smaller commercial service airports to explore flight offerings between smaller commercial service airports to "hub" airports.
- Working with the Legislature should direct aviation taxes and fees to fund investments in airport infrastructure.

In addition, the WASP specifically states that WSDOT should support the implementation of strategic aviation system investments that can leverage the value of the aerospace industry and commercial travel to the State's economy. (WSDOT, 2017).

Legislative Initiatives

AAM will require new infrastructure investment that would exceed WSDOT's available funding. As part of the proposed review of existing regulations and code, WSDOT should work closely with legislators and other stakeholders and modal agencies to pursue funding for strategic investments that would further AAM and other WTP goals associated with:

- The aviation system and funding shortfalls for general aviation,
- Intermodal facility improvements,
- Fist and last mile connectivity, and
- New technology opportunities that will support underutilized GA Airports that could enforce regional supply chains.

Dedicated staff will be required undertake necessary policy review and coordinate proposed legislation with legislators. WSDOT will be required to work with legislative representatives to secure the funding required to support additional staff needs.

6.2.2 Agency Education and Community Outreach

Responsibility	WSDOT, Legislature
Timeframe	■ Months 6-12: Identify Stakeholders ■ Years 2-4: Provide Consistent Messaging and Outreach and Messaging ■ Months 6-12: Resources and Funding

Concurrently or immediately following its review of existing legislation and policy, WSDOT should engage with other state and local agencies to provide education about AAM, its potential integration with other transportation modes to further system goals, and its proposed implementation timeline. Specific tasks include:

- Identify AAM stakeholders, focusing on state, regional, and local agencies.
- Prepare an AAM Outreach and Education Plan to reach diverse stakeholders.
- Prepare consistent and targeted messaging.

Identify Stakeholders

Table 5-1 provided examples of the many stakeholders that should be involved in AAM outreach, including state agencies, industry representatives, and community stakeholders. Whenever possible, existing networks should be used to distribute information. The AAM outreach Plan should identify potential organizations, contact persons, and media for distributing information about AAM.

Provide Consistent Messaging and Outreach and Messaging

The proposed AAM Outreach and Plan should provide consistent messaging across organizations. Initial outreach must provide a clear and consistent definition/description of AAM, define key terms, and describe the anticipated AAM ecosystem including:

- Proposed aircraft and infrastructure
- Envisioned use cases
- Potential integration with the existing transportation system
- Implementation timeframe
- Contact information

Samples of outreach information are available from ACRP, NASA, and CAMI that can be customized as needed. The distribution of introductory information can help to foster consistent language for ongoing communication.

Subsequent outreach can include more targeted information for specific stakeholders using a variety of media including:

- AAM Factsheets
- Articles for publication in stakeholder newsletters and media outlets
- Recorded presentations that can be used by WSDOT and distributed to other agency stakeholders (Podcasts, recorded presentations, power point)
- Conference presentations
- Collaboration with OEMS to demonstrate aircraft operation

Organizations Networks for AAM Education and Outreach

The following organizations may provide networks to assist with AAM outreach and education

- WSDOT modal agencies
- State Department of Commerce
- State Planning Agencies
- Regional Transportation Planning Organizations (RTPOS/Councils of Government COGS
- Washington State Association of County and Regional Planning Directors (WSACRPD)
- Association of Washington Cities (AWC)
- Municipal Research and Services Center (MRSC)
- Washington State Department of the Environment
- Governors Office of Indian Affairs
- Washington Department of Commerce
- Washington State Emergency management Division

Industry Organizations

Industry Organizations who may be able to participate in public outreach efforts include, but are not limited to:

- American Planning Association, Washington Chapter
- Aircraft Owner and Pilots Association (AOPA)
- Airport Managers
- Aircraft Manufacturers/OEMS
- Canadian Advanced Air Mobility (CAAM)
- Commercial Aviation Working Group
- Washington Public Ports Association (WPPA)
- Washington State Transit Association (WTSA)
- National Business Aviation Association
- General Aviation Manufacturers Association
- Pacific Northwest Economic Region (PNWR)

Subsequent phases of the public outreach program would include the development of community outreach materials for engaging the public. WSDOT could provide community outreach materials to local jurisdictions for their use and distribution in advance of AAM operations.

Example of an AAM factsheet
Source: ACRP, 2024

Resources and Funding

WSDOT values public outreach, and it may require additional resources for this task, including designated staff or consultants and funding. A request for additional funding should be included as described Section 6.2.1.

6.2.3 Infrastructure Evaluation and Development

Responsibility	WSDOT, including all modal agencies
Timeframe	■ Month 6 - Year 3: WTP 2050 ■ Years 2-3: Engage in/Support Regional Transportation Planning Efforts

As presented in **Table 6-2**, AAM offers potential benefits to both the state's aviation system specifically and to its overall transportation system. The most direct way of integrating AAM into the state's multimodal system is through integration with WTP 2050 and its subsequent modal plans. State-level input will also be required to ensure that AAM is integrated into regional transportation plans alternative energy development.

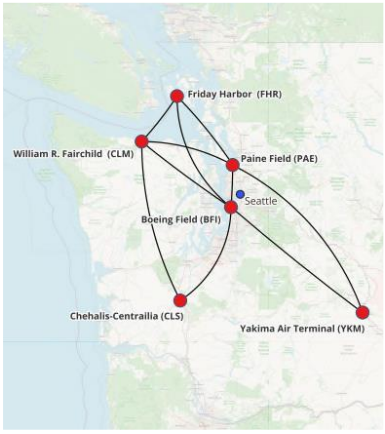
WTP 2050

The State has initiated preparation of WTP 2050. During the past two years the State has conducted background/policy review, conducted outreach, and provided review recommendations. Key gaps in WTP strategy that will be addressed in WTP 2050 are associated with: land use and GMA alignment, climate adaptation/resiliency, equity/quality of life, safety, rural resiliency and accessibility, system preservation and funding, and accountability (WSTC, 2025). AAM operations can further each of these strategic goals. It will be incumbent for WSDOT to provide outreach to state, regional, and local planning agencies involved in WTP 2050 to consider AAM during policy development and in the development of subsequent modal plans. Key items to be addressed during the incorporation of AAM into WTP 2050 include:

- System capacity and constraints, including those faced by the Seattle-Tacoma Airport (SEA-TAC)
- Increased utilization and funding for the general aviation system
- The use of AAM to supplement existing passenger and intermodal uses.

Engage in/Support Regional Transportation Planning Efforts

WSDOT provides coordination with tribal transportation planning organizations, metropolitan planning organizations (MPOs), and regional transportation planning organizations (RTPOs) in accordance with federal and state statutes and to obtain federal assistance through the Transportation Improvement Program (TIP). Such efforts frequently focus on surface transportation, and to be successful, AAM must be integrated with surface transportation modes. Ongoing coordination with MPOs/RTPOs and Tribes could facilitate AAM development in rural areas to supplement surface transportation programs and facilities.



Participating airports in the ChehalisHub for Aviation Innovation and Sustainable Energy (CHAISE)

Case Study: Regional Clean Aviation Infrastructure Development

The City of Chehalis, as sponsor of the Chehalis-Centralia Airport ("CLS"), is pursuing funding as the lead applicant through the Community Program of the Charging and Fueling Infrastructure Grant, along with five nearby airports.

During a recent Master Plan Update, CLS decided to pursue opportunities to undertake innovative aviation activities on the Airport that would provide high-paying jobs in the rural community that would also fight climate change through the use of sustainable energy. CLS is also pursuing its goal to become an energy hub for the community, supporting multimodal clean energy facilities and creating resiliency.

The Airport's master plan and development plans are being utilized as a demonstrator airport across Washington by Washington Department of Transportation (WSDOT) Aviation. The plan includes development of the Chehalis Hub for Aviation Innovation and Sustainable Energy (CHAISE).

6.2.4 Formulate/Revise Policy, Guidance, and Best Practices for AAM

Responsibility	WSDOT
Timeframe	■ Years 1-3: Update Existing Plans ■ Years 2-3: Develop Supplemental Guidance and Best Practices for AAM Planning at the Local Level

Following its review of existing regulations, WSDOT should work with other State agencies to revise existing plans and policies including to address AAM. Additional guidance and best practices may be required to incorporate AAM into existing plans.

Update Existing Plans

Plans identified for revision or additional guidance include, but are not limited to:

- Growth Management Act/Comprehensive Planning Guidance (prepared by MRSC)
- WSDOT Airports and Compatible Land Use Guidebook
- Supplemental Guidance for State Environmental Policy Act (SEPA) Compliance

Growth Management Act/Comprehensive Planning Guidance

Counties and many other local governments throughout Washington are required to adopt comprehensive plans in accordance with state statutes, and 28 counties fully comply with the Growth Management Act, which requires the development of specific elements, including mandatory land use and transportation elements. WSDOT should coordinate with the Department of Commerce to revise comprehensive planning guidance to address AAM by including necessary definitions (e.g., eVTOL, vertiport, etc.) and compatibility policies associated with infrastructure planning and siting. Associated policies and definitions may also require inclusion in various sections of the RCW that address comprehensive plans.

WSDOT Airports and Compatible Land Use Guidebook

WSDOT's Airports and Land Use Compatibility Program Guidebook (Guidebook) reflects and implements the guidance set forth by the FAA (see Section 4.1.5) and helps airports and jurisdictions to work cooperatively to prevent encroachment (WSDOT, 2011). The Guidebook addresses compatibility concerns including aircraft noise exposure, safety, obstructions. The guidance provided in the Guidebook reflects federal guidance, which seeks to separate aircraft operations from sensitive land uses and densely populated areas. AAM will introduce new aircraft with new noise signatures, enable aircraft operations in new locations (including densely populated areas), and introduce potential effects associated with downwash/outwash. The relationship between aircraft operations and existing land uses may also pose concern. WSDOT will need to monitor changes in federal land use guidance and ongoing research and revise its current guidebook to address AAM.

Supplemental Guidance for State Environmental Policy Act (SEPA) Compliance

SEPA requires state and local agencies to inform decision makers and the public about the potential impacts of proposed projects and reduce those environmental impacts to the extent feasible. SEPA evaluation will apply to proposed vertiports and AAM operations that require a discretionary approval by a local governing body or that require the use of state or local funds.

SEPA is an umbrella law that is used to implement applicable environmental laws. Although SEPA guidance identifies specific issues/areas that must be addressed in environmental evaluations, it does not provide evaluation criteria. Key analyses that are likely associated with the construction and operation of new vertiports or the initiation of AAM operations include: Land and Shoreline Use, Light and Glare, Historic and Cultural Preservation, and Transportation. Environmental evaluations associated with AAM may require different methodologies than those used to evaluate conventional aviation projects based on the type of aircraft and location of proposed operation.

Develop Supplemental Guidance and Best Practices for AAM Planning at the Local Level

As described in Chapter 4, WSDOT does not approve the siting of proposed aviation facilities or aircraft operations, but it is responsible for ensuring that federal regulations and guidance are reflected in state regulations and guidance. As such, WSDOT will need to develop guidance for local agencies responsible for approving AAM infrastructure development to ensure that they address evolving state and local regulations and guidance.

Facility Siting Criteria and Evaluation

Following initial outreach to local agencies described in Section 6.2.2, WSDOT should consider providing guidance and best practices to local planners and decisionmakers about the review of proposed AAM-related projects prior to decision making. The guidance should include references for associated regulations and guidance to address such topics as:

- Federal vertiport siting requirements
- Necessary federal and local reviews (facility siting, airspace evaluation)
- Compliance with statewide transportation planning goals
- Land use considerations
- Community/public outreach
- Social impacts
- Vertiport safety and security (hazardous materials, fire protection, data, and passenger security, etc.)
- Environmental review
- Compatible land use evaluation

Outreach to Original Equipment Manufacturers

OEMs and AAM service providers may be unaware of state and local regulations pertaining to land use, zoning, and comprehensive planning. Working with the Department of Commerce and MRSC, WSDOT could coordinate the development of guidance to help OEMs and service providers identify appropriate sites for infrastructure and aircraft operations that comply with state transportation goals, growth management goals, and local regulations and policies.

6.2.5 Foster Ongoing Collaboration

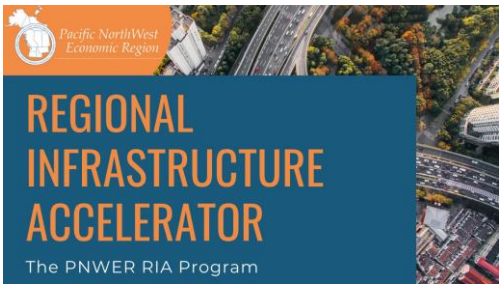
Responsibility	WSDOT, Department of Commerce, PNWER
Timeframe	■ Years 1-5: Collaborate with other agencies ■ Years 2-5: Create statewide forum to foster AAM integration

Collaborate with Other Agencies

Ongoing coordination will be essential as AAM evolves, and numerous working groups have developed to bring agencies, professional organizations, and industry representatives to a common table to exchange ideas. Representatives from WSDOT and other state agencies routinely participate in some of these existing organizations and forums:

- **AAM Interagency Working Group:** The USDOT has convened a nationwide working group to further AAM. The working group provides webinars for stakeholders nationwide.
- **AAM Multistate Collaborative:** Nearly 30 states and the National Association of Aviation Officials (NASAO) participate in the AAM Multistate Collaborative to work toward consensus on key AAM policy issues and how state governments can support AAM deployment to complement AAM efforts.

- **Pacific Northwest Economic Region Regional Infrastructure Accelerator (PENWR RIA) Program:** The RIA assists state, tribes and agencies in identifying private and federal financing for regional transportation projects that reduce environmental effects and prevent supply-chain disruptions.
- **American Association of Airport Executives (AAAE) Operations, Safety, Planning and Emergency Management Committee:** AAAE hosts monthly seminars that are attended by hundreds of aviation and industry professionals. The webinars focus on new technologies and include a focus on AAM, its component technologies, and its potential effect on aviation and airports.
- **Canda Advanced Air Mobility (CAAAM):** CAAM includes a national board and advisory committee composed of global experts to help address AAM challenges.



Source: https://wstc.wa.gov/wp-content/uploads/2022/07/2022-0719-BP2-ElectrificationofHeavyDutyTrucks.pdf

Source: https://canadianaam.com/events/caam-march-aam-town-hall-2/

Establish a Statewide Forum for State and Local Representatives

In addition to participation in these forms, WSDOT and local agencies could benefit from ongoing collaboration with other state agencies and industry professionals to pursue state-specific efforts toward clean energy development and zero-emission transportation, including AAM.

6.3 Summary

As shown in the timeline (**Table 6-3**), planning for AAM must begin immediately, such as regulatory review and coordination with the legislative representatives to procure funding. Tasks associated with agency outreach and coordination will continue throughout the five-year period associated with the preparation of AAM operations.

For any questions or comments about this plan, contact lease Dr. David Ison, Aviation Planner, WSDOT Aviation Division at david.ison@wsdot.wa.gov.

Table 6-3: AAM Policy Roadmap and Timeframes

Task	Description	YEAR 1												YEAR 2												YEAR 3												YEAR 4												YEAR5											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
6.2.1	**Legislation and Funding**																																																							
	Review and Revise Legislation																																																						
	Legislative Initiatives																																																						
6.2.2	**Agency Education and Community Outreach (ongoing)**																																																						
	Identify Stakeholders																																																						
	Provide Consistent Messaging and Outreach and Messaging																																																						
	Resources and Funding																																																						
6.2.3	**Infrastructure Evaluation and Development (ongoing)**																																																						
	WTP 2050																																																						
	Engage in/Support Regional Transportation Planning Efforts																																																						
6.2.4	**Formulate/Revise Policy, Guidance, and Best Practices for AAM**																																																						
	Update Existing Plans																																																						
	Develop Supplemental Guidance and Best Practices																																																						
6.2.5	**Foster Ongoing Collaboration**																																																						
	Collaborate with other agencies																																																						
	Establish a Statewide Forum for State and Local Representatives																																																						

7. REFERENCES

Aerospace Competitive Economics Study (ACES). 2022. *Aerodynamic Advisory*. Prepared for the International Association of Machinists (IAM) and The Society of Professional Engineering Employees in Aerospace (SPEAA). Available at: Aerospace Competitive Economics Study 2022

Airport Cooperative Research Program (ACRP). 2024. *Report 261, AAM and Community Outreach: A Primer for Successful Stakeholder Engagement*. Transportation Research Board. Washington, D.C. available at: https://nap.nationalacademies.org/catalog/27627/advanced-air-mobility-and-community-outreach-a-primer-for-successful-stakeholder-engagement

American Planning Association (APA). 2024. *Planning Advisory Service Report 606, Planning for Advanced Air Mobility*. Chicago, Illinois. Available at: https://www.planning.org/publications/report/9286262/#:~:text=PAS%20Report%20606%2C%20Planning%20for%20Advanced%20Air%20Mobility%2C,considerations%20for%20AAM%20development%20and%20potential%20community%20impacts

Bassey, Robert. 2025. *Presentation to the AAAE Emerging Aviation Technologies Workshop*. April 8, 2025. Federal Aviation Administration. U.S. Department of Transportation, Washington, D.C. Available at: https://aaae.zoom.us/rec/play/_ruZa5t6mjitNOkP8xU6Pi7rABqnH2o7baNOnnUqpm5tQchutFzIEEkI8OCc8_5oyyKlosBMZ0xFyAFT.vo6EuKvnwa2786yW?accessLevel=meeting&canPlayFromShare=true&from=share_recording_detail&startTime=1744138868000&componentName=rec-play&originRequestUrl=https%3A%2F%2Faaae.zoom.us%2Frec%2Fshare%2F7_btzPQJ5lDIiNK9QZbRI094hTvs60Owuph9nCmbrYcIak9dYs8XQO6z7lr3Rr_a.ndkeVcfCmmkSbrAt%3FstartTime%3D1744138868000

Black and Veatch. Undated. *Powered for Take Off: NIA-NASA Urban Air Mobility Electric Infrastructure Study*. Walnut Creek, CA. Accessed May 27, 2024. Available at: https://www.bv.com/evtols/

Cantwell, M. 2025. *City of Chehalis Gets Nearly $1M Grant to Plan Hydrogen Fueling Facility at Airport*. Press Release. U.S. Senator Maria Cantwell. Washington, D.C. Available at: https://www.cantwell.senate.gov/news/press-releases/-city-of-chehalis-gets-nearly-1m-grant-to-plan-hydrogen-fueling-facility-at-airport

Cohen, A., S. Shaheen, and Y. Wulff. 2024. *Planning for Advanced Air Mobility*. American Planning Association. Chicago. IL. Accessed September 1, 2024. Available at: https://planning-org-uploaded-media.s3.amazonaws.com/publication/download_pdf/PAS-Report-606a.pdf

Community Air Mobility Initiative (CAMI). 2025. *CAMI Resource Library*. Available at: https://www.communityairmobility.org/resources

Eve Air Mobility. 2025. *Visual and Sound Perception Study*. Available at: https://www.eveairmobility.com/visual-and-sound-perception-study/

Federal Aviation Administration (FAA). 2006. *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. U.S. Department of Transportation. Washington, D.C. Available at: https://www.faa.gov/airports/resources/publications/orders/environmental_5050_4

Federal Aviation Administration (FAA). 2020. *FAA Form 7480-1, Notice for Construction, Alteration and Deactivation of Airports*. United States Department of Transportation. Washington, D.C. Available at: FAA Form 7480-1, Notice for Construction, Alteration and Deactivation of Airports

Federal Aviation Administration (FAA). 2022. *Advisory Circular (AC) 150/5190-4B, Airport Land Use Compatibility Planning*. U.S. Department of Transportation. Washington, D.C. Accessed October 31,2024. Available at: https://www.faa.gov/documentLibrary/media/Advisory_Circular/150_5190_4b_Land_Use_Compatibility.pdf

Federal Aviation Administration (FAA). 2023a. *Urban Air Mobility (UAM) Concept of Operations Version 2.0*. Released April 26, 2023. U.S. Department of Transportation. Washington, D.C. Available at: https://www.faa.gov/sites/faa.gov/files/Urban%20Air%20Mobility%20%28UAM%29%20Concept%20of%20Operations%202.0_0.pdf

Federal Aviation Administration (FAA). 2023b. *Advisory Circular 150/5390-2D, Heliport Design*. Issued January 5, 2023. U.S. Department of Transportation. Washington, D.C. Available at: 150/5390-2D, Heliport Design, 1/5/2023

Federal Aviation Administration (FAA). 2023c. *Advanced Air Mobility (AAM) Implementation Plan, Near-term (Innovate28) Focus*. United States Department of Transportation, Federal Aviation Administration. https://www.faa.gov/sites/faa.gov/files/AAM-I28-Implementation-Plan.pdf

Federal Aviation Administration (FAA). 2024. *Engineering Brief 105A, Vertiport Design*. December 31, 2024. U.S. Department of Transportation. Washington, D.C. Available at: https://www.faa.gov/airports/engineering/engineering_briefs/eb_105a_vertiports

Federal Aviation Administration (FAA). 2025a. *Mission*. Updated January 2025. U.S. Department of Transportation. Washington, D.C. Available at: https://www.faa.gov/about/mission

Federal Aviation Administration (FAA). 2025b. *FAA Form 7460-1, Notice of Proposed Construction or Alteration*. U.S. Department of Transportation. Washington, D.C. Available at: https://www.faa.gov/documentLibrary/media/Form/FAA_7460-1.pdf

Ison, David C. 2023. *Analysis of Noise Distributions at Heliports and Vertiports: A Guide for Site Selection and Land Use Planning*. Journal of Airline and Airport Management (13(2):64. Available at: https://www.researchgate.net/publication/377254249_Analysis_of_noise_distributions_at_heliports_and_vertiports_A_guide_for_site_selection_and_land_use_planning

National Aeronautics and Space Administration (NASA). 2021a. *Regional Air Mobility: Leveraging Our National Investments to Energize the American Travel Experience*. April 2021. Washington, D.C. Available at: https://ntrs.nasa.gov/api/citations/20210014033/downloads/2021-04-20-RAM.pdf

National Aeronautics and Space Administration (NASA). 2021b. *Advanced Air Mobility Mission Overview*. NASA. Online publication NASA, October 7, 2021.

National Aeronautics and Space Administration (NASA). 2023. *Advanced Air Mobility Community Integration Considerations Playbook*. Washington, D.C. Available at: https://ntrs.nasa.gov/api/citations/20230010184/downloads/AAM-Community-Integration-Considerations-Playbook.pdf

National Renewable Energy Laboratory (NREL) 2023. *Federal Aviation Administration Vertiport Electrical Infrastructure Study*. Technical Report NREL-TP_5R00-86245. December 2023. Golden, Colorado. Accessed March 15, 2024. Available at: https://www.nrel.gov/docs/fy24osti/86245.pdf

National Renewable Energy Laboratory (NREL). 2022. Addressing Electric Aviation Infrastructure Cybersecurity Implementation. NREL/TP-5R00-82856. Golden, Colorado. Available at: https://www.nrel.gov/docs/fy23osti/82856.pdf.

Ohio Department of Transportation (ODOT). 2021. *Infrastructure to Support Advanced Autonomous Aircraft Technologies in Ohio*. Office of Statewide Planning & Research.

Pacific Northwest Economic Region (PNWER). 2025. *Regional Infrastructure Accelerator Projects*. Seattle, Washington. Available at: https://www.rianorthwest.org/our-projects/#isc

Securing America's Future Energy (SAFE). 2018. *America's Workforce and the Self-Driving Future: Realizing Productivity Gains and Spurring Economic Growth*. Washington, D.C. Available at: https://avworkforce.secureenergy.org/wp-content/uploads/2018/06/Americas-Workforce-and-the-Self-Driving-Future_Realizing-Productivity-Gains-and-Spurring-Economic-Growth.pdf

State of Washington Department of Ecology. 2025. *SEPA Checklist Guidance*. Olympia, Washington. Available at: https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance.

Transportation and Infrastructure Committee. 2024. *FAA Reauthorization*. U.S. House of Representatives. Washington, D.C. Available at: https://transportation.house.gov/faa-reauthorization/?ref=techbuzznews.com

U.S. Senate. 2024. *Cantwell, Blackburn Introduce Bill to Prevent Supply Chain Disruptions Before They Happen, Protect American Producers and Pocketbooks*. Press release, May 21, 2024. Washington, D.C. Available at: https://www.commerce.senate.gov/2024/5/cantwell-blackburn-introduce-bill-to-prevent-supply-chain-disruptions-before-they-happen-protect-american-producers-pocketbooks

United States Code (U.S.C.). 2022. *Public Law No. 117-203. Advanced Air Coordination Act*. *U.S.* October 17, 2022. U.S. Government Printing Office. Washington, D.C. Available at: https://www.congress.gov/117/plaws/publ203/PLAW-117publ203.pdf

United States Code (U.S.C.). 2024. *Public Law 118-63. 2024. FAA Reauthorization Act of 2024*. May 16, 2024, Government Printing Office, Washington, D.C. Accessed November 1, 2024. Available at: https://www.congress.gov/118/plaws/publ63/PLAW-118publ63.pdf

United States Environmental Protection Agency (EPA). 2024. *What is the National Environmental Policy Act?* Washington, D.C. Accessed December 15, 202. Available at: https://www.epa.gov/nepa/what-national-environmental-policy-act

Utah Department of Transportation (UDOT). February 2025. *Moving Utah Forward: The Economic Impact and Community Benefits of Advanced Air Mobility*. Salt Lake City, Utah.

Washington Administrative Code (WAC). 2015. *WAC 172-110-070, Prohibited Locations for use of Drones and Model Aircraft*. Available at: https://app.leg.wa.gov/WAC/default.aspx?cite=172-110-070

Washington Department of Transportation (WSDOT). 2011. *WSDOT Airports and Compatible Land Use Guidebook*. Olympia, Washington.

Washington Department of Transportation (WSDOT). 2018a. 2040 and Beyond – Washington Transportation Plan Overview. Olympia, Washington. Available at: https://www.wtp2040andbeyond.com/#overview

Washington Department of Transportation (WSDOT). 2018b. Washington Transportation Plan, Phase 2 – Implementation 2017 – 2040. Olympia, Washington. Available at: https://www.bing.com/search?q=WTP%202040%20Implementation%20Plan&qs=n&form=QBRE&sp=-1&ghc=1&lq=0&pq=wtp%202040%20implementation%20plan&sc=12-28&sk=&cvid=CD4884AB356A48F2860C6758F0D87903

Washington Department of Transportation (WSDOT). 2019. Washington State Rail Plan 2019-2040. Olympia, Washington. Available at: https://wsdot.wa.gov/sites/default/files/2021-10/2019-2040-State-Rail-Plan.pdf

Washington Department of Transportation (WSDOT). 2020a. *Washington Aviation Economic Impact Study, Final Technical Report*. Olympia, WA.

Washington Department of Transportation (WSDOT). 2020b. *Washington Electric Aircraft Feasibility Study*. Aviation Division. Olympia, WA. Available at: https://wsdot.wa.gov/sites/default/files/2021-11/Electric-Aircraft-Feasibility-Study-Nov2020.pdf

Washington Department of Transportation (WSDOT). 2022. Washington State Freight Rail System Plan-2022. Available at: https://www.transportation.gov/sites/dot.gov/files/2023-12/WA-State-Freight-System-Plan-2022_0.pdf

Washington Department of Transportation (WSDOT). 2024. WSDOT national Highway System (NHS) Map. Olympia Washington. Available at: https://hub.arcgis.com/maps/9f54b6f20cb74f2397ae6f5073ae09f5/aboutW

Washington State Legislature. 2025a. *Title 14 of the Revised Washington Code*. Aeronautics. https://www.leg.wa.gov/media/hkcnnqks/title-14-rcw.pdf

Washington State Legislature. 2025b. *Title 36 of the Revised Washington Code. Chapter 36.70A.070. Growth management—Planning by selected counties and cities*. Olympia, Washington. Available at: https://app.leg.wa.gov/rcw/default.aspx?cite=36

Washington State Legislature. 2025c. *Title 43 of the Revised Washington Code, State Environmental Policy. Chapter 43.21C, State Environmental Policy*. Available at: https://app.leg.wa.gov/rcw/default.aspx?cite=43.21C

Washington State Legislature. 2025d. *Title 47 of the Revised Washington Code, Public Highways and Transportation*. Available at: https://app.leg.wa.gov/rcw/default.aspx?cite=47

Washington State Transportation Commission (WSTC). 2025. *WTP 2050L Building the Future We Want, Working Together Toward a Shared Vision*. Meeting presentation of March 19, 2025. Olympia,

Washington. Available at: https://wstc.wa.gov/wp-content/uploads/2025/03/2025-03-19-BP14-WashingtonTransportationPlan.pdf

Wei, W., Rohrmeier, K., Martinez, T., Winans, M. and Park, H. 2023. *Land Use Analysis on Vertiports Based on a Case Study of the San Francisco Bay Area*. Mineta Transportation Institute, San Jose State University. San Jose, CA.

Wei.W., K. Rohrmeier, T. Martinez, M. Winans, and H. Park. 2023. Land Use Analysis on Vertiports Based on a Case Study of the San Francisco Bay Area. Mineta Transporatation Institute at San Jose State University. San Jose, CA. Available at: https://transweb.sjsu.edu/sites/default/files/2122-Wei-Land-Use-Analysis-Vertiports-San-Francisco-Bay-Area.pdf

WSP, 2024. An Introduction to Airport & Vertiport/Aircraft Compatibility. Presentation for the AAAE Emerging Aviation Technical Working Group. Washington, D.C.

8. ACRONYMS

AAAE	American Association of Airport Executives
AAM	Advanced Air Mobility
AAMIWG	AAM Interagency Working Group
AC	FAA Advisory Circular
ACES	Aerospace Competitive Economics Study
ACRP	Airport Cooperative Research Program
AEIS	Aviation Economic Impact Study
AIP	Airport Improvement Plan
ALP	Airport Layout Plan
AOPA	Aircraft Owners and Pilots Association
APA	American Planning Association
ARFF	Aircraft Rescue and Firefighting
AWC	Association of Washington Cities
CA	California
CAAM	Canadian Advanced Air Mobility
CAMI	Community Air Mobility Initiative
CATEX	Categorical Exclusion
CBO	Community-Based Organizations
CHAISE	Chehalis Hub for Aviation Innovation and Sustainable Energy
COG	Council of Governments
CTOL	Conventional Takeoff and Landing aircraft
DCA	Downwash/Outwash Caution Area
DEP	Distributed Electric Propulsion
EAFS	Electric Aircraft Feasibility Study
EASA	European Union Aviation Safety Agency
EB	FAA Engineering Brief
EPA	United States Environmental Protection Agency
eVTOL	Electric Vertical Takeoff and Landing aircraft
FAA	United States Department of Transportation, Federal Aviation Administration
FATO	Final Approach and Takeoff Area

GA	General Aviation
GHG	Greenhouse Gas
GMA	State of Washington's Growth Management Act
GSP	Gross State Product
HR	House of Representatives
kW	Kilowatt
MPO	Metropolitan Planning Organization
MRO	Maintenance, Repair and Overhaul Service
MRSC	Municipal Research and Services Center
MT	Montana
MW	Megawatt
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
NAVAID	Navigational Aid
NBAA	National Business Aviation Association
NEPA	National Environmental Policy Act of 1969
NIA	National Institute of Aerospace
NPIAS	FAA National Plan of Integrated Airport Systems
NREL	National Renewable Energy Laboratory
ODOT	Ohio Department of Transportation
OEM	Original Equipment Manufacturers
OR	Oregon
PNWER	Pacific Northwest Economic Region
RAM	Regional Air Mobility
RCW	Revised Code of Washington
RIA	Regional Infrastructure Innovator
RTPO	Regional Transportation Planning Organizations
SA	Safety Area
SAFE	Securing America's Future Energy
SEPA	State Environmental Policy Act of 1971
SFAR	Special Federal Aviation Regulation
SPEAA	Society of Professional Engineering Employees in Aerospace
STOL	Short Takeoff and Landing aircraft

sUAS	Small Unmanned Aircraft Systems
TAC	Technical Assistance Committee
TIP	Transportation Improvement Program
TLOF	Takeoff and Liftoff Area
TOD	Transit-Oriented Development
UAM	Urban Air Mobility
UAS	Unmanned Aircraft Systems
UDOT	Utah Department of Transportation
UPS	United Parcel Service
USA / US	United States of America
USC	United States Code
USDOT	United States Department of Transportation
VOD	Vertiport-Oriented Development
VTOL	Vertical Takeoff and Landing aircraft
WA	Washington
WAC	Washington Administrative Code
WASP	Washington Aviation System Plan
WPPA	Washington Public Ports Association
WSACRPD	Washington State Association of County and Regional Planning Directors
WSDOT	Washington Department of Transportation
WTP2040	Washington Transportation Plan 2040
WTSA	Washington State Transit Association