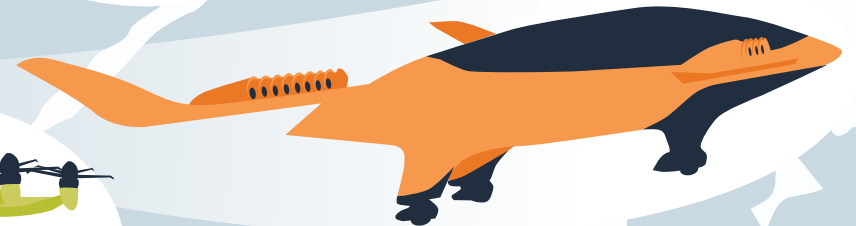


Statement of Qualifications for
AIR MOBILITY AIRCRAFT PLAN
PACKET A

April 2, 2024

Prepared for  **WSDOT**

Prepared by **Kimley»Horn**
Expect More. Experience Better.





A. PROPOSED TEAM

Kimley-Horn has assembled a highly qualified, widely recognized, and well-established team that will work together seamlessly with the Washington State Department of Transportation (WSDOT) to produce a successful Air Mobility Aircraft Plan. While Advanced Air Mobility (AAM) is a relatively new component of the aviation system, Kimley-Horn has been a leader in the AAM space completing studies and conceptual designs, obtaining environmental clearances, and providing frameworks for policy updates for public- and private-sector clients coast to coast, speaking at industry events, providing leadership in airspace modeling, and staying on the cutting edge of this new market.

Led by Kimley-Horn, our team comprises individuals with a strong history of working together, all of whom contribute unique types of expertise necessary to complete the full scope of services. We have brought experts to augment Kimley-Horn’s experience with critical leadership and knowledge. We have provided planning, environmental, and engineering services for federal, state, and local agencies as well as private industry across the US. In addition to traditional aviation services, we also provide planning and design for alternative fuel sources, electric aircraft, and AAM initiatives. In 2023, Kimley-Horn was ranked #5 for airport consulting firms in the nation by *Engineering News-Record*.

Each firm’s role, types of expertise offered, and length of time providing expertise are highlighted below, and we have indicated firms that are certified disadvantaged, small, minority, veteran, or women-owned firms. Our organization chart, included as **Figure 1** on page 2, illustrates our team.

KIMLEY-HORN (PRIME)

Firm Role: AAM Consulting, Aviation System Planning, Land Use Planning, Vertiport Infrastructure, Policy Development, Airspace/Modeling, Community Engagement, Sustainability, and Environmental

Types of Expertise: AAM Planning and Design, Aviation System Planning, Land Use Planning, Policy Development, Data Management, Airspace Analysis, Geographic Information Systems (GIS), Transportation Planning and Engineering, and Sustainability/Environmental

Length of Time Providing Expertise: 33 years



HOVECON

Firm Role: AAM Infrastructure Lead

Types of Expertise: AAM

Implementation and AAM Policy

Length of Time Providing Expertise: 7 years



CITYFI

Firm Role: Subject Matter Expert (SME)/Strategic Advisor on Land Use Planning and Policy Development

Types of Expertise: Mobility Systems and Reimagined Streets; Policy, Strategy, and Program Design; Land Use/Municipal Integration; Public Affairs and Regulatory Design; and Industry Stakeholder Engagement

Length of Time Providing Expertise: 8 years



COMMUNITY AIR MOBILITY INITIATIVE (CAMI)

Firm Role: AAM Strategic Consulting

Types of Expertise: AAM Policy and Planning, Land Use, Equity, Multimodal Integration, and Community Engagement

Length of Time Providing Expertise: 5 years



HARPER4D SOLUTIONS (HARPER4D)

Firm Role: AAM Infrastructure/Vertiports SME

Types of Expertise: Strategic Planning and Policy Development for AAM and Uncrewed Aircraft Systems (UAS), Community and Stakeholder Engagement, Safety and Regulatory Compliance Advisory, Economic Impact, and Project Support

Length of Time Providing Expertise: While Harper4D has officially been in operation for 14 months, the expertise offered is built upon over 25 years of diverse experience in the aviation sector, including AAM, infrastructure planning, and community integration



FIGURE 1: ORGANIZATION CHART



**Washington State Department of Transportation
Aviation Division**

"Innovative leadership in state aeronautics"

Pam Keidel-Adams Principal-In-Charge Quality Assurance/Quality Control (QA/QC) Manager	David Williams, P.E. Project Manager Erin Sheelen, AICP, ACE, PMP Deputy Project Manager
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Key Personnel:

Regan Schnug, AICP Land Use Planning Lead	Chris Fernando ① AAM Infrastructure Lead	Clay White Public Policy Lead
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Yolanka Wulff ③ AAM Strategic Advisor	Clint Harper ④ AAM Infrastructure	Erin Clark ② Public Policy SME
Karina Ricks ② Land Use Planning Support/Municipal Integration	Basil Yap ① AAM Infrastructure/Interface	John Coliton, AICP Public Policy Support
Patrick Heaton, C.M. Land Use Planning Support	Tom Gibson, C.M. AAM Infrastructure	Erin Sheelen, AICP, ACE, PMP Community Engagement
Nick Chen, AICP Integration to Comprehensive Plan	Patrick Heaton, C.M. Aviation Planning	Teresa Gresham, P.E. Environmental
Brandon Gilson GIS/Modeling Simulations	Joe Bradshaw, P.E. Power/Electrical Utilities	Heidi Rous, CPP Sustainability
Andrew Scanlon Airspace	Heather Stifanos Graphics/Visualizations	Sam Zimbabwe, LEED AP Transportation Planning

SUBCONSULTANTS: ① Hovecon ② Cityfi (WBE) ③ CAMI ④ Harper4D



B. OFFICES WITHIN WASHINGTON STATE

Table 1 below identifies the offices our team has within Washington State and the Greater Portland Metropolitan Area, including the total number of employees and expertise available at each location.

TABLE 1: OFFICES, EMPLOYEES, AND AVAILABLE EXPERTISE

Firm	Location (Number of Employees)	Expertise Available
Kimley-Horn	Seattle (66), Bellevue (5), Everett (13), Portland (24)	AAM Planning/Design, Aviation System Planning, Land Use Planning, Policy Development, Airspace Analysis/Modeling, GIS, Sustainability, Environmental, Community Engagement, Transportation Planning and Engineering, Aviation Design
Hovecon	Hovecon offices are located in North Carolina	AAM Planning and Design
Cityfi	Cityfi is a virtual firm operating in a remote work environment with 18 staff members available to serve clients nationally	Land Use Planning/Transportation And Land Use Connectivity, Transportation Policy Development (Especially Local Jurisdiction Policy Integration), Government Structure and Regulatory Guidance Advisory, Performance Measurement and Analysis, Climate Resiliency Strategy and Planning, Emerging Transportation Technology Strategic Planning
CAMI	Bainbridge Island (1)	AAM Policy and Planning, Land Use, Equity, Multimodal Integration, Community Engagement
Harper4D	Harper4D offices are located in Utah	Strategic Planning and Policy Development for AAM and UAS, Community and Stakeholder Engagement, Safety and Regulatory Compliance Advisory, Economic Impact, Project Support

KIMLEY-HORN'S DEMONSTRATED EXPERIENCE WITH AAM

Kimley-Horn is partnering with the Illinois Department of Transportation (IDOT) to develop a statewide AAM System Plan. This first-of-its kind project for the state of Illinois encompasses several key components, including defining the existing aviation system that can support AAM infrastructure, establishing a system vision and associated goals that align with the state's Long Range Transportation Plan (LRTP), and developing an implementation and policy framework for AAM integration into the state's transportation network.

C. SIMILAR PROJECTS WITH SUBCONSULTANTS

Kimley-Horn has a strong history of partnering with many of our subconsultants. Below we have highlighted similar projects we have worked on together within the last three years.

Hovecon – Kimley-Horn has worked with Hovecon multiple times on AAM projects nationally, including the **WSDOT Aviation System Plan** (October 2021 – Ongoing). Hovecon is supporting as an SME for Emerging Trends, including AAM planning, electric vehicle takeoff and landing (eVTOL), UAS, and Low Level Airspace.

Cityfi – Kimley-Horn has partnered with Cityfi multiple times for planning and policy projects nationally, including the Seattle Department of Transportation (SDOT) **Seattle Transportation Plan**. Cityfi supported land use planning and policy development tasks from 2021 to 2023.

CAMI – Kimley-Horn has been a **CAMI** member for the last two years. Our team has provided instruction to CAMI cohorts supporting this organization, and we have presented together at many of the same industry conferences.

Harper4D – This will be Kimley-Horn's first time teaming with Harper4D. Hovecon and Harper4D have teamed previously, and we are utilizing our relationship and experience working with Hovecon to bring Harper4D to our team.

D. AVAILABILITY OF KEY STAFF AND RESOURCES

At Kimley-Horn, we understand that technical expertise alone is not enough—our team members must also have the time to devote to your project for their expertise to be of value to you. **Table 2** shows the availability of our key staff identified as hours available per month.

TABLE 2: AVAILABILITY OF KEY STAFF

Key Staff	Hours Available per Month
David Williams	50
Pam Keidel-Adams	25
Erin Sheelen	60
Regan Schnug	40
Chris Fernando (Hovecon)	40
Clay White	40
Clint Harper (Harper4D)	30
Yolanka Wulff (CAMI)	30
Erin Clark (Cityfi)	30
Karina Ricks (Cityfi)	25
Basil Yap (Hovecon)	30
Andrew Scanlon	30
Sam Zimbabwe	30
Joe Bradshaw	40
John Coliton	40
Heidi Rous	30

E. SIMILAR PROJECTS

A skilled consultant understands that each project is unique and deserves a tailored approach to address client needs. **Our project team has substantial experience in the specialty fields of AAM planning, environmental clearance, and design; statewide system planning; land use planning; policy development; community engagement; airspace/modeling; and other related studies to AAM and statewide aviation systems.** We have provided a brief sample of our team’s most relevant projects on pages 5-7, all from within the last three years. **Table 3** is a team project experience matrix further demonstrating the several relevant projects completed by members of the team.

TABLE 3: ADDITIONAL PROJECT EXPERIENCE

Project Name	AAM/Vertiport	Land Use Planning	Policy Analysis/Development	Aviation System Planning	Community Engagement	Airspace Modeling
WSDOT Aviation System Plan	→	→	→	→	→	→
Illinois AAM System Plan	→		→	→	→	→
Miami-Dade County AAM Strategic Roadmap	→	→	→		→	→
St. Lucie County AAM Study	→	→	→			→
WSDOT Aviation Electric Aircraft Study	→		→	→	→	
Raleigh-Durham Parking Garage/Vertiport Planning Study	→	→				→
Arlington, TX Vertiport Siting and Environmental Clearance	→	→			→	→
Arlington, WA Airport Master Plan/Vertiport Siting	→	→			→	→
North Carolina DOT (NCDOT) Regional AAM Strategic Plan	→	→	→	→	→	→
San Diego Association of Governments (SANDAG) Regional AAM Study	→	→	→		→	
Syracuse Airport Master Plan Update	→	→			→	→
NCDOT Programmatic EA for eVTOL Chargers		→	→		→	
Michigan DOT UAS Connected Corridor Feasibility Analysis	→	→	→		→	
Pittsburgh, PA 2070 Transportation Vision Plan	→	→	→		→	
North Dakota Aviation System Plan	→	→	→	→	→	



UAM ECOSYSTEM

AIRCRAFT
Although UAM has existed for many years with the use of traditional helicopters, emerging technologies in electrification, automation, and big data will facilitate on-demand urban air transportation that is more frequent and efficient than ever before.

ADVANCED AIR MOBILITY
UAM is a subset of Advanced Air Mobility (AAM). AAM encompasses use cases not specific to operations in urban and suburban environments such as regional air mobility, emergency response and medical services, and the use of drones for infrastructure inspection.

AIRCRAFT
More than 100 UAM aircraft, or VTOL, are in development around the world being produced by over 200 private companies, known as original equipment manufacturers (OEMs). These aircraft are powered by lithium-ion batteries, hydrogen fuel cells, or hybrid-electric. Although designs and specifications vary greatly, defining features of VTOL aircraft generally include advanced propulsion systems, vertical takeoff and landing capabilities, highly automated operating systems, and the potential for quieter and more efficient transportation within urban areas.

INFRASTRUCTURE
The identification of and planning for required infrastructure is paramount to the successful integration of UAM into Miami-Dade County's transportation network. Infrastructure associated with UAM are highlighted below.

Vertiports
Vertiports are dedicated areas for the landing and takeoff of VTOL aircraft. Anticipated vertiport locations include at existing airports, on the rooftops of buildings and parking garages, and at ground level in both urban and suburban areas.

Energy Infrastructure
With most industry players relying on all-electric aircraft (i.e., eVTOL aircraft), adequate charging stations and electrical grid capacity are critical to accommodate a fleet of eVTOL aircraft. As operations scale up, dozens of charging stations may place new demands on the electrical grid and a rise in longer-haul VTOL operations may increase the need for hydrogen infrastructure.

Safety and Security
Although safety and security standards are largely undefined, recent federal guidance provides interim direction related to vertiport design and operational safety. Cybersecurity and compatible land use planning are also pertinent considerations.

Airspace
While initial piloted UAM operations are likely to utilize existing helicopter routes and air traffic control (ATC) services, NASA and the FAA are working to develop airspace management technologies to provide routine airspace access for UAM operations.

MIAMI-DADE AAM STUDY PHASE 1

COST: \$100K | DATES: AUGUST 2022 - OCTOBER 2023

AAM is a rapidly evolving industry that will revolutionize the transportation of people and goods. To stay ahead of the ever-changing air transportation landscape, Kimley-Horn partnered with the Miami-Dade Transportation Planning Organization (TPO) to develop an AAM Policy Framework and for Miami-Dade County—Florida's most populated county and one of the fastest growing regions in the US.

Especially during periods of rapid growth, effective and efficient transportation systems are vital to long-term regional prosperity. With this in mind, Kimley-Horn evaluated existing and emerging AAM technologies, identified systemwide infrastructure needs, developed public engagement strategies, and prepared policy recommendations to guide the integration of AAM into Miami-Dade County's existing transportation network. As part of the study, the Kimley-Horn team also collaborated with state, county, and local government agencies as well as representatives from various AAM manufactures and other industry firms. This cross-section of representation provided subject matter expertise and unique perspectives on industry trends, advanced technologies, and local needs.

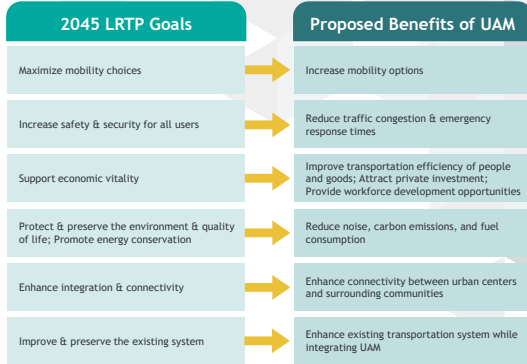
This study lays the groundwork for future AAM growth within Miami-Dade County—including infrastructure investment, policymaking, operational strategies, and community engagement—and promotes an integrated AAM network that is rooted in safety, connectivity, equity, and sustainability.

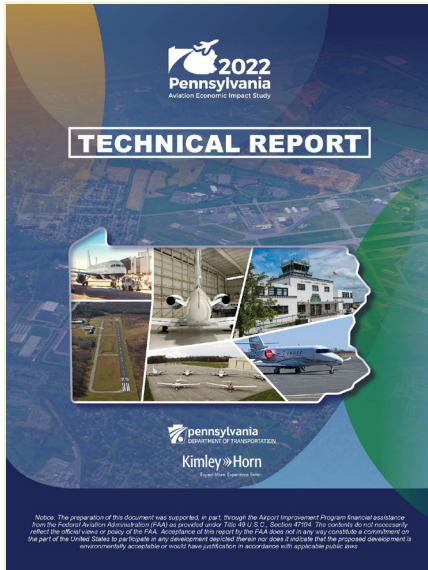
Relevant Features

- Evaluated existing and emerging AAM technologies, identified systemwide infrastructure needs, and prepared policy recommendations to guide the AAM integration into Miami-Dade County
- Collaborated with state, county, and local government agencies as well as representatives from various AAM manufactures and other industry firms
- Provided the groundwork for future AAM growth within Miami-Dade County—including infrastructure investment, policymaking, operational strategies, and community engagement

UAM AND 2045 LRTP

UAM policy and decision making must be consistent with Miami-Dade County's transportation goals.





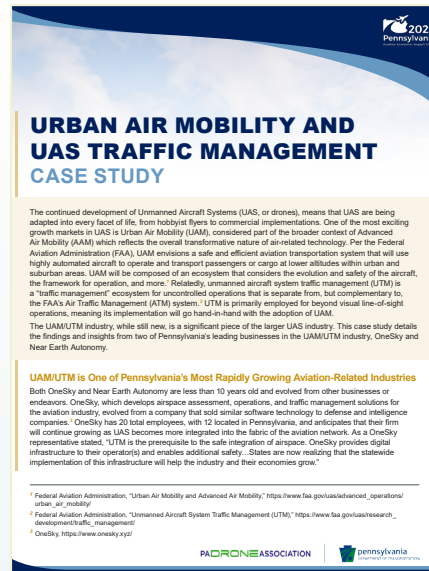
PENNSYLVANIA AVIATION ECONOMIC IMPACT STUDY (AEIS)

COST: \$805K (WORK ORDER 1), \$634K (WORK ORDER 2) /
DATES: SEPTEMBER 2020 – JULY 2023 (WORK ORDER 1),
 WORK ORDER 2 ONGOING

Kimley-Horn led the consultant team comprising Kimley-Horn and multiple subconsultants to deliver the FAA Airport Improvement Program (AIP)-funded AEIS study on time and on budget. The 2022 Pennsylvania AEIS, a product of the Pennsylvania DOT, Bureau of Aviation (BOA), documents the economic contribution of 122 public-use airports to the Commonwealth's economy on an annual basis. The AEIS provides an innovative and unique approach to documenting the value of the Commonwealth's airports, by not only assessing their annual economic contributions, but also by comparing this economic contribution across two base years and assessing the impact of other aspects of the aviation community, notably off-airport hospital heliports and UAS (drones).

The study found that in a regular year of activity, Pennsylvania's airports provided over \$34.1 billion to the Commonwealth's economy. This includes supporting 226,160 jobs and almost \$12.5 billion in payroll.

The AEIS provided the first comprehensive look at how UAS is positively impacting businesses and industries within the Commonwealth. UAS is a relatively new trend in aviation and is sometimes seen as just for hobbyists or the military. By illustrating how UAS can be used to improve industries that touch the lives of everyday Pennsylvanians, the AEIS emphasized the value of this technology to the community.



Relevant Features

- Statewide plan evaluating economic value and UAS integration
- Evaluation of AAM and UAS impact on system
- Collaboration with multiple levels of government and industry
- Development of case studies and a strategic plan
- Policy planning and considerations related to systemwide goals

“The Kimley-Horn team is the most reliable, responsive, and innovative I’ve ever had the opportunity and pleasure to work with. They have consistently delivered high quality results every step of the way during our work together.”

**— Ryan E. Gaug, AICP, Director
I Aeronautics, Minnesota
Department of Transportation**



MINNESOTA STATE AVIATION SYSTEM PLAN

COST: \$1.6M | DATES: JUNE 2022 – NOVEMBER 2023

Phase I of the Minnesota State Aviation System Plan included an extensive public involvement plan and tasks that resulted in a number of recommendations to carry into Phase II. Kimley-Horn was retained for Phase II and is taking Phase I components (objectives and strategies, system classifications, airport metrics, and system metrics) and conducting an evaluation of each and developing recommendations. Kimley-Horn will also review the environmental justice (EJ) methodology and plan and make recommendations on what the EJ plan means for airports and how it can be used in the SASP.

Other services include **analyzing policy issues and developing official policy positions** on topics such as through-the-fence operations, operations counting and forecasting, hangar development, airport closures, crosswind runway funding, and airport clear zone ownership. Based on the information developed as part of the policy analyses, our team developed an online GIS database that will allow MnDOT to track, monitor, and evaluate the overall performance of the system.

The system plan also included preparation of multiple trend papers, including UAS, alternative fuels and electrification, navigation technologies, and others.

Relevance

- Statewide Aviation System Plan developed to meet the aviation needs of the State
- Development of statewide goals and policies and an implementation plan framework
- Trend papers evaluating UAS, alternative fuels, and other considerations that the aviation system will need to incorporate
- Public outreach and education regarding policies, performance metrics, goals, and systemwide needs

Minnesota State Aviation System Plan EXECUTIVE SUMMARY

50 YEAR STATEWIDE VISION

To provide a multimodal transportation [that] maximizes the health of people, the environment, and our economy.

Performance Overview

88% Approaches to Airports Percent of system with adequate runway approaches	90% Pavement Condition Index (PCI) Percent of system with adequate airfield pavement condition based on primary runway and taxiway	80% Airport Surfaces Clear of Obstructions Percent of system airports with approach surfaces clear of obstructions	87% Navigational Systems Percent of system airports with adequate NAVAIDS
92% Adequate Safety Zoning Ordinance? Percent of system airports with an airport zoning ordinance compliant with Minnesota Statutes	83% Adequate Wind Coverage? Percent of system airports that provide 95 percent wind coverage	43% Planning Documents ¹ Percent of system airports with up-to-date planning documents (i.e., master plans and airport layout plans (ALPs), as applicable)	71% Adequate A/D and Terminal Buildings ² Percent of system airports with an A/D or terminal building in adequate condition with a public restroom and phone

SYSTEM MEASURES

SYSTEM MEASURES	AIRPORT MEASURES
<ul style="list-style-type: none"> Adequate Approaches Pavement Condition Obstructions Navigational Aids (NAVAIDS) Zoning Planning Documents Arrival/Departure (A/D) and Terminal Buildings Wind Coverage 	<ul style="list-style-type: none"> Primary Runway Widths Primary Runway Critical Connections Primary Runway Approaches Taxiway Type and Width Weather Reporting NAVAIDS Ground Transportation Electrical Storage A/D and Terminal Buildings Fuel Availability Planning Documents Zoning Clear Zones Minimum Standards

PERFORMANCE ASSESSMENT

Identify airport improvement needs statewide

Visit mnsasp-mndot.hub.arcgis.com to access the MnSASP HUB.



DAVID WILLIAMS, P.E.

PROJECT MANAGER

David has 30 years of experience including 27 years of providing aviation consulting services throughout Washington State, leading some of the region’s most critical projects. His experience encompasses leading a wide variety of projects from system plans and master plans, to concept development and environmental reviews with State Environmental Policy Act (SEPA) and National Environmental Policy Act (NEPA), to final design and construction of significant aviation infrastructure improvements.

David has led numerous studies of emerging trends, including planning for AAM, electric aircraft, alternative fuels, UAS, and others. David has presented at numerous conferences in the Pacific Northwest and nationally on emerging trend topics. Over the last decade, he has successfully participated in and managed more than 25 aviation projects, leading the delivery of high-quality work completed on time and within budget. A strong project manager, David emphasizes communication and team building as critical factors in serving his clients and advocating for their needs and goals.

David’s experience and understanding of Washington State’s aviation system and the issues impacting the system is unparalleled. He is leading the current Washington Aviation System Plan (WASP) update and has played a key role on each of the Washington State system plan updates since 1998. This has resulted in David having a deep understanding of Washington’s aviation system, issues, and opportunities. Additional pertinent studies include **David’s leadership delivering the WSDOT Electric Aircraft Feasibility Study, the Joint Transportation Commission (JTC) Washington State Patrol (WSP) Cessna Replacement Study with Electric Aircraft, and leading the AAM and emerging trends for the Arlington Airport Master Plan. Over the last five years, David has also led studies that have pushed the boundaries of new and emerging industries including delivering the Port of Seattle’s SeaTac Biofuels Infrastructure Study and King County International Airport’s (KCIA’s) Carbon Accreditation Program that enables KCIA to be carbon neutral by 2030.**

PROFESSIONAL CREDENTIALS

- Master of Business Administration (MBA), 2002, University of Phoenix
- B.S., Civil Engineering, 1994, California State University, Sacramento (College of Engineering and Computer Science
- Professional Engineer (P.E.) in WA (#36397), 1999

PROFESSIONAL AFFILIATIONS

- Washington Airport Management Association (WAMA) – Conference Committee Member
- Washington State Community Airport Association (WSCAA) – Member
- American Association of Airport Executives (AAAE) – Member
- Northwest American Association of Airport Executives (NWAAAE) – Member

Benefits to WSDOT

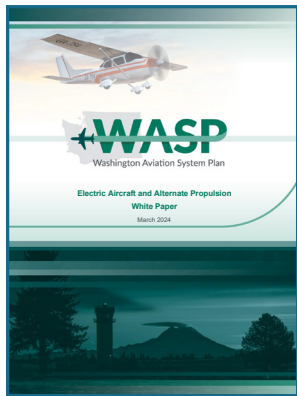
- ✓ Direct experience leading the WASP, which includes evaluation of emerging trends such as AAM, the WSDOT Electric Aircraft Feasibility Study, and the JTC Cessna Replacement Study
- ✓ Locally based with easy and timely access for WSDOT
- ✓ Proven ability to deliver projects on time and within budget
- ✓ Well educated on current industry trends and has presented at over 10 conferences, including WAMA, WPPA, WSCAA, and the Transportation Research Board (TRB)



A. EXAMPLES OF DAVID'S PRIOR EXPERIENCE AS PROJECT MANAGER ON WSDOT OR SIMILAR PROJECTS

WASHINGTON STATE AVIATION SYSTEM PLAN (WASP)

CLIENT: WSDOT | **DATES:** 2021-Ongoing



David is leading the current update to the WASP with three specific components: (1) an Aviation System Plan component that updates the analysis on the overall system's needs, strategies, and policy recommendations; (2) an Airport Site Selection Study component which evaluates technical data on the needs and opportunities to provide additional capacity to support commercial passengers and air cargo; and (3) a Sustainability Framework component that establishes policy, measurable goals, and potential initiatives that can

be used by airports to promote sustainable practices.

The WASP includes assessing the condition and performance of Washington's aviation system of 133 public-use airports, preparing system goals, performance objectives, and measures; developing activity forecasts and system capacity; determining system requirements; developing a new airport classification system and metrics; and identifying policy recommendations. **A key section of the scope included evaluating national emerging trends, which includes AAM, UAS, electric aircraft, and others. This analysis evaluates the current and future implications of new technologies on the overall aviation system.**

PROJECT MANAGER RESPONSIBILITIES: David is leading the consultant team consisting of the prime firm and five subconsultants. David and the team are coordinating twice monthly with WSDOT staff on scope, schedule, budget, and deliverables. He is also responsible for confirming quality control reviews are being completed, preparing monthly reports, and resolving any issues that occurred. David has led the preparation of the technical work products, preparation of presentations for Commercial Aviation Coordination Commission (CACC) meetings, working group meetings, and other public presentations, and is leading the preparation of the final documents and executive summary.

PUGET SOUND REGIONAL AVIATION BASELINE STUDY

CLIENT: Puget Sound Regional Council (PSRC) | **DATES:** 2018-2020



The Regional Aviation Baseline Study served as the decision-making foundation for regional leaders as they considered if the region should accommodate the growing demand for aviation and how to do so. As project manager, David led the consultant team in the delivery of technical analysis and scenario building and coordinated with the client, Federal Aviation Administration (FAA), and WSDOT to ensure the project was meeting goals and expectations for each agency. David also organized the communications team's

outreach with PSRC and key stakeholders as well as outreach and education with the public.

The study provided a clear picture of the aviation activities, forecast demand for 2050, facility needs, and options to address the demand in the Central Puget Sound region. To address demand, development of a series of scenarios were considered to evaluate options for meeting differing levels of demand through a variety of airport expansions. Evaluation of commercial service, air cargo, and general aviation (GA) services were all reviewed, analyzed, and reported.

PROJECT MANAGER RESPONSIBILITIES: David led the consultant team, including preparing and updating the scope, managing schedule and budget, leading monthly meetings, preparing monthly reports, and resolving any issues that occurred. David also led the preparation of the technical documents, presentations to the PSRC Board, and final deliverables.

WSP CESSNA REPLACEMENT STUDY

CLIENT: Washington JTC | **DATES:** 2022-2023



David served as the project manager for Kimley-Horn's role on the JTC project evaluating the replacement of WSP's fleet of aircraft as specifically requested by the Washington State Legislature. **Kimley-Horn's role on the project was to assess the opportunity to replace the existing Cessna fleet with new electric aircraft, UAS, or other technology, as well as to evaluate replacement of the WSP's King Air with a new Pilatus and switch to sustainable aviation fuels.**

The JTC requested the study to evaluate the current use and performance of the aircraft, timing of needed replacement of the aircraft, feasibility and costs of using aircraft powered by alternative fuel, and review other potential technologies, including unmanned aerial vehicles (UAVs), to achieve some or all of the aviation section's mission. Kimley-Horn developed recommendations on timing and use of these alternative technologies and developed a future fleet mix to meet the WSP aircraft needs in the future.

PROJECT MANAGER RESPONSIBILITIES: David was the project manager for consultant services for this key planning study that was completed within one year to inform the Washington State Legislature regarding opportunities for WSP to use UAS, electric aircraft, and other emerging technologies.

"I just confirmed yesterday that the proposed budget going forward has funding for one C206 and FLIR camera! It isn't two, but we are very excited and feel this is a big win for us! We also got funding to increase our operational budget which has only seen decreases in the last 15 years! This is definitely a step in the right direction! Thank you to you and your team for all the hard work you did on helping us tell our story!"

– Lt. Krista Greydanus, WSP Aviation

B. DEMONSTRATE PROJECT MANAGER'S FAMILIARITY WITH RELEVANT STATE AND FEDERAL REGULATIONS/PROCEDURES

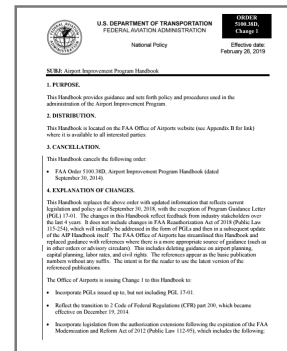
David is extremely familiar with state and federal procedures that apply to both WSDOT Aviation programs as well as the aviation industry at large. David brings 27 years of experience delivering projects from planning through construction in Washington State that required following Washington State requirements for design, planning, environmental, permitting, funding, and notifications. He has experience with development and execution of WSDOT Aviation grant-funded projects, development of master plans/airport layout plans (ALPs) that require WSDOT Aviation review and approval, as well as capital projects that require WSDOT approval for construction.

David is well versed in FAA requirements from implementation of Advisory Circulars (ACs), FAA Orders, FAA Handbooks, funding requirements, NEPA process, permitting, Modification to Standards, and other regulations and requirements. **David's 20+ years preparing and drawing on FAA AIP funding grants provides WSDOT a strong funding partner.**

David has either led or participated in more than a dozen WSDOT Aviation projects, including all aviation system plans starting in 1998, which makes him extremely familiar with state contracting requirements, reporting requirements, procedures, and processes. **Additionally, due to his past experience, David understands the requirements of public sponsors, including the importance of listening, responsiveness, and transparency.**



David has 25 years of experience working with Federal regulations, including the FAA AIP Handbook



C. EXAMPLES OF DAVID’S ABILITY TO MANAGE SCHEDULE, SCOPE OF WORK (SOW)/CREEP, BUDGET ISSUES, AND PROJECT CHANGES

SAN FRANCISCO INTERNATIONAL AIRPORT (SFO) SUSTAINABLE AVIATION FUEL FEASIBILITY STUDY

CLIENT: SFO | **DATES:** 2018-2019

Schedule	 <p>The project was advertised with a 120-day project schedule—an extremely aggressive schedule limiting the amount of collaboration with stakeholders. David discussed the schedule with SFO’s project manager to understand all the needs and constraints. The primary driver was an upcoming conference and presentation. David developed a revised 10-month schedule that met the early needs of SFO’s project manager, but increased the project length to get critical input from the airport, stakeholders, and key industry players.</p>
SOW/Creep	<p>The original SOW included development of cost estimates for infrastructure elements. As the study progressed, additional work regarding funding options was needed. Our team developed a SOW approved by SFO to complete financial consulting services.</p>
Budget	<p>Upon completion of the study, several key stakeholders wanted to provide additional input involving one-on-one meetings, updates to documents, and production costs that impacted budget. We adjusted some unspent travel budget to our labor budget with client approval and completed the project within budget.</p>
Changes	<p>Information surrounding producers, suppliers, and volumes available at the project outset had changed by the time the study was concluding. We were able to update many of the items with a “lightning round” effort to contact key players for updates and used footnotes for dates of information for the final report.</p>

TACOMA AMTRAK STATION

CLIENT: WSDOT Rail, Freight, and Ports Division (WSDOT Rail) | **DATES:** 2014-2019

Schedule	 <p>David developed an in-depth schedule that outlined all review and approval timelines and milestones for the Federal Railroad Administration (FRA) grant. It was critical to meet commitments and be transparent on expectations for each agency providing approval. This project was completed on schedule, with all necessary approvals, and met the full FRA American Recovery and Reinvestment Act (ARRA) grant requirements.</p>
SOW/Creep	<p>The project originally included development of a new station and upgrades to an existing Sounder platform. At 30% design, it was determined that to serve both Amtrak and Sound Transit’s proposed schedules, a second platform would be required. David led the updated project definition documents to cover the right-of-way (ROW), environmental, design, and bid documents.</p>
Budget	<p>The initial Amtrak Station budget estimate was significantly lower than required. As the project’s concept and preliminary engineering efforts progressed, David led a re-budgeting process to develop an accurate budget that was provided to FRA for approval.</p>
Changes	<p>One significant change included a City of Tacoma requirement to install a second ingress/egress for the new Eastern Platform. This change required swift action to resolve ROW, update environmental documents, and design concepts/permit plans. As project manager, David mobilized the full team and worked with our partners to implement this requirement into the bid packages.</p>

KCIA AIRPORT SECURITY COMPREHENSIVE PLAN

CLIENT: KCIA | **DATES:** 2023-2023

Schedule	<p>The project's original SOW included completing multiple site visits to airports throughout the Western half of the United States to conduct onsite reviews of other airport's security systems and protocols. As the project progressed, multiple airport visits had conflicts and adjustments to timing, location, staff involvement, and availability. David evaluated all schedule impacts from the changes in location and timing of site visits related to downstream impacts to the final product delivery schedule. He then developed a revised project schedule to meet the various King County stakeholders' needs, including security, operations, leadership, and engineering schedules.</p>
SOW/Creep	<p>The change in the number, location, and timing of meetings all impacted what was originally included in the SOW. David quickly assessed the changes in SOW that would be required to address the changes to airport site visits and impacts to other elements of the project. David worked with the lead aviation security consultant on the project to address the change in scope, identify appropriate staffing and connections at the substitute airports, and update the SOW to account for the changes. These updates were confirmed by KCIA's project manager before implementing the changes.</p>
Budget	<p>Due to the project's scope and schedule changes, David developed an updated budget that would be required for the new and adjusted airport site visits. The updated budget worksheet and details regarding changes in expenses were communicated with the client to ensure concurrence prior to adjusting the budget formally and completed the SOW elements. David coordinated the budget changes with the KCIA project manager and confirmed the changes were acceptable prior to implementing the changes.</p>
Changes	<p>One change that occurred on the project was a staffing change from the airport's security lead leaving the airport and the airport bringing on a new security lead halfway through the project. Our team provided updates and briefings to the new airport security lead, the project manager, engineering, and client executive leadership to ensure the work completed in the first half of the study would remain within the knowledge base of existing staff. As project manager, David mobilized our key team members to provide the briefing and respond to any questions that the airport staff had regarding the study.</p>





PAM KEIDEL-ADAMS

PRINCIPAL-IN-CHARGE | QA/QC MANAGER

Pam has 35 years of aviation planning experience including aviation system planning, airport master planning, air service development, and land use analysis, including non-aviation development. She has led more than 60 airport or system planning assignments across the US. In recent years, Pam has been engaged with research and analysis of emerging aviation trends including AAM and UAS, including the introduction of electric aircraft into the fleet. She was part of the Washington Electric Aircraft Feasibility Study and has been analyzing vertiport sites as part of several recent airport planning projects. Pam serves as the Chair of the Aviation Group and led the establishment of the newest committee, New Users of Shared Airspace, which was created to address research needs of new entrants such as AAM and commercial space vehicles. **Pam offers WSDOT an unmatched level of understanding of the technical and regulatory issues facing airports across the US.**

UNDERSTANDING OF WSDOT/PUBLIC AGENCY REGULATIONS/PROCEDURES

Pam’s recent experience in airport master planning has provided her with a detailed knowledge of airport-specific operations as well as current FAA regulations, policies, and procedures. It is important to recognize that FAA standards continue to evolve with new ACs and standard operating procedures (SOPs). Pam also worked on the WASP, providing her an in-depth understanding of WSDOT and other regulations.

RELEVANT PROJECT EXPERIENCE

WASP – Principal-in-Charge. This unique project has three individual components: a site selection study for a greenfield airport in the Puget Sound, an update of the traditional system plan last completed in 2017, and a sustainability framework for the state’s airport system. Pam is responsible for staffing, quality reviews of documents, team coordination, and product delivery. **DATES:** 12/2021 – Ongoing.

Illinois AAM System Plan – Principal-in-Charge. This project encompasses several key components, including defining the existing aviation system that can support AAM infrastructure, establishing a system vision and associated goals that align with the state’s LRTP, and developing an implementation and policy framework for AAM integration into the state’s transportation network. Pam is responsible for staffing, quality reviews of documents, team coordination, and product delivery. **DATES:** 11/2023 – Ongoing.



ERIN SHEELEN, AICP, ACE, PMP

DEPUTY PROJECT MANAGER

Erin has almost two decades of experience in the aviation industry serving clients across the nation ranging from small GA airports to large- and medium-hub airports. She is a part of a unique program at Kimley-Horn that allows her to focus her time and energy on the planning and application of emerging technologies such as AAM, UAS, and modeling.

Erin has managed, researched, evaluated, and written projects such as state and regional system plans, commercial and GA master plans, sustainability evaluations, land use compatibility, FAA aerial survey, environmental studies, and grant administration. Her unique background as an instrument-rated pilot with airport operations and administration experience allows her to apply another perspective and understanding.

UNDERSTANDING OF WSDOT/PUBLIC AGENCY REGULATIONS/PROCEDURES

Erin has been working in the aviation industry for more than 20 years, starting as a pilot and then a planner. This has given her a unique perspective in how airports operate for the benefits of pilots and how they are regulated through the FAA. The majority of her projects have had to adhere to FAA regulations and policies, providing her the experience necessary to complete additional planning studies. By working on the WASP Update, she is also knowledgeable on the processes for WSDOT.

RELEVANT PROJECT EXPERIENCE

Illinois AAM System Plan – Project Planner. This project encompasses several key components, including defining the aviation system that can support AAM infrastructure, establishing a system vision and goals that align with the state’s LRTP, and developing an implementation and policy framework for AAM integration into the state’s transportation network. **DATES:** 11/2023 – Ongoing.

Miami-Dade AAM Study – Technical Advisor. Kimley-Horn is evaluating the concept of Urban Air Mobility (UAM) technology and assessing the policy framework and other requirements for integration into Miami-Dade County’s existing transportation network. The project includes an evaluation of current and emerging UAM technology, including the potential market for this technology and how it will impact air transportation, environmental sustainability, and economic vitality. **DATES:** 08/2022 – 10/2023.





REGAN SCHNUG, AICP

LAND USE PLANNING LEAD

Regan has 17 years of experience as a senior aviation planner and project manager. She has assisted in developing and managing various aviation, environmental, and land use planning documents including master plans, system plans, land use guidebooks, and Airport Cooperative Research Program (ACRP) reports. Regan has served as a project manager and task leader, coordinating project teams with multiple subconsultants and managing all aspect of project development. She is currently leading airport land use guidebooks for the Arizona Department of Transportation (ADOT) and the Florida Department of Transportation (FDOT) in addition to individual airport zoning ordinance work.

UNDERSTANDING OF WSDOT/PUBLIC AGENCY REGULATIONS/PROCEDURES

Regan has a thorough understanding of regulations and procedures for public agencies having completed over 15 statewide aviation planning documents. Regan's recent work has been on several state and national land use guidebooks as well as state aviation system plans and AEISs including Washington, South Dakota, Pennsylvania, Arizona, Florida, Idaho, Colorado, Michigan, Wyoming, North Dakota, and more. In addition to helping lead Kimley-Horn's system planning practice, Regan has been a contributing author to several national guidance documents for ACRP and the FAA, including the recently released AC on land use (AC 150/5190-4B, Airport Land Use Compatibility Planning).

RELEVANT PROJECT EXPERIENCE

WASP – Project Planner. This unique project has three individual components: a site selection study for a greenfield airport in the Puget Sound, an update of the traditional system plan last completed in 2017, and a sustainability framework for the state's airport system. Regan is providing leadership on the technical analyses of the traditional system planning elements, along and serving as an SME and advisor. **DATES:** 12/2021 – Ongoing.

Pennsylvania AEIS – Project Manager. This project documents the economic contribution of 122 public-use airports to the state's economy on an annual basis. It also provided the first comprehensive look at how UAS is positively impacting businesses and industries within the Commonwealth and emphasized the value of this technology. Regan led all administrative and technical analyses associated with the project and managed a large team.

DATES: 9/2020 – 7/2023



CHRIS FERNANDO (HOVECON)

AAM INFRASTRUCTURE LEAD

Chris is a distinguished figure in the field of aviation research and management, boasting extensive experience with renowned organizations such as the National Aeronautics and Space Administration (NASA) and FAA. Serving as principal investigator for pivotal studies at NASA, including a market study on UAM and oversight for the Air Traffic Management – eXploration (ATM-X) Insight Assessment, Chris demonstrated his expertise in both UAM and traditional aviation operations. His leadership extended to groundbreaking research endeavors as principal investigator for TRB's ACRP, notably leading investigations into the integration of UAS into the national aviation system.

UNDERSTANDING OF WSDOT/PUBLIC AGENCY REGULATIONS/PROCEDURES

Chris's professional achievements highlight his expertise in navigating regulatory frameworks and procedures within public agencies such as NASA, FAA, and TRB. His leadership roles in conducting market studies for UAM, managing research projects for airport cooperative programs, and providing program management support for sustainability initiatives at FAA reflect his in-depth understanding of regulatory compliance and procedural requirements within the aviation sector. Chris's experience includes collaborations with WSDOT for the WASP, partnership with NCDOT in managing their UAS program, and ongoing support provided to the Wyoming DOT for their UAS program.

RELEVANT PROJECT EXPERIENCE

AAM in the San Diego Region – Hovecon Team Lead. Hovecon collaborated with the prime consultant to develop a regional strategy for AAM services in the San Diego region, which included a detailed market assessment and public outreach to inform the plan, laying the foundation for a comprehensive regional strategy. Chris reviewed regional plans/studies, developed the actionable roadmap for AAM in San Diego, conducted outreach, and helped develop the AAM regional policy framework. **DATES:** 6/2023 – Ongoing

NASA Regional Advanced Air Mobility Strategic Plan and Implementation Support – Subject Matter Expert. Chris spearheaded the development of a strategic plan aimed at creating an AAM ecosystem, leveraging existing aviation assets to foster an inclusive industry sector. The project involved identifying optimal UAS/AAM use cases, determining organizational structures, and presenting the strategic plan for approval to regional stakeholders.

DATES: 9/2020 – 1/2022





CLAY WHITE
PUBLIC POLICY LEAD

Clay brings 25 years of experience serving public-sector clients, including cities and counties throughout Washington State, as a policy advisor and land use planner. Clay has extensive code and policy experience, which includes leading comprehensive plan updates and development regulations. He also has extensive experience working in Olympia on land use legislation.

UNDERSTANDING OF WSDOT/PUBLIC AGENCY REGULATIONS/PROCEDURES

Clay has a deep understanding of Washington State’s Growth Management Act (GMA) and regional, countywide, and state planning policies. Clay’s experience includes nearly six years working as the Planning and Development Services Director for Snohomish County and six years as Land Services Director for Stevens County, where he worked with WSDOT to develop land use standards to ensure compliance with airport compatibility standards. Clay focuses on helping local governments develop and implement sound policies that help further the jurisdiction’s goals. This work includes significant experience working with state agencies, including WSDOT.

RELEVANT PROJECT EXPERIENCE

***Snohomish County, Airport Compatibility Regulations – Project Sponsor.**

As Planning and Development Services Director, Clay was responsible for leading the development of new code language to discourage the siting of incompatible uses adjacent to such GA airports in Snohomish County. He also led project briefings with the County Council as part of the public hearing process. **DATES:** 1/2015 – 5/2015

Skagit County, Comprehensive Plan Update – Project Manager. Clay is leading the team to update housing and land use element policies in compliance with new housing element requirements in HB 1220 and creating new policies and regulations to implement new accessory dwelling unit requirements in HB 1337. The work will align with new legislation and recognize the unique aspects of each community. **DATES:** 1/2024 – Ongoing

Washington State Department of Commerce Urban Growth Area and Rural Guidebooks – Project Manager. Clay and his team are developing guidebooks that will be utilized by cities and counties as they plan for growth. This includes providing guidance on the development and implementation of airport compatibility regulations. **DATES:** 3/2024 – Ongoing

**Prior to joining Kimley-Horn*



CLINT HARPER (HOVECON)
AAM INFRASTRUCTURE

Clint combines over 25 years of aviation expertise with a dedication to urban planning and community engagement. As an Air Force veteran, his service encompassed a wide range of responsibilities, including aircraft dispatch, airport operations, and the planning of airports, heliports, and UAV facilities. His pioneering work in AAM led him to roles with the Utah Division of Aeronautics, the Los Angeles Department of Transportation, and NASA, where he was at the forefront of advocating for the integration of AAM into urban landscapes. Clint’s advocacy is grounded in the belief that the future of aviation must be developed in harmony with community needs, fostering collaborative, integrated transportation solutions that serve the public good.

UNDERSTANDING OF WSDOT/PUBLIC AGENCY REGULATIONS/PROCEDURES

Clint’s understanding of WSDOT and public agency regulations and procedures is rooted in his role as a State Airport System Planner and Economic Development Lead at Utah DOT. In this capacity, Clint undertook strategic planning, infrastructure development, and regulatory compliance. His experience encompasses navigating and applying complex regulatory frameworks to support the integration of AAM within state transportation systems.

RELEVANT PROJECT EXPERIENCE

Integrating AAM: A Primer For Cities – Project Manager/Lead Author.

Clint developed a comprehensive framework for integrating AAM into urban environments, focusing on community engagement, infrastructure readiness, and regulatory considerations. He led collaborative efforts with city planners, community organizations, and industry stakeholders to assess community engagement needs, infrastructure viability, and regulatory compliance to create an AAM integration framework for cities. **DATES:** 1/2022 – 10/2022

Utah Aviation Development Strategy – Project Manager. Clint created a statewide strategy to enhance aviation infrastructure, incorporating economic impact analyses and a 20-year capital improvement program to support AAM initiatives. He established and led a diverse technical advisory committee ensuring a multidisciplinary approach to strategic planning, and he developed and executed a strategic communication plan to maintain collaboration and consensus-building among committee members, fostering a unified vision for the future of aviation. **DATES:** 10/2019 – 2/2021





YOLANKA WULFF (CAMI)

AAM STRATEGIC ADVISOR

Yolanka is Executive Director of CAMI, the Community Air Mobility Initiative, a nonprofit organization whose mission is to support the responsible and sustainable integration of aviation into community transportation through education, communication, and collaboration. Prior to co-founding CAMI in 2019, she was a sustainable aviation consultant for 10 years, working with industry, government, academia, and non-profits on policy, standards, industry development, market challenges, and communications.

UNDERSTANDING OF WSDOT/PUBLIC AGENCY REGULATIONS/PROCEDURES

Yolanka is a member of the FAA Advanced Aviation Advisory Committee (AAAC), TRB New Users of Shared Airspace Committee, GAMA Electric Propulsion Innovation Committee, and the Vertical Flight Society Board of Directors, and is the organizer and convener of the annual VFS Electric Aircraft Symposium. Yolanka is a former Washington land use hearing examiner and local planning commissioner. WSDOT Aviation is a member of CAMI and has participated in two Urban Air Policy Collaborative Cohorts.

RELEVANT PROJECT EXPERIENCE

Planning for AAM American Planning Association – Authorship. Authored a comprehensive AAM planning guidebook. **DATES:** 2/2022 – 3/2024

AAM and Community Outreach: A Primer for Successful Stakeholder Engagement, National Academies of Science, Engineering, and Medicine – Co-consultant. Development of AAM primer and toolkit for stakeholder engagement by local jurisdictions and airports. **DATES:** 4/2022 – 9/2023



ERIN CLARK (CITYFI)

PUBLIC POLICY SME

Bringing professional experience in state and local government, Erin seeks to build more sustainable, nimble, and human-centered cities through modern policy frameworks that empower cities to solve real problems safely, equitably, and quickly. Prior to joining Cityfi, Erin served as Policy Analyst at the City of Pittsburgh Department of Mobility and Infrastructure. In this role, she was the Department’s policy lead on subject areas including autonomous vehicles, curb management, and COVID-19 response. Prior to her time at the City of Pittsburgh, she served as Deputy Counsel for the New Jersey Office of Legislative Services where she conducted legal research, provided analysis, and drafted legislation on transportation and economic development issues and policy matters.

UNDERSTANDING OF WSDOT/PUBLIC AGENCY REGULATIONS/PROCEDURES

An attorney by training, Erin has served as legislative aid to state governments in both New Jersey and West Virginia. She has developed public agency regulations and procedures for multiple municipalities around the country and specifically worked with SDOT to develop climate response policies within the WSDOT context.

RELEVANT PROJECT EXPERIENCE

Seattle Transportation Plan – Policy Framework Lead. Erin guided the development of the policy framework and advised SDOT in setting the vision, goals, objectives, strategies, actions, and performance measures to guide the future of transportation in Seattle, balancing Seattle’s aspirational goals with current and anticipated future economic, political, and cultural realities.

DATES: 1/2022 – 10/2023



KARINA RICKS (CITYFI)

LAND USE PLANNING SUPPORT/MUNICIPAL INTEGRATION

Karina provides strategic direction to public agencies and private enterprises to advance innovation that serves the public good. Karina previously served with USDOT as the Federal Transit Administration’s (FTA’s) Associate Administrator for Innovation and as the Director of Pittsburgh’s Department of Mobility and Infrastructure.

UNDERSTANDING OF WSDOT/PUBLIC AGENCY REGULATIONS/PROCEDURES

Karina has more than two decades of experience across federal, state, and local government levels, having served as a public official in various capacities. She has collaborated on development of public policies and regulations for various units of government within Washington State.

RELEVANT PROJECT EXPERIENCE

Michigan DOT UAS Connected Corridor Feasibility Analysis – Strategic Advisor. The project assessed the infrastructure and services needed to enable safe Beyond Visual Line of Sight (BVLOS) UAS operations. Karina served as strategic advisor to a team from private industry providing technical assessments and recommendations to inform infrastructure investments and policy development.

DATES: 7/2022 – 12/2022

Pittsburgh 2070 Transportation Vision Plan – Project Director. Karina provided both overall policy guidance and technical expertise, including identifying and prioritizing key infrastructure projects, system improvements, and supportive policies. She also led public engagement and legislative adoption efforts. **DATES:** 1/2020 – 9/2021





BASIL YAP (HOVECON)

AAM INFRASTRUCTURE/ INTERFACE

Basil is a visionary leader in the field of UAS, renowned for his pioneering initiatives in advancing UAS integration and technology adoption. Serving as the driving force behind North Carolina’s participation in the FAA’s UAS Integration Pilot Program (IPP), Basil interfaces with FAA leadership, government entities, and industry stakeholders to foster collaboration and drive innovation. As the visionary behind North Carolina’s State-Wide Unmanned Traffic Management System, Basil is shaping the future of UAS operations infrastructure, collaborating closely with NASA and the FAA.

UNDERSTANDING OF WSDOT/PUBLIC AGENCY REGULATIONS/PROCEDURES

Basil demonstrates a comprehensive understanding of public agency regulations and procedures through his extensive involvement in managing various projects related to UAS integration and transportation. Basil’s experience includes successful collaboration with WSDOT, partnership with NCDOT in managing their UAS program, and ongoing support provided to the Wyoming DOT for their UAS program.

RELEVANT PROJECT EXPERIENCE

Regional AAM Strategic Plan and Implementation Support – Project Manager. Basil spearheaded the development of an AAM ecosystem, utilizing use cases, collaborating with NASA, conducting stakeholder engagement, and leveraging existing aviation assets. **DATES:** 9/2020 – 1/2022

AAM in the San Diego Region – Subject Matter Expert. Basil supported development of a regional strategy with significant stakeholder engagement for AAM services. **DATES:** 6/2023 – Ongoing



ANDREW SCANLON

AIRSPACE

Andrew has provided aviation consulting for 24 years including traditional airport planning, unique airport planning studies such as Airports-GIS, airspace analysis including 7460-1 filings, and land use compatibility. He has significant experience with airspace modeling including Part 77, TERPs, FAA Target models, TAM modeling, and other elements. Andrew has been a part of more than 200 airport projects with clients ranging from large-hub airports to small, single-runway GA airports. Andrew’s wide range of aviation experience allow him to see a project from multiple perspectives.

UNDERSTANDING OF WSDOT/PUBLIC AGENCY REGULATIONS/PROCEDURES

Andrew has worked with various state DOTs, counties, and cities throughout the US. Nearly all projects he has worked on have been funded through FAA AIP grants, providing him with the necessary experience for the AAM Plan.

RELEVANT PROJECT EXPERIENCE

Spokane Airport Thermal Plume Analysis – Project Manager. Andrew led development of an airspace analysis for improvements that included a thermal plume proposed within the vicinity of the Spokane Airport. This included preparation of a 7460 application. **DATES:** 6/2023 – 8/2023

San Antonio International Airport (SAT) Airfield Safety Enhancement and Improvement Program – Project Planner. Andrew reviewed existing operational analysis as well as existing and proposed flight schedules for SAT and the nearby military facility to create a TAM model to illustrate various airspace challenges and options to mitigate. **DATES:** 3/2023 – Ongoing



SAM ZIMBABWE, LEED AP

TRANSPORTATION PLANNING

Sam brings 23 years of experience in transportation planning including multimodal policy development, multimodal capital investments, and equity initiatives. Having led SDOT for three years, he has developed relationships with regional transportation agencies throughout the Puget Sound region. He has developed strategic program and budget plans and managed relationships with public agencies, including the Federal Highway Administration (FHWA) and FTA. Sam supports future-looking mobility planning efforts across the US.

UNDERSTANDING OF WSDOT/PUBLIC AGENCY REGULATIONS/PROCEDURES

Sam is an expert in WSDOT and federal transportation planning regulations. He has developed long-range plans, NEPA and SEPA studies, and led agency initiatives in the public and private sectors.

RELEVANT PROJECT EXPERIENCE

WASP – Planner. Sam is leading the multimodal airport access analysis and needs assessment. **DATES:** 12/2021 – Ongoing

Go Boston 2030 – Project Manager. Sam is leading a forward-looking update to the city mobility plan, including projects, policies, programs, and data and measurement tracking. **DATES:** 7/2023 – Ongoing

MLB All Star Weekend Transportation Support – Project Manager. Sam worked closely with the Seattle Sports Commission, SDOT, SPD, King County Metro, and Sound Transit to convene a Transportation Working Group. He also supported the Seattle Sports Commission’s efforts to gather conclusions and recommendations for future major events. **DATES:** 3/2023 – 10/2023





JOE BRADSHAW, P.E.
**POWER/ELECTRICAL
 UTILITIES**

Joe has 19 years of electrical consulting engineering experience with emphasis on electrical design for airports. His airport design experience includes runway and taxiway lighting and signage, NAVAIDS, and airfield lighting vault improvements. Additionally, he has experience with electrical infrastructure, site lighting, garage and tunnel lighting, backup and utility generators, electric vehicle (EV) charging stations, transformers, solar integration, new distribution and sub-panel installations, and site power distribution.

**UNDERSTANDING OF WSDOT/PUBLIC
 AGENCY REGULATIONS/PROCEDURES**

Joe has worked with various state DOTs, airports, and cities throughout the US. The aviation and airfield design projects he has worked on have been funded through FAA AIP or Bipartisan Infrastructure (BIL) grants. He is well versed in FAA ACs and FAA Engineering Orders, along with SOPs. His experience on projects in Washington State have provided direct regulatory expertise.

RELEVANT PROJECT EXPERIENCE

Arlington Airport Master Plan – Electrical Engineer. Joe is responsible for the portions of the report related to electrical siting and loading of solar onsite designs and battery energy storage solutions as well as eVTOL charging loads and infrastructure locations. **DATES:** 4/2024 – Ongoing

King County Airport FSS Building – Electrical Engineer. Responsible for the design of a solar rooftop installation supplying the main service panel of a former FAA building that is now County-owned. **DATES:** 9/2023 – 4/2024



JOHN COLITON, AICP
PUBLIC POLICY SUPPORT

As an aviation planner, John's experience includes the development of airport master plans, ALPs, airspace analyses, and stakeholder engagement. Most recently, he has focused on helping clients stay ahead of the rapidly evolving air transportation landscape by preparing for the disruptive impacts and prospective benefits of AAM. John has contributed to AAM and legacy aviation projects across the country for a variety of clients, from small GA airports and large commercial hubs to municipal planning organizations and private developers.

**UNDERSTANDING OF WSDOT/PUBLIC
 AGENCY REGULATIONS/PROCEDURES**

John has worked with various state DOTs, airports, and the FAA throughout the US, providing him a strong understanding of regulatory requirements.

RELEVANT PROJECT EXPERIENCE

Miami-Dade AAM Study – Project Manager. Kimley-Horn is evaluating the concept of UAM technology and assessing the policy framework for integration into Miami-Dade County's existing transportation network. The project includes an evaluation of UAM technology, including the potential market for this technology and how it will impact air transportation, environmental sustainability, and economic vitality. **DATES:** 8/2022 – 10/2023

Illinois AAM System Plan – Project Planner. This project encompasses several key components, including defining the aviation system that can support AAM infrastructure, establishing a system vision and goals that align with the state's LRTP, and developing an implementation and policy framework for AAM integration into the state's transportation network. **DATES:** 11/2023 – Ongoing



HEIDI ROUS, CPP
SUSTAINABILITY

Heidi has 33 years of experience providing comprehensive sustainability, permitting, compliance, and planning services specializing in air quality, health risk, hazardous materials, climate/greenhouse gases (GHG), and resiliency assessments to a diverse clientele, including large-scale transportation and industrial complexes such as airports. Heidi is currently working on siting and environmental clearance for a number of AAM vertiports. **Heidi's experience with a variety of EAs for complex projects across US assures WSDOT that the AAM will integrate sustainable features.**

**UNDERSTANDING OF WSDOT/PUBLIC
 AGENCY REGULATIONS/PROCEDURES**

Heidi possesses an in-depth understanding of existing regulations, evolving policies, and growing public scrutiny surrounding the issues of sustainability, air quality, and health. She also has experience with local regulations from her contributions to recent projects at the Snohomish County Airport, KCIA, and on the WASP. Heidi is currently providing climate resiliency services to a number of counties and cities in accordance with HB 1181.

RELEVANT PROJECT EXPERIENCE

***Snohomish County Airport Supplemental EA – General Conformity Lead.** Heidi led the effort to determine general conformity applicability including local air agency staff coordination. **DATES:** 11/2018 – 12/2019

***SFO Recommended Airport Development Plan EIR – Quality and GHG Technical Director.** Heidi provided strategic technical direction related to the Air Quality Technical Report and served as a liaison on technical issues. **DATES:** 5/2016 – 7/2020

**Prior to joining Kimley-Horn*





KIMLEY-HORN'S PROJECT MANAGEMENT SYSTEM

Kimley-Horn's process for providing exceptional client service starts with a well developed and effective project management system to offer our client's the highest quality service and delivery.. Our team will use established procedures to coordinate with WSDOT, stakeholders, and internal partners; develop and maintain the project schedule; track the scope and budget; and complete quality control reviews of project documents. Below and on the following pages, we have provided an overview of the project management systems we have in place.

QA/QC PROCESSES

We strive for our procedures to facilitate the delivery of high-quality professional services that satisfy your requirements. Our firm implements a quality management program for each project that either follows a standard Kimley-Horn process or utilizes our client's program. The primary driver is to make the quality management program a key portion of the project by including it in our work plan and implementing our tried-and-true QA/QC processes throughout the duration of the project.

Our program follows the key elements described in **Figure 2** and is based on the philosophy that:

- **Quality is achieved** through adequate planning, coordination, supervision, and technical direction; clear definition of the job requirements and procedures; understanding the scope of services; and the use of appropriately skilled personnel carefully performing work functions. By defining project requirements, goals, and the framework for decision-making up front, we can more consistently ensure quality is integrated throughout the project.
- **Quality is secured** with careful review of work activities by individuals not directly responsible for performing the initial efforts—a key element of independent verification.
- **Quality is controlled** by assigning a manager to evaluate the work and procedures followed while providing services. We have identified Pam Keidel-Adams as our Principal-in-Charge and QA/QC Manager for this assignment. Pam has more than 35 years of experience with aviation planning contracts and the successful implementation of key quality processes. **Pam's experience delivering aviation system plans in nearly 40 different states, as well as many regional studies, will provide the necessary leadership to deliver high-quality work products.**
- **Quality is verified** through independent reviews of the processes, procedures, documentation, supervision, technical direction, and staffing associated with project development. This occurs throughout the lifetime of the project, not just at each key submittal. As noted in **Figure 2**, we include peer reviews, technical reviews, and "big picture" reviews throughout the project, allowing for real-time checks to improve the quality of each product.

FIGURE 2: QA/QC PROCESS



Communication is a key element of our quality management program, including communication within Kimley-Horn team, the full project team, and with WSDOT. Including the topic of quality in periodic meetings emphasizes the importance of our quality program, allows for open and honest discussions, and makes room for course corrections during work progression, as opposed to later in the project when corrections can become more expensive.



We develop our project schedules to indicate when formal quality review periods occur by the consultant team and the review periods for WSDOT. We will include time in our coordination meetings to discuss quality objectives. As the project progresses, any quality issues or project changes will be brought to WSDOT's attention. We will proactively address these challenges, provide an opportunity for WSDOT feedback, and, if necessary, implement a corrective action to bring the deliverables back into compliance. We strive to be proactive and do not shy away from these conversations as we seek to continually improve our QA/QC process.

TRACKING SYSTEM TO MONITOR PROJECT BUDGET AND SCOPE

Kimley-Horn uses the Cost Point Engineering Accounting system to track labor hours and expenses for each project. Twice monthly, Kimley-Horn uses a detailed, integrated system called Management Information System (MIS) to generate a Project Effort Report showing by task, actual effort expended, and project expenses. This internal control allows us to make the necessary adjustments on a timely basis to stay within budget and assist in completing all task items.

Our budget control measures also include the use of assigning a task manager for each of the tasks associated with our project. These task managers also receive the same financial information as the project manager. The project manager and task manager meet monthly to confirm labor hours and expenses for each task for invoice billing. The project manager and task manager provide each of our team members our work plan that identifies what task is to be completed, how many hours are allocated to that task, when the task is to be completed, and the resources needed to complete the task. **We have empowered our staff to confirm scope assignments and available project budgets and alert the project manager or task manager if there are any challenges for completing the scope within the available hours.**

The contracted budget information is organized in our system based on the project work breakdown structure (WBS). We will develop a complete WBS to match the SOW as approved by WSDOT, just as we have completed on previous projects. The WBS structure allows for high-level tracking of the first level of the WBS as well as continuous status tracking through completion of the work items. These ongoing monitoring activities not only help to manage project scope and budget, but also expedite invoice preparation and ensure accuracy.

FIGURE 3: SAMPLE TWICE-MONTHLY PROJECT ANALYSIS

Data as of: 02/29/2024						
Project Analysis						
Project:		090025001.4 - WA AVIATION PLAN UPDATE			Show Ptd Effort Only	
Projects	Ptd Hours	Ytd Hours	ltd Hours	Ptd Effort	Ytd Effort	ltd Effort
090025001 - WA AVIATION PLAN UP...	170.50	430.0	6,226.0	33,444.85	161,021	1,655,866
090025001.4 - WA AVIATION PLAN ...	170.50	430.0	6,226.0	33,444.85	161,021	1,655,866
090025001.4.100 - TASK 1-SCOPIN...			25.0			7,081
Hacker, Andrew - B5			1.5			236
Jensen, Jessie - N6			1.5			129
Keidel-Adams, Pam - P8			6.5			2,104
Williams, David - P7			15.5			4,612
090025001.4.110 - TO2-T1-SCOPI...			45.5			11,894
Keidel-Adams, Pam - P8			5.0			1,707
Schnug, Regan - P6			21.0			3,997
Williams, David - P7			19.5			6,190
090025001.4.120 - TO3-T1-STUDY ...	39.50	103.0	169.5	7,922.76	20,237	42,039
Cuffari, Joseph - P4			7.5		1,057	1,057
DeCubellis, Matt - P2	6.00	6.0	6.0	676.29	676	676
Gaetze, Bre - B3			0.5		59	59
Hanas, Karen - N4			0.5			44
Heaton, Patrick - P4	16.00	35.0	36.5	2,061.83	4,510	4,697
Helfinstine, Paige - B3			0.5		52	52
Keidel-Adams, Pam - P8	0.50	4.5	21.5	180.73	1,627	7,771
Marquez, Samone - P2			0.5		57	57
Okada, Erica - P1	1.00	10.0	10.0	100.02	1,000	1,000
Perez, Ana - B2			2.5		247	247
Perla, Mia - P1			0.5		56	56
Pfeifer, Dan - B5	1.00	1.0	1.5	164.35	164	247
Schnug, Regan - P6	2.00	3.0	3.0	405.41	608	608
Simms, Jennifer - B5			2.0			343
Torrence, Kristina - N4			1.5		122	122
Total	170.50	430.0	6,226.0	33,444.85	161,021	1,655,866

At key points throughout the project, we will initiate a project review, including scope, schedule, budget status, and the expected cost to complete each task. If tasks begin to lag, we can quickly identify the causes and take corrective action to keep the task within budget and on schedule. It is during these reviews that potential budget issues can be addressed early and action can be taken quickly.

Figure 3 provides a sample project analysis, highlighting the level of detail provided twice per month using our Cost Point Engineering Accounting. This report provides a breakdown of time spent by person by each WBS task, including information for notes on activities completed. This detailed information allows the project manager to track labor costs and expenses to confirm work is being logged correctly in our time system and track cost versus budget.

SCHEDULING PROGRAM, SOFTWARE, AND PROJECT EXAMPLES PROCESS FOR INTERACTING WITH INTERNAL PROJECT TEAM

Our best schedule control resource—our staff—has several tools to help them. Kimley-Horn project managers use the project management program Microsoft Project to develop the initial schedule for review and approval by WSDOT. This schedule outlines each of the task assignments, QA/QC periods, submittal dates, WSDOT reviews, and other similar time periods. We then use this approved schedule to monitor activities with our project team. As the project progresses, unforeseen items may be identified that impact the project schedule. If those are identified, we will work with our team to resequence activities and compress project elements, looking for overlapping opportunities to minimize or eliminate any adjustments to the end date. We will communicate these changes with WSDOT.

Kimley-Horn typically uses Microsoft Project for every project schedule unless a client requests a different software. **Our staff is well versed in Microsoft Project, using it to develop appropriate milestones and keep projects on track.** Table 4 below lists three projects where Project Manager David Williams used Microsoft Project software to manage the project schedule.

TABLE 4: PROJECT EXAMPLES USING MICROSOFT PROJECT SOFTWARE

Project Name	Schedule
WSDOT WASP	Project tracked overall completion schedule. Several subtask schedules were updated due to scope changes, advisory committee changes, and subconsultant staffing changes.
PSRC Regional Aviation Baseline Study	Project tracked schedule, which was updated as required to meet scope and advisory committee changes.
Washington State JTC/WSP Cessna Replacement Study	Project tracked the original schedule.

Successful project completion begins with open, effective communication. We know it is imperative to provide clear communication, coordination, and collaboration among team members to ensure the project is successfully completed on time and within budget. The Kimley-Horn team understands how to communicate effectively to establish priorities and identify solutions. For this project, Project Manager David Williams will be the primary point of contact for our team, and Deputy Project Manager Erin Sheelen will be the secondary point of contract. David and Erin will provide regular oversight of the activities to complete your project. They will meet regularly with both internal and external project team members to coordinate project tasks, resolve issues, develop proactive strategies, and keep the project moving forward.

Figure 4 below provides a sample of an internal team meeting from our WASP Study.

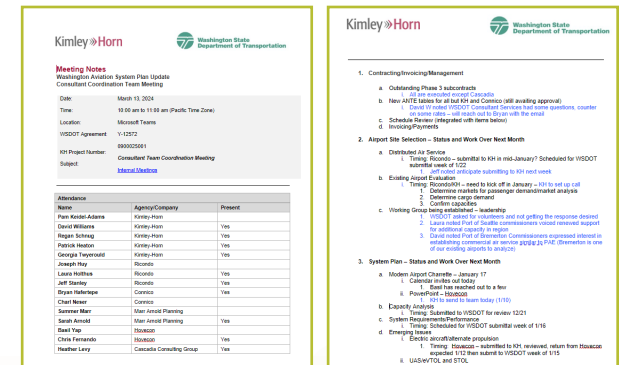


FIGURE 4: SAMPLE OF KIMLEY-HORN MONTHLY TEAM MEETING NOTES

KIMLEY-HORN BRINGS DIRECT EXPERIENCE WORKING FOR AAM INDUSTRY PARTNERS

Kimley-Horn is partnering with a confidential eVTOL manufacturer to obtain environmental clearance for a number of potential vertiport projects in several states, looking at private and public sites.

Project team meetings will include:

- Schedule updates, progress, and upcoming deliverables
- QA/QC procedures
- Action item development and monitoring
- Technical issues/events

Our project team will use SharePoint to allow all of our team members and subconsultants to access a common set of electronic documents. We also use Microsoft Teams for team calls to allow for everyone to be present and use the share screens feature to discuss project details. **This promotes better version control of documentation and collaboration on products.**

ABILITY TO INTERACT WITH WSDOT AND STAKEHOLDERS

COMMUNICATING WITH WSDOT

Our ability to effectively communicate with WSDOT comes from our experience working with an array of clients. **Project Manager David Williams has been serving aviation clients for more than 25 years. The Kimley-Horn team will be prepared to start work with the development of a communication plan.** Upon Notice-to-Proceed (NTP), David will meet with WSDOT staff and other key stakeholders as needed at a kick-off meeting for the AAM System Plan, during which we will finalize a SOW/work plan for WSDOT review, discuss staff coordination guidelines, and determine procedures for sharing information.

Following the kick-off meeting, coordination between WSDOT staff and our team will occur on a regular basis via Teams calls either weekly or biweekly, pending project needs to discuss any management requirements, coordinate ongoing tasks, present preliminary findings, and obtain feedback on initial draft materials prepared for the AAM System Plan. Routine coordination in between on-site meetings with WSDOT staff will be facilitated through video calls, conference calls, e-mails, and interaction over a private Kimley-Horn SharePoint or ShareFile site created for this project.

KIMLEY-HORN HAS DIRECT EXPERIENCE WITH CARGO COMPANIES IMPLEMENTING UAS

Kimley-Horn is partnering with a confidential cargo distribution company to support the development of a UAS delivery system, including developing on-ground infrastructure, developing alternatives for airspace corridors, and obtaining environmental clearances for potential vertiport sites.

COMMUNICATING WITH STAKEHOLDERS AND THE GENERAL PUBLIC

The Kimley-Horn team understands how to communicate and work with the general public, providing them opportunities to establish their priorities and understand and support the proposed solutions to their concerns. **We know how critical meaningful public involvement can be to a project, and we have the proven ability to effectively engage stakeholders and the general public.** Similarly, virtually all of our work puts us face-to-face with agency committees, commissions, and councils. These interactions require careful listening, flexibility in approach and technique, confidence, and relevant experience regarding tailored solutions to project challenges. For this study, the Kimley-Horn team will coordinate with WSDOT regarding any communication with the public to ensure we are following the protocols desired by WSDOT.

Kimley-Horn is leading the WASP Study, which included presentations to the CACC in a public forum. The team presented complex, technical analysis in an easy-to-follow presentation to engage stakeholders and the general public.

Summary of Results – All Finalist Sites					
Criterion	Evaluation Element	Measure	Pierce E	Pierce C	Thurston C
A	Ground Transportation Connectivity	Highway Connectivity – Distance to nearest 4 lane divided highway (miles)	14.5	17.0	9.3
		Passenger Rail Connectivity – Distance to nearest Amtrak/commuter rail line (miles)	22.4	22.9	2.7
T	Transit Connectivity	Passenger Rail Connectivity – Distance of new rail required (miles)	1.7	6.7	2.7
		Electrical Utilities – Distance to nearest power station (miles)	6.2	6.0	6.9
		Electrical Utilities – Distance to nearest substation (miles)	2.9	1.5	4.3
U	Utilities Access	Water Utilities – Distance to nearest water main (miles)	3.1	6.9	3.5
		Telecommunications – Distance to nearest fiber connection (miles)	2.7	1.5	3.4
		Farmlands Impacts	Farmlands – Amount of farmlands in site (acres)	108.9	329.3
A	Aquifers and Water Supply Impacts	Critical Aquifer Recharge Areas – Amount of CARAs within site (acres)	0.0	0.0	1,939.2
		Wellhead Protection Areas – Amount of 10-year WHPAs within site (acres)	288.8	214.3	749.2
		Tribal Interests Impacts	Tribal Fishing Rights – Length of rivers with SHPO documented or presumed fish presence within site (miles)	0.4	0.0
E	Essential Public Facilities Impacts	Landfills – Distance to nearest active landfill (miles)	2.7	5.1	7.8
		High Voltage Transmission Lines – Length of high voltage powerlines intersecting site (miles)	6.1	8.5	3.7



A. WORK PLAN

WORK PLAN DEVELOPMENT

Our approach to developing a work plan starts with listening to WSDOT staff regarding the goals and intended audience of the study as well as key issues that need to be analyzed and addressed as part of the study. With the private industry drive to bring AAM to market and the *FAA's AAM Implementation Plan, Near-term (Innovate28) focus with an Eye on the Future of AAM, July 2023 Release*, this is an opportune time for WSDOT to develop an Air Mobility Aircraft Plan. WSDOT is one of several states (such as Illinois) who are looking to develop a plan so that the state and local agencies in Washington are ready for AAM.

Kimley-Horn and our team members have been active in the AAM space for many years, supporting private clients, agencies, and the industry. We have also been engaged with WSDOT Aviation on our state's aviation system needs—both traditional and emerging technologies. **We also are clear on the timelines for report preparation for the state legislature with a final report due June 1, 2025.** We will use this knowledge to shape the development of our scope, schedule, budget, and work plan to allow WSDOT to successfully deliver this study. We understand all that WSDOT faces for this project and will work alongside your staff to deliver the project that will meet your expectations.

We see the work plan development process as a partnership with WSDOT and recognize the need to be adaptive and flexible, contributing our knowledge and expertise while integrating and tailoring the work plan specific to Washington. **We are confident that WSDOT's goals and key issues can be addressed within the scope of the project and delivered within your timeframe.**

DECISION-MAKING PROCESS

It is important that the work plan meets WSDOT's goals for the AAM mobility system plan, and that the resulting study delivers useful information that can be used at the state and local levels regarding policy development and land use guidelines. The AAM System Plan will serve as a foundation for aviation economic growth and provide a strong roadmap for moving forward supporting this new and quickly evolving industry. The key members involved in the decision-making process of the work plan include WSDOT management and staff and the Kimley-Horn team management staff. Primary key staff for our team includes **Project Manager David Williams, Principal-in-Charge Pam Keidel-Adams, Land Use Planning Lead Regan Schnug, AAM Infrastructure Lead Chris Fernando (Hovecon), and Public Policy Lead Clay White.** These primary key staff represent our team's leadership and play a significant role for specific elements of the AAM System Plan.

The first discussions of work plan development will be held with WSDOT project staff and the Kimley-Horn leadership team. The next step we recommend is discussing the project goals and scope with the WSDOT Aviation management team to obtain full buy-in with the approach to the project, goals to achieve, and timing of both draft and final deliverables. If WSDOT would like to engage a small industry advisory team to provide feedback as the study moves forward, we recommend engaging this group at a high level for any additional feedback regarding the work planning.

The draft scope will be circulated within the WSDOT team for review and approval. If there are elements that the advisory group recommend are included, WSDOT can then determine if those elements should be funded by WSDOT or removed from the study. We recommend several working meetings with WSDOT to create a work plan that addresses the needs of WSDOT first, then those of other key stakeholders. The work planning effort could also be confirmed as the first task. The benefit of this approach is managing expectations of stakeholders potentially involved in implementation up front.

The Kimley-Horn team understands the need to move quickly on the initial work plan to begin the technical work required to inform AAM System Plan and the legislatively mandated study completion schedule.



WORK PLAN ELEMENTS

Through the Request for Qualifications (RFQ), prior project briefings, and our discussions with WSDOT staff, we created an outline of elements of the AAM Plan summarized in **Table 5**. A successful work plan, built on this outline, must clearly identify our responsibilities and those anticipated from WSDOT; include items such as reviews, key information to be provided, and decision points; clearly articulate products from the study; and generate consensus on the format and production that brings the most value and usefulness to WSDOT.

TABLE 5: WORK PLAN ELEMENTS

Primary Task	Purpose and Relationship to Other Tasks	Key Issues
1.1 Study Design	Establish the framework for the AAM System Plan to ensure that the available budget is utilized efficiently and study goals are met.	As with all emerging technologies, there are numerous assumptions that will need to be established and revalidated prior to implementation.
1.2 Public Consultation	Regular and frequent communication, messaging, and materials development to support stakeholder input and future public acceptance.	Focusing on technical analysis with consideration of community impacts and input, providing results for decision-making.
1.3 System Vision and Goals	Develop AAM vision and goals for the state to accomplish.	Ensuring this mode fits within the larger transportation and aviation networks.
1.4 Inventory of Washington Policies and Regulations	Review ordinances, policies, funding programs, regulations, and other plans applicable to AAM.	Interpreting regulations that may not accommodate eVTOL or vertiports within the definition.
1.5 State, Regional, and Local AAM Opportunities and Threats	Identify and explore opportunities and threats that could impact the AAM system.	Focusing on the external elements of a strengths, weaknesses, opportunities, and threats (SWOT) analysis and what can be controlled or influenced by WSDOT.
2.1 Activity Forecasts	Synthesize aviation industry forecasts on AAM to understand the potential demand in Washington State.	Ensuring the information included is up to date and applicable to WSDOT.
2.2 Inventory of Potential AAM System	Review existing system such as physical facilities, airspace, and energy capacity.	Verified data source that provides the necessary data to understand the existing system and develop implementable recommendations.
3.1 Policy Framework	Provide context, insight, analysis, and help facilitate discussion on policy considerations and ultimate recommendations.	Coordinating with other agencies responsible for local and regional planning and statewide partners to ensure consensus on the results.
3.2 Development Priorities and Justification	Identify priorities, financial sources, and development initiatives as it relates to Washington State Priorities of Government and "Results Washington"	Prepare phased action plan that emphasizes Washington's priorities.
3.3 Technical Report	Summarize resulting data, decisions, and conclusions.	Synthesizing extensive information into a digestible set of data points that justify the recommendations.
3.4 Public Documentation	Provide a set of materials to summarize the AAM system work for elected officials and general public consumption.	Tailoring the information to be directly applicable to Washington and its future outlook on AAM.



ADDRESSING CONTINGENCIES

From our prior WSDOT projects, we find that you first define a work plan or scope of services then “work the plan.” From our lessons learned, we know that to achieve success you must also “plan the work”—address project issues/changes as they arise and create room for contingencies. The Kimley-Horn team offers WSDOT a partnership structured specifically to help plan the work by assembling an adaptive, flexible team with sufficient capacity to adjust as needed. Our team consists of active partners who will work with WSDOT every step of the way, coordinating closely and maintaining constant communication to allow for timely responses. **These proactive measures limit the impact of unforeseen project issues and ensure we meet WSDOT’s goals for the AAM Plan.**

POTENTIAL MECHANISMS

There are multiple mechanisms to address contingencies depending on scale and impact to schedule and budget. Potential mechanisms include:

Task Orders – provides the opportunity to re-work the plan for each task order as information is obtained, allowing for better-informed decision-making.

Phased Work – allows our team to evaluate tasks at the end and set a definitive course for any additional work products. Three potential tasks could include:

- **Airspace Modeling:** The AAM industry hopes to be autonomous and operate in airspace without limitations; however, AAM vehicles will first have to integrate successfully in controlled airspace. With the goal of planning for an AAM network in Washington, the key to this task is to understand design requirements and expected performance of the airspace system. The task will use metrics-backed modeling and simulation techniques to determine vertiport design requirements, including where to locate vertiports, what facilities may be needed, how eVTOLs may interact with the existing system and airspace, and the inclusion of diversity, equity, and inclusion (DEI) factors to increase transportation equity.
- **Development of Use Cases:** We will outline how the four primary use cases would operate within the future Washington transportation system. This can help shape how policies and regulations are applied based on the type of facilities necessary, how they interact with each other in the same system, and how the benefits and challenges may differ.
- **Public Acceptance:** Public acceptance of AAM does not currently have a good outlook when conversations already revolve around the potential noise, privacy and security, equity concerns, and safety. This task could develop and implement a strategy for either WSDOT or the Kimley-Horn team to gather direct feedback from the general public and key stakeholders, as well as provide education on the benefits and reality of AAM. This task can build on the significant work that has been completed by this team to date to be directly applicable for the State of Washington.

B. APPROACH TO RESOLVING ISSUES

Project Manager David Williams keeps issue resolution as a key tool in his portfolio that requires attention to detail, proactive project engagement, and an ability to quickly evaluate options and solutions. Our team works to identify issues early on and develop solutions that are responsive, efficient, and minimize impacts to schedule and budget.

Project resolution starts with our team—including several members who have already built relationships with WSDOT from prior projects. The Kimley-Horn team has clearly defined roles and an established, effective communication plan with regular reporting to identify issues as early as possible. These same principles are extended to WSDOT, furthering our efforts to resolve issues early on. We recommend holding coordination meetings between WSDOT and the Kimley-Horn team bi-weekly to review project status, upcoming deliverables, discuss current work efforts, and focus on any current issues. Recurring coordination meetings open an avenue to ensure all issues are discussed and resolution plans are developed as they arise.



C. ASSUMPTIONS FOR WORK BREAKDOWN STRUCTURE

To efficiently complete the AAM System Plan, it is important for the work plan to identify the responsibilities and assumptions of both the Kimley-Horn team and WSDOT. **Table 6** below summarizes our key WBS assumptions related to WSDOT’s anticipated responsibilities for the Air Mobility Aircraft Plan.

TABLE 6: WORK BREAKDOWN STRUCTURE ASSUMPTIONS

Primary Task	WSDOT Responsibility
1.1 Study Design	Provide input on scope elements, review draft SOW, and negotiate final SOW and budget.
1.2 Public Consultation	Review meeting materials, provide logistics for in-person meetings, participate in prep meetings, and provide input on attendees.
1.3 System Vision and Goals	Provide pertinent information regarding the desired goals. Provide any input related to study topics from other WSDOT divisions received.
1.4 Inventory of Washington Policies and Regulations	Assemble and provide all available relevant data currently held by WSDOT.
1.5 State, Regional, and Local AAM Opportunities and Threats	Participate in the identification of opportunities and challenges.
2.1 Activity Forecasts	Identify and provide any specific or preferred resources.
2.2 Inventory of Potential AAM System	Assemble and provide any updated airport data since previously collected from the Aviation System Plan. Provide all available data related to AAM-specific topics such as energy capacity.
3.1 Policy Framework	Provide input, review, and feedback. Coordinate with other WSDOT visions as required.
3.2 Development Priorities and Justification	Provide new funding strategies or sources for AAM-related infrastructure and coordinate with other WSDOT divisions as required.
3.3 Technical Report	Provide review and feedback to ensure document is useful for WSDOT in the future.
3.4 Public Documentation	Provide input on desired types of collateral and communication channels. Provide review and feedback.
Project Management	Attend coordination meetings and provide timely feedback on schedule, deliverables, and other pertinent project elements.



D. KEY ISSUES AND CRITICAL MILESTONES

Based on our understanding of WSDOT’s goals of the study and where the AAM industry sits today, we have identified the following key issues we believe are critical to the success of the AAM Plan. It is intended that these items will be addressed throughout the plan, but will be agreed upon with WSDOT as part of the study design.

MARKET DEMAND AND TIMING

Electric aircraft, vertical flight, and short-range uses are not new concepts, but how they will realistically integrate in the existing and future infrastructure in an equitable manner is still unknown. Further, the market and deployment will look different for each airport, region, and state based on the local market and types of businesses that choose to operate in it. There is still a disconnect between the market indicators being developed by economic experts compared to original equipment manufacturers (OEMs)/ operators and infrastructure developers.

Our team comprises industry experts that are focusing on the current status of regulations and vehicle certification and working through the challenges of AAM directly with regulatory bodies, operators, and infrastructure providers. **Our team will approach the review of existing policies and infrastructure in conjunction with the activity demand to better understand how AAM will best fit within the existing Washington transportation network as a consolidated system.**

This will shape the recommendations that will allow Washington to see a fully realized AAM system that is beneficial to both operators and users. In this way, WSDOT is an active participant in the deployment process with tools, guidance, policies, and rules preemptively established instead of prepared in reaction to a situation or event that has already occurred. There are a variety of key enablers that will support the adoption and use of eVTOL, short takeoff and landing (STOL), and UAS as outlined in **Figure 5** on the right.

Table 1: Key Enablers for eVTOL, STOL, and UAS

Key Enabler	Why it is Crucial	Current State	Future State
Aircraft Safety	Certification and regulatory approval will influence commercialization	Existing fail-safe mechanisms such as fly-by-wire and navigation systems are being leveraged	Development of fully autonomous systems to scale operations and reduce the risk of pilot error
Noise Reduction	For wider public acceptance and integration into high-population-density regions	Adoption of a distributed electric propulsion system	Further noise reduction measures, such as dedicated airspace corridors
Battery Technology	To support technical and economic feasibility	Development of sufficient battery density to support flight testing	Higher battery density to scale operations and potential use of hydrogen as a fuel source
Support Infrastructure	Development of dedicated ground and digital infrastructure to support emerging technologies	Leverage existing facilities and air traffic control (ATC) procedures to initiate operations	Investment and development of dedicated vertiports and support infrastructure
Air Traffic Management	Safe and efficient integration into the NAS	Initial flights will leverage existing procedures and ATM system	Further development of UTM to facilitate integration of UAS, eVTOL, and STOL
Public Acceptance	To support commercialization	Market studies, flight testing campaigns	Involvement of community into the integration process, community feedback

Source: Hovecon

FIGURE 5: KEY ENABLERS FOR EVTOL, STOL, AND UAS

POLICY DEVELOPMENT IN WASHINGTON STATE

Developing new statewide policy requires the ability to learn, listen, and communicate well regarding the opportunities, challenges, and public benefit of taking the proposed action(s). It is essential to identify and communicate with key stakeholders early and it is critical to develop clear messaging that anticipates and responds to early feedback. It is also important to brief key leaders early on so they understand what questions they may receive from key constituents. **The “no surprises” rule is always a strong focus.**

New policies in Washington State will be needed to support the development of AAM infrastructure, assist local jurisdictions with new requirements for AAM, and create best practices to allow this new industry to incubate, create, and thrive across the state.

KIMLEY-HORN’S DEMONSTRATED EXPERIENCE WITH LAND USE POLICY DEVELOPMENT AND IMPLEMENTATION

Kimley-Horn is currently working with the Department of Commerce on the House Bill 1110 Model Ordinance and User Guide. Our effort is focused assisting with the development of guidance to help communities permit middle housing, including cottage housing, small housing on small lots, and accessory dwelling units (ADUs).



INFRASTRUCTURE NEEDS

There is an extensive network of takeoff and landing locations (vertiports/ vertistops), power supply for charging, and digital infrastructure necessary to deploy a statewide AAM system. While initial vertiports may be located at an airport, these locations will not serve all the needs of the users or operators, especially in an urban environment. Whether it is adapting current facilities or constructing new ones, energy, demand, and cost will be just some of the challenges faced by AAM. The demand for energy is increasing and will have competing industries (e.g., other transportation, data centers, crypto) that are already putting a strain on existing capacity.

Our team will look at the importance of integrating different AAM use cases into the larger transportation network, including efficiencies that can be realized with existing infrastructure. **Figure 6 below is functional graphic highlighting some of the most important airport elements to consider in the full AAM system.**



FIGURE 6: AAM SYSTEM OF THE FUTURE: CONNECTING COMMUNITIES THROUGH EVTOL OPPORTUNITIES

SOCIAL-EQUITY IMPACT

When looking at the potential impacts of AAM, they cannot be summed in just the perceived noise or visual impact from the flights or vehicle landings and take offs. Public agencies must consider the process in which new facilities are selected, how they may pull from other established resources, and how accessible it is for the intended users. **By reviewing existing policies and regulations, our team will look at strategies that will help weave vertiports into the community in a beneficial manner.**

There are two primary social equity concerns regarding AAM development: affordability and access for people with disabilities. The AAM system planning needs to account for concerns that wealthy travelers will benefit from this opportunity over those with lower incomes. The planning, policy development, and future infrastructure funding should take this into account to bring an equitable solution.

There is also a concern that vertiport placement and route planning based on anticipated use cases could disproportionately impact one group of citizens over another. Therefore it is important that the system is planned, policies developed, and the plan is funded to serve broad public benefit. These benefits may include locations that best support emergency response or future workforce needs. Finally, ensuring accessibility in the system is key and is needed at all stages of the AAM ecosystem to ensure equity is being considered in system implementation.

LAND USE COMPATIBILITY AND CONNECTIVITY

Washington communities tightly govern land use according to the Washington GMA and the state's guiding regional transportation plans. This overarching policy framework lays the groundwork for a comprehensive land use analysis for AAM and their essential vertiport infrastructure. **Our team will approach the land use assessment and strategy task with a balanced eye, viewing land use and value capture opportunities, gaps, and risks/impacts/externalities as a matrixed, rather than siloed, exercise.**

Our team will review land use plans and growth management trends at different levels (e.g., reviewing PSRC's regional transportation plan to understand AAM land use considerations). Our team comprises some of the nation's most experienced mobility hub strategists, with strong skills working at the local and regional scales. We will use our expertise planning and designing integrated and multimodal mobility hubs to develop a Washington-specific mobility hub typology that specifically considers how to integrate vertiports into both legacy hub locations and potentially new mobility hubs that might unlock the value of AAM's various mobility use cases. We will assess how AAM might connect into (or be disconnected from) statewide and local mobility systems, evaluate potential land use gaps, and build a new type of "first/last mile" framework, likely capturing demand within three-, five-, and 10-mile catchment areas.

Our team members have recently supported Michigan DOT with the UAS Connected Corridor Feasibility Analysis that evaluated potential UAS corridors and existing and future land uses, and developed alternatives for a statewide system for connectivity as graphically illustrated in **Figure 7** to the right.

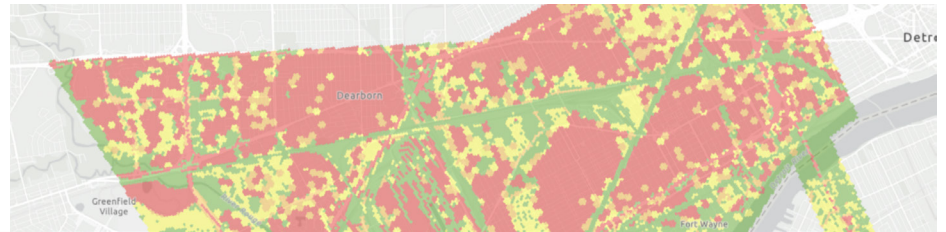


FIGURE 7: MICHIGAN DOT UAS CONNECTED CORRIDOR FEASIBILITY ANALYSIS: LAND USE AND UAS INTEGRATION

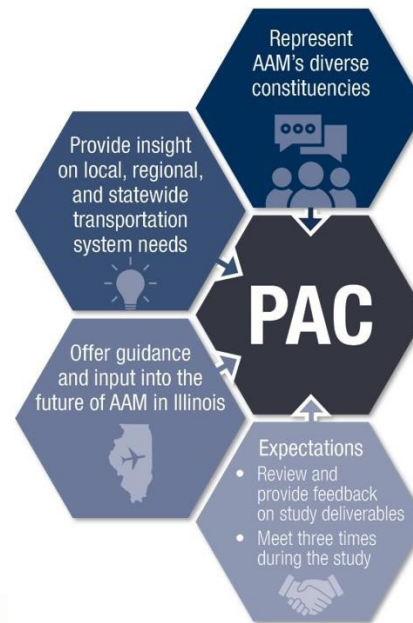
Kimley-Horn is preparing an AAM Study for St. Lucie County that includes evaluation of AAM infrastructure needs, land use planning, policy evaluation and development, and airspace modeling to allow for the implementation of an AAM system.

PUBLIC EDUCATION AND ENGAGEMENT

We understand that a statewide or regional strategy for emerging markets cannot be completed in a vacuum. **An intentional public engagement, education, and information distribution strategy is critically important to support the investment in the planning and development of a statewide or regional AAM system that is safe, efficient, and equitable.**

We understand on a national level that for the larger application of AAM to be successful, acceptance by residents of local municipalities is a necessity. We will consider a variety of methods to bring in others to our planning study from an education and outreach perspective, including brainstorming sessions with stakeholders to vet desires and concerns, reviewing previous materials from the industry and WSDOT, sharing successful materials and tools from other educational programs, and hearing about lessons learned. As AAM is a new and emerging market, the general public may have little awareness of these technologies and their applications beyond recreational drone usage. A strategy will help articulate potential benefits while dispelling myths, informing the public's understanding of AAM technology and implementation.

For the Illinois AAM System Plan being led by Kimley-Horn, a planning advisory committee (PAC) was established for this project specifically to include members from the public, airports, regional and local agencies, and OEMs. The PAC is providing concrete, up-to-date information on what is occurring in the industry from their perspective to ensure the plan is based on real-time data.



CAMI recently released Planning for AAM through the American Planning Association

