



**ILLINOIS
AVIATION**

**ADVANCED AIR MOBILITY
SYSTEM PLAN**

**EXECUTIVE
SUMMARY**



Illinois Department
of Transportation

Kimley»Horn

In association with
The Aviation Planning Group

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OVERVIEW

For over a century, Illinois has played a pivotal role in aviation, serving as home to major aircraft manufacturers, leading airlines, and one of the world's busiest airports. Most recently, the state explored its next major evolution in air transportation: Advanced Air Mobility (AAM)—a system designed to enhance regional connectivity and improve transportation efficiency through the use of smaller, often autonomous or semi-autonomous aircraft.

Recognizing the transformative potential of AAM, the Illinois Department of Transportation (IDOT) launched the Illinois Advanced Air Mobility System Plan in 2023. This initiative examined how AAM could be integrated into the State's existing transportation network. The study established a forward-looking vision for AAM deployment, evaluated Illinois' existing aviation infrastructure, engaged key stakeholders, and developed a structured framework for implementation. It also aligned with the State's Long Range Transportation Plan (LRTP) and the Illinois Aviation System Plan (IASP).

VISION

“TRANSFORM ILLINOIS INTO A LEADER IN ADVANCED AIR MOBILITY BY SAFELY INTEGRATING TECHNOLOGIES WITH EXISTING TRANSPORTATION SYSTEMS AND REVOLUTIONIZING MOBILITY THROUGH INCREASED EFFICIENCY, ENHANCED ECONOMIC GROWTH, AND IMPROVED QUALITY OF LIFE FOR ALL RESIDENTS”

GOALS

The goals of the AAM System Plan were developed in alignment with the Illinois LRTP and the IASP. The five goals, outlined below, serve as a strategic framework to guide future decision-making throughout the planning process.



ECONOMY

Improve Illinois' economy by providing transportation infrastructure that supports the efficient movement of people and goods



LIVABILITY

Enhance the quality of life across the state by ensuring that transportation investments advance local goals, provide multimodal options, and preserve the environment



MOBILITY

Support all modes of transportation to improve accessibility and safety by improving connections



RESILIENCY

Proactively assess, plan, and invest in the State's transportation system to ensure that our infrastructure is prepared to sustain and recover from extreme events and other disruptions



STEWARDSHIP

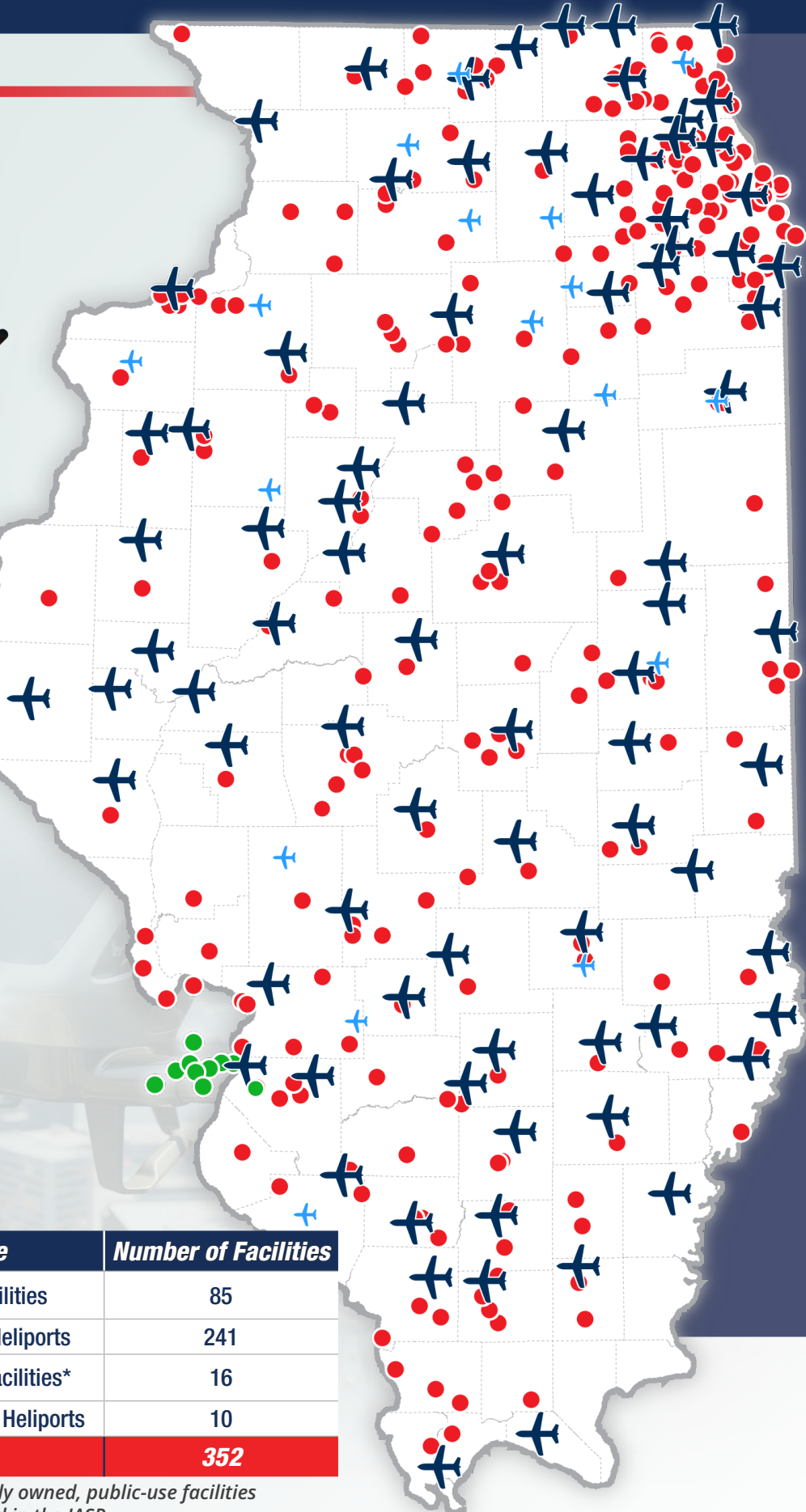
Safeguard existing funding and increase revenues to support system maintenance, modernization, and strategic growth of Illinois' transportation system



ILLINOIS' AAM SYSTEM

Facility Type	Number of Facilities
✈️ IASP Facilities	85
● Illinois' Heliports	241
✈️ PR/PU Facilities*	16
● St. Louis Heliports	10
Total	352

*The 16 privately owned, public-use facilities are not included in the IASP



The IASP accounts for 85 public-use airports and heliports across the state. In addition, 267 other aviation facilities were identified that support aviation activity in Illinois. These facilities include heliports and privately owned airports and accommodate a wide range of operations, including services for hospitals, medical centers, correctional facilities, fire departments, and other public agencies.

These sites play a vital role in supporting critical missions and could be key assets in the future deployment of AAM operations. In total, the Illinois AAM System includes 352 aviation facilities, including 10 heliports located in St. Louis, Missouri. These Missouri-based heliports were included due to their proximity to the Illinois-Missouri state line and their contributions to the broader Illinois aviation network.

USE CASES

AAM is an emerging technology with the potential to transform how people and goods move by air. Beyond passenger transport, AAM applications are rapidly expanding across sectors such as cargo delivery, emergency response, military operations, medical transport, and agriculture. The following use cases illustrate how AAM could enhance or complement existing transportation systems and services across Illinois.



SOURCE: AMAZON

CARGO

Short-distance, cargo transport will be a key component of early AAM operations in Illinois. Electric Vertical Takeoff and Landing (eVTOL) aircraft could offer a transformative way to move goods between major logistics hubs—such as airports and shipping ports—and smaller regional centers. Companies like Amazon have begun utilizing drones to streamline deliveries. As Beyond Visual Line of Sight (BVLOS) approvals advance and technology matures, these missions could increase in scale.



SOURCE: ARCHER

PASSENGER

Passenger travel is another use case for early AAM, potentially offering a faster, more efficient alternative to cars, ridesharing, and short flights for intra-city trips. An example is the planned eVTOL “air taxi” by Archer Aviation and United Airlines, connecting O’Hare to Chicago’s Medical District. This route could cut travel time from 40 to 10 minutes, showcasing how AAM could reshape urban mobility.



SOURCE: JOUAV UNMANNED AIRCRAFT SYSTEMS

EMERGENCY RESPONSE

Many Illinois airports rely on helicopters for emergency response operations and transporting patients from accident scenes or rural areas to major hospitals. However, these aircraft are often limited by weather and visibility conditions. AAM aircraft could significantly enhance these operations by offering faster deployment and greater reliability in adverse conditions. With autonomous capabilities and advanced navigation systems, AAM vehicles may be able to operate safely in low- or zero-visibility environments—enabling quicker response times for time-critical emergencies such as natural disasters, search and rescue missions, or large-scale incidents.



SOURCE: BOEING

MILITARY

With three active military bases—including Scott Air Force Base (AFB)—Illinois is well-positioned to explore military AAM innovation. In 2023, the U.S. Air Force began evaluating the Beta ALIA electric Conventional Takeoff and Landing (eCTOL) aircraft through the AFWERX program to explore its defense potential. Possible military use cases include uncrewed refueling, surveillance, search and rescue, training, and troop transport.



SOURCE: VALQARI

MEDICAL

AAM technology also holds transformative potential for healthcare logistics across Illinois. Beyond emergency scenarios, AAM can support the rapid and efficient transport of medical supplies, lab samples, personnel, and even organs between hospitals, clinics, and laboratories. This capability is especially valuable in rural or underserved areas where ground transport is slow or unreliable. Companies like Valqari are already piloting this future, partnering with institutions like Northwestern Medicine to explore drone-based lab sample delivery.



SOURCE: TALOS DRONES

AGRICULTURAL

With 75 percent of Illinois land used for farming, there is a strong demand for smarter, more sustainable agricultural solutions. AAM and Uncrewed Aircraft System (UAS) technologies could enhance aerial operations through autonomous aircraft that apply treatments and monitor crops with precision.

AAM INDUSTRY FORECASTS

Assessing the future demand and growth of AAM in Illinois required a comprehensive analysis of existing forecasts and industry data. This analysis examined projections for both crewed and uncrewed eVTOL aircraft, as well as incorporated insights from recent technological advancements, successful test flights, and regulatory developments.



For example, the Illinois Center for Transportation (ICT) studied the introduction of air taxi service to the State of Illinois and compared it to all current modes of travel. The ICT forecast projected strong demand for AAM air taxi services in Illinois, particularly for business travel, which is expected to account for 53% of future AAM trips—more than double the current share of work-related travel. Chicago is anticipated to be the primary hub, capturing 87.6% of projected trips, followed by Central Illinois (10%) and the Illinois suburbs of St. Louis (2.4%). This demand highlights a significant opportunity for AAM to fill the gap in short-haul travel under 150 miles, especially where current options are limited. The project team evaluated forecasts, like this example, that were produced by Original Equipment Manufacturers (OEMs), industry leaders, investment firms, and government regulators to identify emerging trends and assess their implications for AAM integration in Illinois and apply this information when developing the study’s recommendations.

OPPORTUNITIES & THREATS

Before recommending strategies for AAM development in Illinois, it was necessary to establish baseline factors that could influence implementation. This foundation was developed through a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis, which assessed external influences on AAM’s growth. As an emerging market, AAM had few firmly established strengths or weaknesses, but numerous external opportunities and threats that could shape its evolution. These factors—both nationally and within Illinois—were considered across near-, mid-, and long-term planning horizons to provide a comprehensive outlook. Based on discussions with the Project Advisory Committee (PAC) and IDOT staff, key opportunities and threats were identified as initial considerations for the Illinois AAM system.

OPPORTUNITIES



EXISTING AVIATION INFRASTRUCTURE



WORKFORCE DEVELOPMENT



PARTNERSHIP WITH ACADEMIA



DE-CARBONIZATION & SUSTAINABILITY INITIATIVES



FUNDING & INCENTIVE PROGRAMS

THREATS



LACK OF REGULATORY GUIDANCE



AIRSPACE USE



EQUITABLE ACCESS



BATTERY WASTE



INCOMPATIBLE LAND USE



TECHNOLOGICAL LIMITATIONS



ELECTRIFICATION & ENERGY CAPACITY/SCALING



REDUCED AVIATION FUNDING



PUBLIC ACCEPTANCE & EXPECTATIONS

EXISTING AIRSPACE ANALYSIS

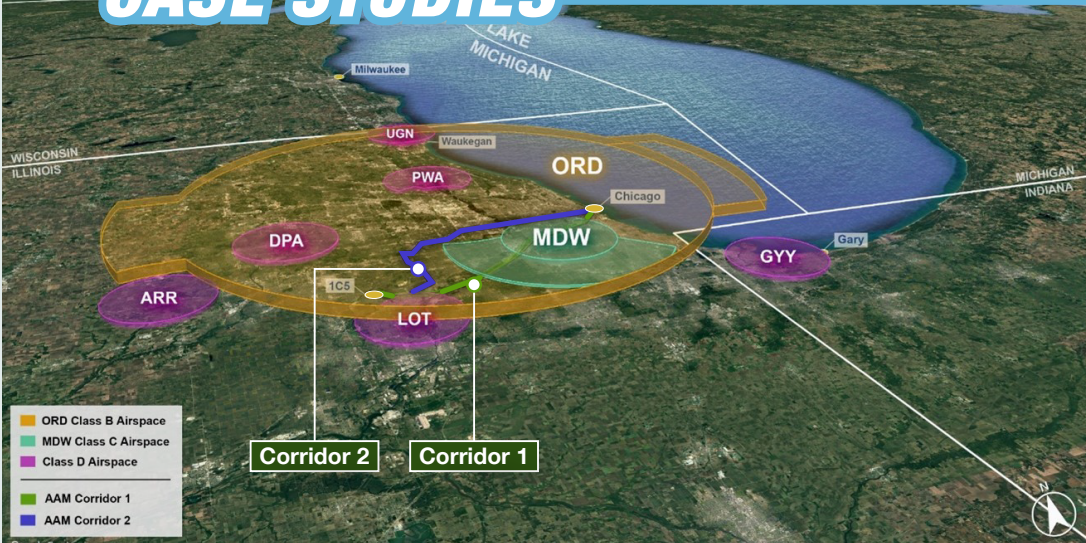
To understand the potential impact of AAM, it was crucial to first examine the existing airspace structures that govern the National Airspace System (NAS). These structures include controlled airspace, where air traffic control (ATC) manages aircraft operations; uncontrolled airspace, where pilots operate without direct ATC guidance; and special use airspace, designated for specific activities such as military operations and restricted zones. Beyond these traditional categories, other airspace structures play a significant role in facilitating air travel. Helicopter routes provide dedicated pathways for rotorcraft while Unmanned Aircraft System Traffic Management (UTM) and BVLOS operations enable the safe and efficient use of drones, albeit in an extremely limited capacity. With this, there may be an opportunity for AAM aircraft to utilize a variety of existing helicopter routes, procedures, and infrastructure. As the aviation landscape evolves, future AAM corridors will emerge, designed to accommodate the needs of eVTOL aircraft. However, integrating AAM traffic into Illinois presents several challenges that are identified in Chapter 4 of the Technical Report. While these challenges are not immediately pressing, when eVTOLs adhere to existing flight rules and airspace regulations, they become more pronounced as AAM operations scale and incorporate autonomous technology.



CHALLENGES IDENTIFIED

- ▶ Limited Airspace Capacity
- ▶ ATC Workforce
- ▶ Lack of Modernization
- ▶ Communication with Autonomous Vehicles
- ▶ Regional Variation
- ▶ Ground Impacts

AAM CORRIDOR MODELING
CASE STUDIES



Two conceptual AAM corridors were developed to demonstrate what AAM may look like in an area of Illinois most ripe for the industry. These corridors were created as a way to travel between Bolingbrook's Clow International (1C5) and Downtown Chicago. These case studies aim to provide stakeholders with an initial perspective on how an AAM corridor could integrate with the existing airspace early on. It also presents considerations for integration that could guide future discussions with the FAA, should the development of AAM corridors be warranted.

The FAA is solely responsible for the safe and efficient use of the NAS, including the research, analysis, and development of future AAM corridors. The case studies presented above are a conceptual modeling effort for stakeholders to understand the possibilities of a future AAM corridor, including the magnitude of challenges the industry must overcome before Rural Air Mobility (RAM) becomes a reality. The illustrations above are for conversation purposes only and are not an indication or recommendation from IDOT that they should be developed.

SAMPLE VERTIPORT REPORTS

The sample vertiport reports provide conceptual layouts for three different sized vertiport facilities at existing airports. These airports were selected based on their inclusion in the IASP, public accessibility, potential for expansion, proximity to the central business district, and sufficient separation from active runways. The proposed vertiport will support the integration of AAM into Illinois' aviation system, enhance connectivity and foster sustainable transportation solutions.

Three sample vertiport reports were created for the Illinois AAM System Plan. Each vertiport report highlights core components that should be considered for vertiport development. These components include: Takeoff & Landing Areas, Aircraft Parking, Aircraft Charging Infrastructure, Vehicle Parking & Landside Access, Terminal Buildings, and Security Fencing. The report examines each component individually, detailing its purpose, potential qualities, and considerations for future development. A local obstacle map for each airport is included to identify potential hazards near the facility. To serve as a guide for airports planning to develop vertiport facilities, a sponsor checklist was created to outline essential considerations and steps to ensure the successful integration of AAM operations.



The reports are purely conceptual. The illustrations and demonstrations included are intended for planning and conceptualization purposes only and do not constitute a development recommendation from the Illinois Department of Transportation (IDOT) or the associated airport sponsors.

RECOMMENDATIONS

IDOT is advancing a strategic framework to integrate AAM into the State’s multimodal transportation system. This section outlines the comprehensive set of recommendations developed through collaboration with stakeholders from aviation, transportation, academia, and public sectors. The goal was to ensure the safe, efficient, and equitable deployment of AAM technologies across Illinois. Each recommendation was carefully assigned to one of the recommendation categories below.



RECOMMENDATION CATEGORIES



AAM INFRASTRUCTURE & ZONING



PUBLIC EDUCATION & COMMUNITY ENGAGEMENT



AIRSPACE & SAFETY

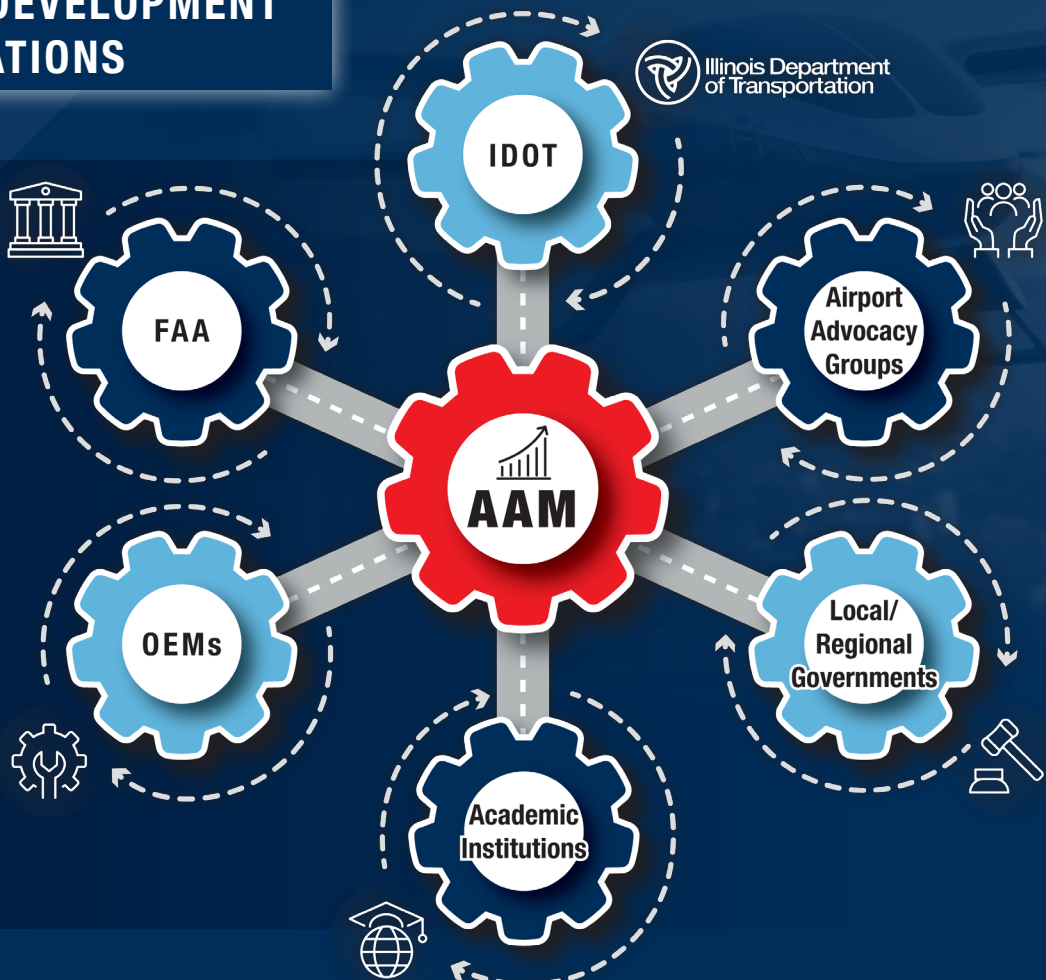


SYSTEM PLANNING & ACCESS



WORKFORCE DEVELOPMENT RECOMMENDATIONS

While this plan focused on the actions and initiatives that IDOT can undertake to drive AAM forward in Illinois, meaningful progress will require a collaborative effort. Advancement must come from partnerships among federal regulators such as the FAA, private industry leaders, including OEMs, academic institutions like Northwestern University, local and regional governments, and advocacy organizations such as the Illinois Public Airport Association (IPAA).



IMPLEMENTATION PATHWAYS:

The recommendations outlined in this plan should not be implemented in isolation. Many are interconnected and can be grouped into broader initiatives to maximize efficiency and impact. Specific recommendations are listed below and can be pursued through three strategic pathways:



Recommendations that can be effectively pursued through a Phase II of Illinois' Advanced Air Mobility (AAM) System Plan include:



Improve Aviation Facility Electrification



Develop a Statewide Land Use Plan that Includes Zoning and Ordinance Guidance and Best Practices for Local Governments



Develop a Statewide Obstruction Study



Develop and Illinois AAM Public Education and Acceptance Guidebook



Evaluate and Identify Additional Illinois AAM Use Cases



Recommendations that can be effectively pursued through the next IASP Update include:



Evaluate the Feasibility of Updating State Aviation Fund Revenue Sources to Include Tax Revenue from Electrical Utilities.



Evaluate and Revise Project Prioritization Criteria to Reflect Evolving Transportation Needs



Incorporate AAM Considerations Into Illinois' L RTP



Conduct a Statewide Review of Non-Aviation Public Assets that Could Support AAM



Recommendations that can be effectively pursued by specific IDOT action include:



Create an AAM Manager Position within IDOT



Update State Aviation Fund Revenue Sources to Include Tax Revenue from Electrical Utilities



Coordinate with Local First Responders on Fire Safety to Account for Electric Aircraft

For more information on each of these recommendations and the overall implementation plan, visit Chapter 5 of the Technical Report.

THANK YOU TO OUR PAC MEMBERS!

A Project Advisory Committee (PAC) was established to provide ongoing guidance and support during the development of the Illinois AAM System Plan. IDOT selected members from a diverse range of organizations to offer local, regional, statewide, and national insights on various issues affecting the AAM industry. Throughout the process, PAC members were consulted regularly and provided feedback on each study task. PAC membership included:

- ▶ **AAM Institute**
- ▶ **Archer Aviation**
- ▶ **BETA Technologies**
- ▶ **Chicago Department of Aviation (CDA)**
- ▶ **Chicago Executive Airport (PWK)**
- ▶ **Chicago Metropolitan Agency for Planning (CMAP)**
- ▶ **Chicago Transit Authority (CTA)**
- ▶ **Community Air Mobility Initiative (CAMI)**
- ▶ **FAA Great Lakes Airports District Office (ADO)**
- ▶ **FAA Greater Chicago Flight Standards District Office (FSDO)**
- ▶ **Illinois Department of Commerce and Economic Opportunity**
- ▶ **Invest Quebec Exportation**
- ▶ **Joby Aviation**
- ▶ **Lewis University**
- ▶ **MedForce Air**
- ▶ **Northwestern University**
- ▶ **Skyports Infrastructure**
- ▶ **St. Louis Bi-State Development**
- ▶ **St. Louis Downtown Airport (CPS)**
- ▶ **St. Louis East-West Gateway Council of Governments (EWGCOG)**
- ▶ **Thales**
- ▶ **United Airlines**
- ▶ **Vertiport Chicago**

