

2025

# KANSAS

## ADVANCED AIR MOBILITY STRATEGY

ROADMAP, MARKET ANALYSIS, AND ECONOMIC IMPACT STUDY



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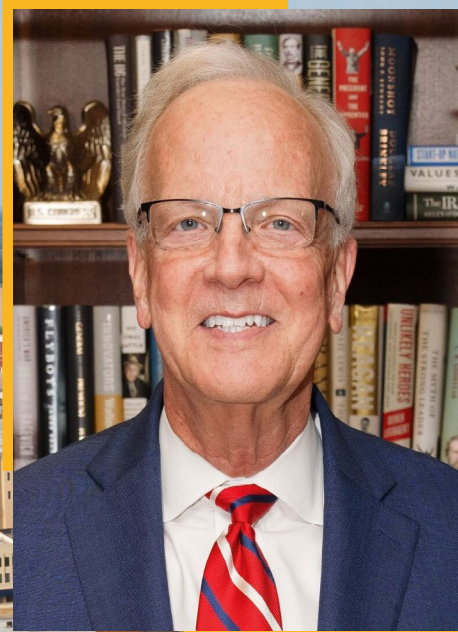
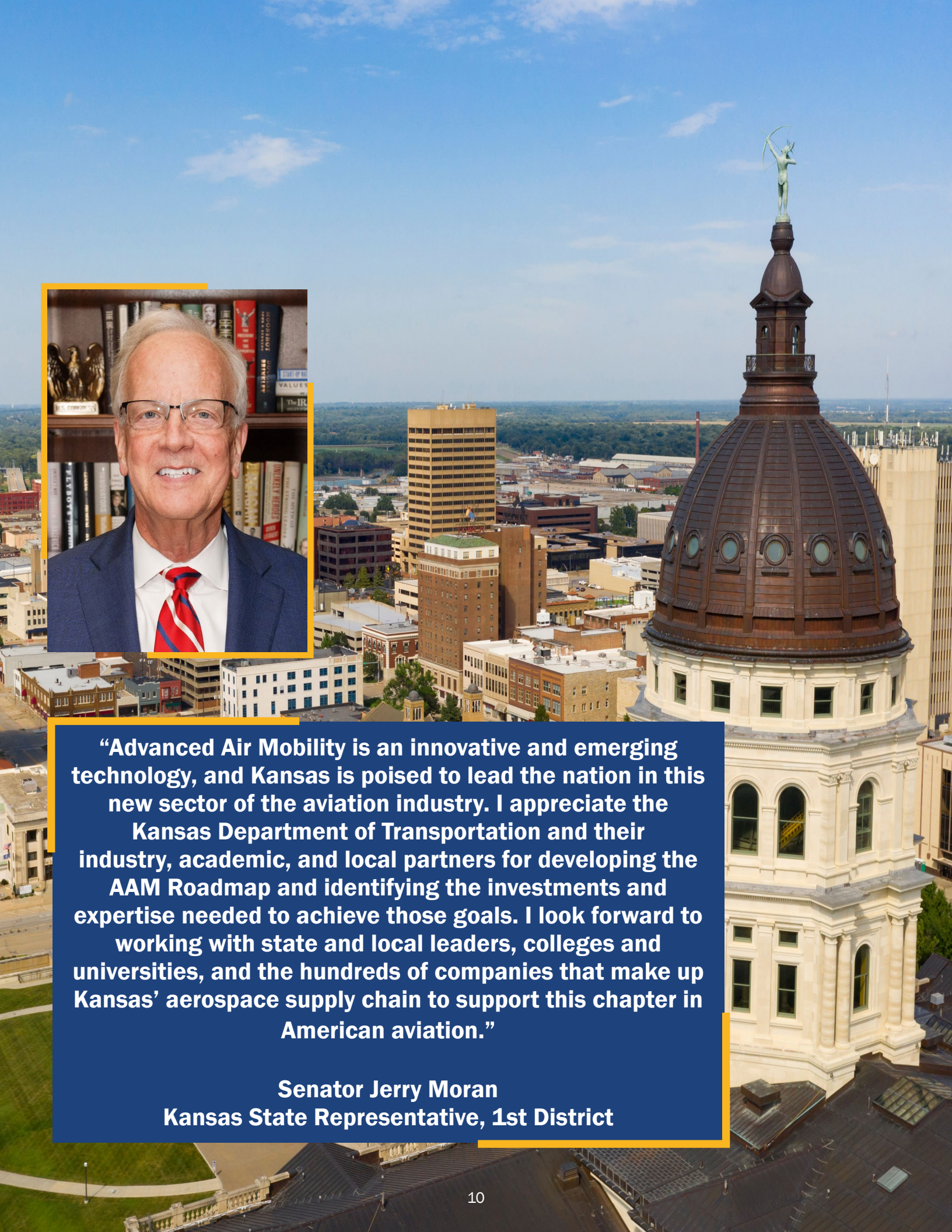
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**“Advanced Air Mobility is an innovative and emerging technology, and Kansas is poised to lead the nation in this new sector of the aviation industry. I appreciate the Kansas Department of Transportation and their industry, academic, and local partners for developing the AAM Roadmap and identifying the investments and expertise needed to achieve those goals. I look forward to working with state and local leaders, colleges and universities, and the hundreds of companies that make up Kansas’ aerospace supply chain to support this chapter in American aviation.”**

**Senator Jerry Moran  
Kansas State Representative, 1st District**

# FOREWORD

GOVERNOR LAURA KELLY

Kansas has always been defined by innovation, resilience, and a pioneering spirit. From our rich aviation history to our position as a global leader in aerospace manufacturing and research, we’ve consistently embraced the future of flight. Advanced Air Mobility (AAM) is the next step of this legacy, offering Kansas an extraordinary opportunity to expand its leadership in transportation.

Aviation has long been a cornerstone of Kansas’ economy, generating billions in annual economic impact, creating thousands of competitive jobs, and connecting our communities to the world. Our aviation ecosystem - home to industry giants, cutting-edge research institutions, and one of the nation’s most skilled aviation workforces - has driven innovation and growth for decades. Kansas is uniquely positioned to lead the evolution of this sector through AAM technologies.

The Kansas AAM Roadmap outlines a clear, actionable framework to integrate AAM into our current transportation systems, enhancing connectivity, driving economic growth, and ensuring Kansas remains at the forefront of aviation advancements. With strong infrastructure, renowned institutions, and collaborative partnerships, our state is primed and ready to lead this transformative effort.

By embracing AAM, Kansas can strengthen its economy, create more high-quality jobs, and improve transportation for all. Together, we can build on our legacy and secure our place as a global leader in aviation and innovation for generations to come.



Laura Kelly  
Governor of Kansas

# FOREWORD

SECRETARY OF TRANSPORTATION CALVIN REED

At the Kansas Department of Transportation (KDOT), our purpose is to deliver transportation solutions that keep Kansas moving forward. Advanced Air Mobility (AAM) aligns with that purpose, offering innovative ways to connect communities, improve accessibility, and drive economic growth.

The Kansas AAM Roadmap is a key step in shaping the future of transportation, leveraging the state's aviation leadership, skilled workforce, research institutions, and robust supply chain. Collaboration among industry, government, and academia will be vital to integrating AAM technologies and strengthening Kansas's position as a leader in next-generation mobility.

KDOT is committed to the collaboration that will build the infrastructure, policies, and partnerships needed for AAM to thrive, fostering innovation, workforce development, and enhanced safety. The roadmap provides a clear vision for advancing this transformative industry and ensuring Kansas remains at the forefront of aviation and mobility.

The future of transportation is here, and Kansas is ready to lead. Together, we can connect communities, drive economic growth, and shape the next era of mobility.

Sincerely,



Calvin Reed  
Kansas Secretary of Transportation



# FOREWORD

WICHITA MAYOR LILY WU

As the Air Capital of the World, Wichita has a legacy of aviation excellence and innovation. The rise of advanced air mobility (AAM) presents a tremendous opportunity to diversify our aviation industry, further strengthen our economy and position Wichita and Kansas as national leaders in next-generation aircraft manufacturing.

As the mayor of the Air Capital of the World and co-chair of the National League of Cities National Aviation Advisory Forum on Air Mobility and Drone Integration, I recognize the importance of preparing our communities for the future of aviation.

Wichita is equipped to help drive the AAM industry forward with our robust supply chain of over 350 aviation suppliers and more than 30,000 skilled aviation workers ready to build the future of flight.

Home to industry leaders like Textron eAviation and world-class institutions such as the National Institute for Aviation Research and the National Center for Aviation Training, Wichita has a proven track record of success in aerospace innovation.

The development of the Kansas AAM industry will reinforce Wichita's status as the Air Capital of the World. By investing in this growing sector, we are not only helping to ensure that Kansas remains at the forefront of aviation but also creating high-quality jobs and building a workforce ready to lead in the next era of flight.

Sincerely,



Mayor Lily Wu  
City of Wichita



# ACKNOWLEDGEMENTS

The creation of the Kansas Advanced Air Mobility (AAM) Roadmap represents a collaborative milestone made possible through the dedication and expertise of a diverse group of government leaders, academic institutions, industry pioneers, and public agencies. This document reflects the shared commitment of Kansas to lead in the integration of emerging aviation technologies, build resilient infrastructure, and strengthen the state's position in the future of mobility. We extend our sincere appreciation to the following organizations for their strategic input, technical guidance, and continued support in shaping this roadmap.

## AUTHORS:

- **Kansas Department of Transportation (KDOT)** – For providing statewide transportation leadership and planning foresight essential to integrating AAM into the multimodal network.
- **Kansas Department of Commerce (KDC)** – For driving economic development and innovation, ensuring Kansas remains competitive in aerospace workforce development and industry attraction.
- **Wichita State University (WSU) & NIAR** – For applied research, technology testing, and workforce training programs that support AAM operations, safety, and system integration, as well as contributing the graphic design and text editing for this document.
- **MITRE Corporation** – For serving as lead author and technical advisor, contributing systems engineering, airspace expertise, economic insights, and strategic coordination to this roadmap.

## CONTRIBUTORS:

- Kansas State University (KSU)
- University of Kansas (KU)
- Kansas Association of Airports (KAA)
- Greater Wichita Partnership
- Johnson County Airport Commission
- Salina Airport Authority
- Wichita Airport Authority
- Textron E-Aviation
- BETA Technologies
- Heinen Brothers / Kelly Hills UAS Test Range
- REMI (Regional Economic Models, Inc.)
- Leadfoot Express
- Dreiling Aviation

## KANSAS EMERGING AVIATION TECHNOLOGY STAKEHOLDERS:

### Academic:

- WSU Tech/Firepoint

### Airports:

- City of Hays
- Metropolitan Topeka Airport Authority

### Manufacturing/OEMs:

- Boeing/Wisk
- Garmin (KS)
- Honeywell
- Joby Aviation
- Electra Aero

### Industry:

- Kansas Drone Services
- Global Medical Response (Air Ambulance)
- Thales ATM
- ChargePoint (EV Charge)

### Economic Development Organizations:

- Kansas Economic Development Alliance (KEDA)
- Kansas Manufacturing Solutions
- Kansas Chamber of Commerce
- Topeka Partnership
- Grow Hays

### Aviation Consultants:

- National Renewable Energy Laboratory (NREL)
- Crossbow Strategic Consulting
- Powers Engineering/Flint Hills Solutions (UAV/Consulting)
- HDR Inc.
- Greteman Group

### Utilities:

- Evergy
- DSO Electric Coop
- Sunflower Electric Power Corporation
- Lane-Scott Electric Cooperative
- Midwest Energy, Inc.
- Kansas Municipal Energy Agency (KMEA)

### State & Local Government:

- Wichita, KS Mayor Lily Wu's office
- Kansas Department of Commerce
- Kansas Department of Commerce/Broadband Development
- KDOT Multi-Modal/Innovative Tech
- KDOT Aviation
- KDOT Policy
- Kansas Forest Service
- KS Department of Agriculture
- KS Water Board
- Colorado Division of Aeronautics
- Nebraska DOT Aeronautics Division
- Oklahoma Department of Aerospace and Aeronautics
- Missouri Department of Transportation

### Legislative:

- Representative Shannon Francis' Office
- Representative Chris Croft's Office
- Senator Jerry Moran's Office
- Representative Sharice David's Office
- Representative Tracey Mann's Office

### Trade Association:

- Aircraft Owners and Pilots Association (AOPA)
- Kansas Crewed and Uncrewed Aerial Systems Association (KCUASA)

### Federal Government:

- FAA Central Region Office of Airports
- Federal Dept. of Commerce / International Trade Administration

### SME:

- Sam Kleinbeck (General Atomics Predator/UAV/Industry SME)

### Aviation Law:

- C Edward Young

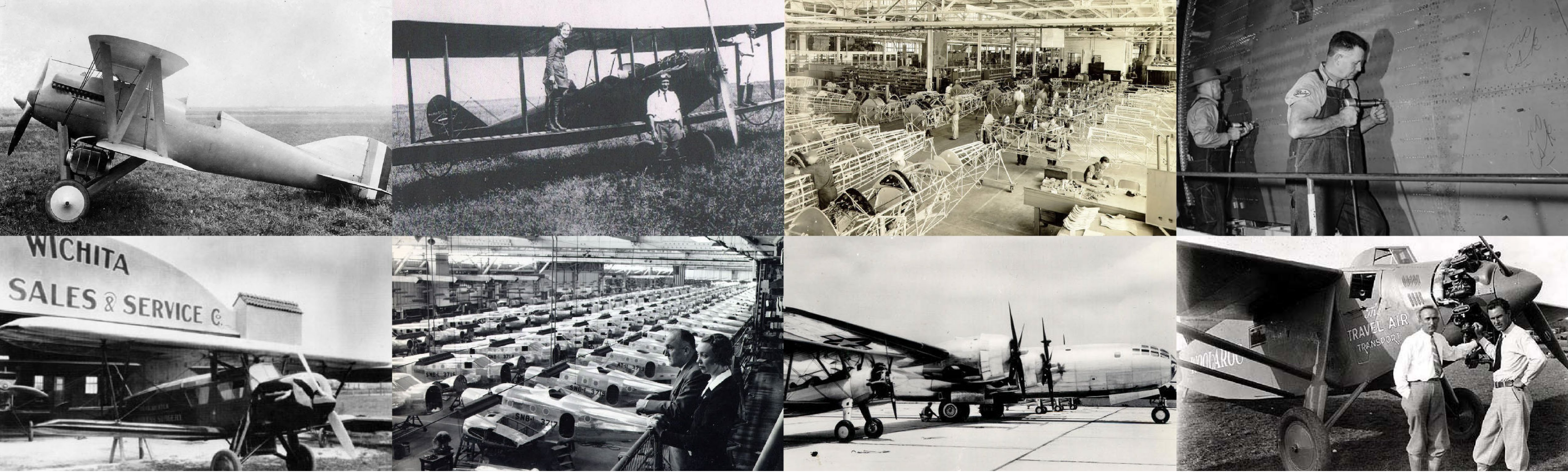
### General:

- Trent Armbrust

### Military Aviation:

- Fort Riley

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# THE SOARING LEGACY:

## AVIATION IN KANSAS



“ Kansas’s rich history in pioneering aviation advancement has paved a path forward for the development and adoption of next generation technology. ”

*Ben Saucedo, Director,  
Kansas Aviation Museum*

Kansas’s central location, plentiful open spaces, and entrepreneurial spirit have fostered a thriving aviation ecosystem since the early days of traditional aviation. The state’s past, present, and future are rooted in aviation. Just a few years after Clyde Cessna established its roots in Kansas in 1916, the state was earning its place in aviation history. By 1928 the city of Wichita, Kansas was already known as the “Air Capital of the World,” outputting over a quarter of all U.S.-manufactured aircraft at the time, and eventually enabling production and manufacturing of Boeing, Bombardier Learjet, Textron Aviation, and Airbus aircraft. Aviation pioneers who shaped the aerospace industry as it exists today emerged from

this early legacy, including Amelia Earhart, Walter Beech, Clyde Cessna, Clay Lacy, Joe Engle, Ron Evans, Lloyd Stearman, and more. While the aircraft, engineering, and people of the Sunflower State’s history have cemented Kansas’s legacy in aerospace history, the state continues to innovate and drive aviation forward. Today, the state’s rich aviation legacy has translated into significant economic benefits, providing high-paying jobs, driving technological advancements, and connecting Kansas to the world.

**BY 1928 THE CITY OF WICHITA, KANSAS WAS ALREADY KNOWN AS THE “AIR CAPITAL OF THE WORLD”**

# KEY AEROSPACE COMPANIES

IN KANSAS



**\$20.6 BILLION**  
in total annual economic impact

**34,000**  
jobs

**\$1.8 BILLION**  
in annual payroll

# CONTINUED LEGACY:

AEROSPACE EXCELLENCE

Today, multiple regions across the state are home to global leaders in aviation manufacturing, research, and critical aviation supply chain capabilities, supporting over 450 aerospace manufacturers, including Spirit AeroSystems, Textron (Cessna and Beechcraft), Bell Flight, Bombardier Learjet, Garmin, GE Aviation, Collins Aerospace, and more.<sup>1</sup>

Aviation continues to contribute substantially to Kansas's economy today, generating over \$20.6 billion in total annual economic impact,<sup>2</sup> 34,000 jobs, and \$1.8 billion in annual payroll.<sup>3</sup> Kansas exports \$2.3 billion in aerospace products annually, contributing to over 20 percent of the state's total exports. This aviation ecosystem is supported by one of the strongest engineering and aviation workforce in the nation, home to the third largest concentration of aviation workforce in the United States.<sup>4</sup>

Kansas aerospace research and development institutions sit at the forefront of aerospace innovation. The state is home to multiple leading research universities, including Wichita State University, Kansas State University, and the University of Kansas, that directly support aerospace research and development in key emerging entrant technologies as part of the Federal Aviation Administration's (FAA) Alliance for System Safety of UAS (Unmanned Aerial Systems) through

Research Excellence (ASSURE).<sup>5</sup> Each of these universities support national aerospace research and development centers and research for a multitude of state, government and industry partners:

## WICHITA STATE UNIVERSITY

National Institute for Aviation Research (NIAR),<sup>6</sup> National Center for Aviation Training,<sup>7</sup> FAA Center of Excellence for Composites and Advanced Materials,<sup>8</sup> and multiple advanced virtual engineering and testing labs.

## KANSAS STATE UNIVERSITY

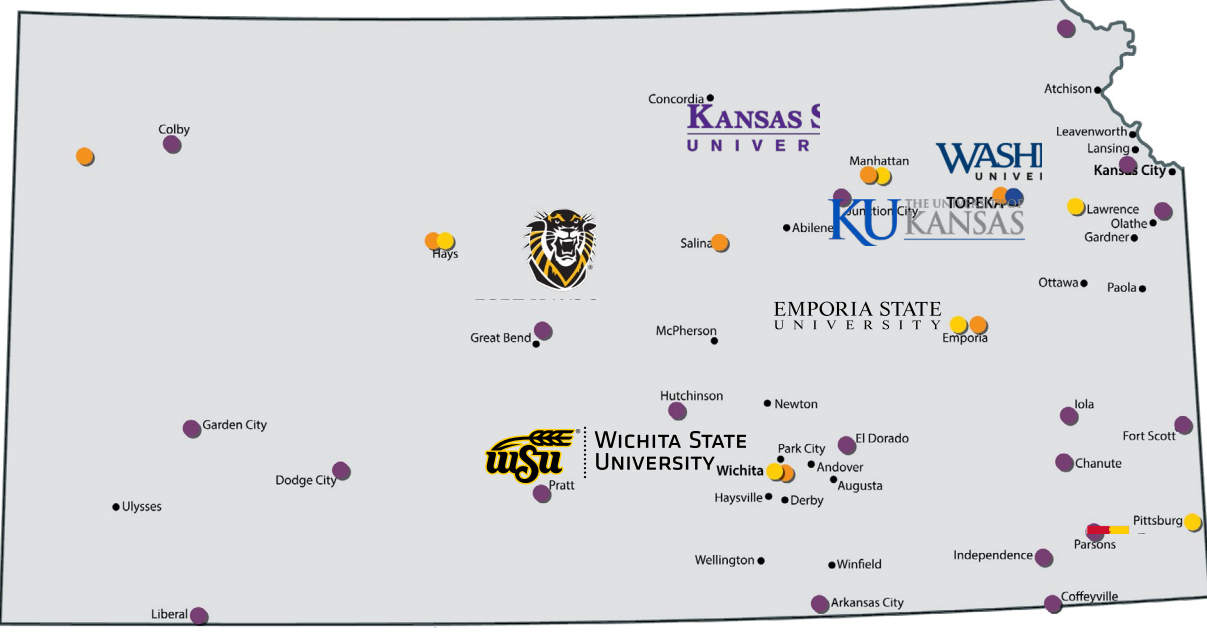
KSU-Salina Applied Aviation Research Center,<sup>9</sup> Kansas Advanced Immersive Research for Emerging Systems,<sup>10</sup> Kansas Advanced Air Mobility (AAM) Flight Test and Training Center,<sup>11</sup> the Aviation Maintenance Training Center,<sup>12</sup> and planned advanced technology centers at the General Atomics Aerospace Innovation Ramp.

## UNIVERSITY OF KANSAS

The Garrison Flight Research Center and Flight Research Lab.<sup>13</sup>



These institutions play a crucial role in advancing aviation technology, working alongside the many community colleges in Kansas to train the next generation of industry leaders and provide a pipeline of talent for the future. Ongoing collaboration, training, and educational opportunities aligned with industry innovation needs and a future ready workforce will continue to shape Kansas participation in the next frontier of aviation.



- State Universities (6)
- Municipal University (1)
- Community Colleges (19)
- Technical Colleges (7)



**Wichita State University** currently ranks **#1** in **Aerospace R&D Expenditure**



Wichita State University, Kansas State University and the University of Kansas lead in **Total R&D Expenditure**



Totaling over **\$885 M** in R&D throughout Kansas


## KANSAS AIRPORT SYSTEM:

- 146** Public Use Airports 
- 200** Private Use Airports 
- 3** Military Airfields 
- 38** Heliports\* 
- 2** Glider Ports 
- 2** Ultralight Ports 
- 1** Balloon Port 

\*Includes private use heliports


Kansas is also home to a large existing aviation infrastructure, the Kansas Airport System. The Kansas Airport System includes 80 National Plan of Integrated Airport Systems (NPIAS) airports, five essential air service airports, and one international airport in Wichita. The system is also home to an abundance of private and publicly accessible helipads and airports that are poised to enable emerging operations and use cases, including 146 public use airports, 229 private use airports, three military airfields, 38 heliports, two glider ports, two ultralight ports, and even a balloon port.<sup>14</sup> The airport system enables and supports a substantial output of realized economic output for the state, across a wide range of jobs including maintenance, repair, and overhaul (MRO), manufacturing, air service, operations and more.

The state's strong workforce, existing research centers and universities, industry production and manufacturing capabilities, and existing infrastructure, readily position Kansas for the next iteration of aviation innovation: advanced air mobility (AAM).



TOTAL ECONOMIC OUTPUT OF KANSAS AIRPORTS IS VALUED AT

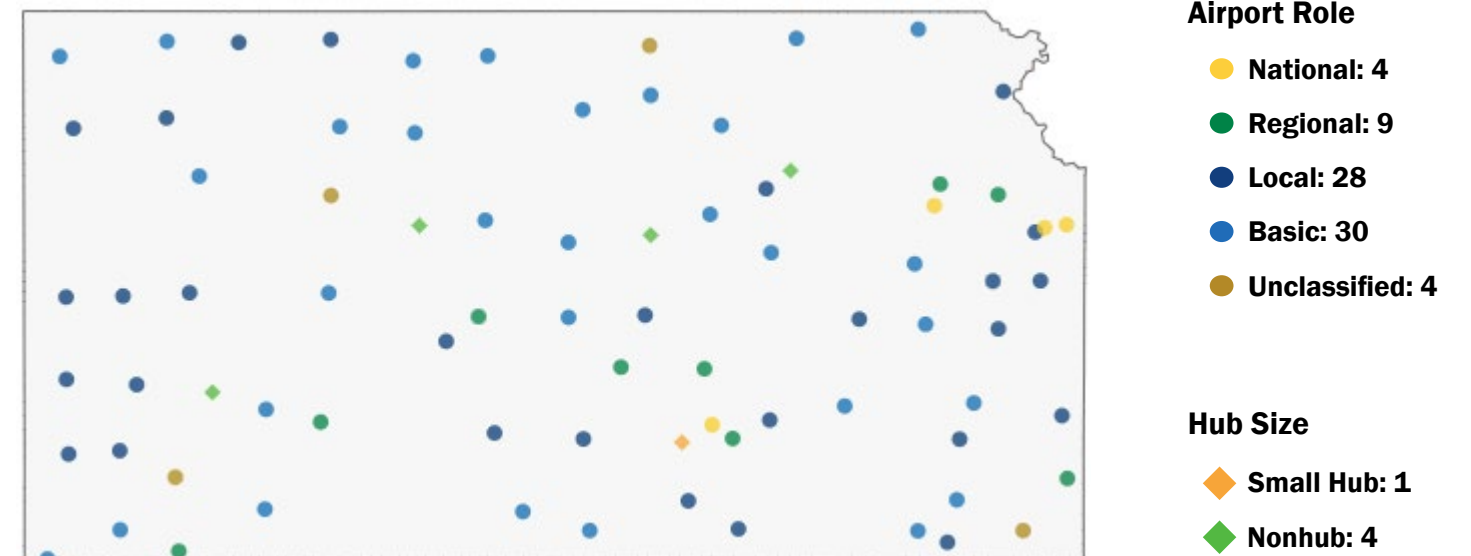
# \$11 BILLION



IN REALIZED WAGES ACROSS THE AIRPORT SYSTEM OF 140 PUBLIC USE AIRPORTS

# \$2.3 BILLION

National Plan of Integrated Airport Systems (NPIAS) 2025-2029: Kansas Airports





# ADVANCED AIR MOBILITY

## THE NEXT FRONTIER



“*Kansas has long been a national leader in aviation, with deep roots in aerospace manufacturing and a highly skilled workforce. As the industry evolves, we have a critical opportunity to shape the future of transportation and innovation.*”

*Sharice Davids, Representative,  
Kansas Congressional 3rd District*

AAM represents a paradigm shift in aviation, utilizing electric, hybrid-electric or hydrogen powered aircraft to provide innovative air transportation solutions. AAM has the potential to revolutionize urban mobility, connect rural communities, and create new economic opportunities for the state and for the nation.

Globally, significant investments are already being made in AAM, with companies developing new aircraft, digital, and physical infrastructure, and supporting technologies to enable advanced flight. Regulatory frameworks and pilot programs are underway to demonstrate the viability of AAM operations. Momentum is building behind AAM as it is expected to become a significant contributor to the overall National

Airspace System effectiveness. Even with Kansas’s deep roots and legacy in aviation, the state must take action to maintain and grow the state’s aviation ecosystem footprint.

This roadmap is intended to be a call to action and an outline of potential opportunities for the state. By embracing the opportunities presented by AAM and other emerging aviation technologies, Kansas can solidify its position as a global leader in aviation, driving economic growth, creating jobs, and shaping the future of transportation.

*Even with Kansas’s deep roots and legacy in aviation, the state must take action in order to maintain and grow its aviation ecosystem footprint.*

# KEY AAM MILESTONES

2023



- FAA publishes UAM CONOPS and Implementation Plan
- FAA publishes Powered Lift regulations



- Beta installs electric aircraft charging stations at dozens of airports around the U.S.

2024



- FAA updates vertiport design guidance



- FAA, Joby, Archer agree on final certification basis for their aircraft
- Elroy Air, Beta, Electra Goldfinch, Textron, Vertical among some of the OEM's that are test flying aircraft on experimental certificates



- States such as North Dakota, Oklahoma, and Utah begin acquiring surveillance and charging infrastructure for UAS and AAM operations
- FAA and industry partner to evaluate UAS Traffic Management services in Dallas, setting the foundation for future AAM service provision frameworks
- Vertiport planning and development for demonstrations and research is underway at a few sites around the U.S.

2025



- FAA expected to issue NPRM for Normalizing UAS BVLOS operations and rules for approving third-party services



- First eVTOL air taxi operations in Dubai, UAE and Norway



- FAA publishes roadmap for AAM Type Certification

2027



- First FAA type certificate approvals expected



- A final rule for UAS BVLOS is expected to be published by FAA, enabling routine BVLOS operations around the U.S.
- First eVTOL fixed wing air taxi operation in the U.S.

2029



- Electric fixed-wing regional jets expected to be certified for operations
- Remotely piloted retrofitted fixed-wing aircraft expected to be certified for Part 91/135 operations



- Next wave of AAM OEMs expected to receive FAA type certificate approval



**FAA Regulations**



**Aircraft Development**



**Infrastructure Development**



**Operating Plans**



# THE VALUE OF AAM

While similar in mission to traditional aviation, AAM represents a transformative advancement within the aerospace sector, encompassing a suite of innovative aviation technologies designed to revolutionize the movement of both passengers and cargo. AAM offers the potential for expedited and more efficient transportation alternatives, augmenting existing local and regional transportation networks. The seamless integration of AAM solutions with traditional modalities, including ground transportation and maritime systems, will create enhanced connectivity for individuals and businesses across communities.



## MICROBILITY

Walking, Scooters, eBikes

Eco-friendly  
Convenient  
Alleviates congestion



## MARITIME

Ferry, Cargo Ship, Cruise Ship

High capacity  
Economical  
Avoids Traffic



## GROUND VEHICLES

Cars, Buses, Taxis

Range versatility  
Destination versatility  
Weatherproof



## CONVENTIONAL AVIATION

Conventional Aircraft

Long distance  
Fast  
High capacity



## RAIL

Trains, Metro

High capacity  
Energy efficient  
Avoids traffic



## AAM

Drones, eAviation

Fast and quiet  
Low emissions  
New markets



**Air Medical Services**



**Agriculture Missions**



**Cargo Transport**



**Disaster Response**



**Police Search and Rescue**



**People Transport**

AAM leverages significant technological advancements in aircraft systems, coupled with a growing demand for more efficient transportation solutions, to create the potential for a new scalable and sustainable layer of the aerial transportation market. These advancements encompass enhanced safety features, including autonomous flight capabilities, sophisticated collision avoidance technologies, and redundant power systems, which collectively enhance the reliability and safety profile of aerial operations. This new type of aircraft also incorporates special design features, including greater use of electric propulsion and vertical takeoff and landing capabilities in many configuration types. AAM aircraft come in a variety of shapes and sizes depending on payload requirements, propulsion methods, and integrated flight automation

systems. Most AAM aircraft utilize Distributed Electric Propulsion – distributing power from different sources (battery, hydrogen, or hybrid-energy propulsion) out to multiple rotors to enable vertical lift. AAM also includes conventional takeoff and landing aircraft using alternative power sources or operating in a remote pilot configuration.

AAM addresses a diverse range of critical transportation needs, spanning emergency medical services and cargo logistics to agricultural support and on-demand air taxi services. For instance, AAM has the potential to significantly enhance healthcare access by enabling the rapid transport of vital medical supplies and personnel to remote or underserved communities. Furthermore, AAM technologies can provide valuable support to

# ADVANCED AIR MOBILITY: THE FUTURE OF FLIGHT

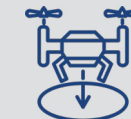
Revolutionizing Transportation, Connecting Communities.

## WHAT IS ADVANCED AIR MOBILITY?

AAM is a transformative approach to aviation, using advanced aircraft to move people and cargo. It combines cutting-edge technologies to create a new era of transportation.



**Electric Propulsion**



**VTOL Capability**



**Automation**

## THE AAM ADVANTAGE: WHY AAM MATTERS



**Faster & More Efficient:** Reduce travel times and improve connectivity.



**Enhanced Accessibility:** Connect remote and underserved communities.



**Reduced Congestion:** Alleviate ground traffic congestion.

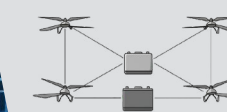


**Sustainable Transportation:** Lower emissions and quieter operations.



**New Economic Opportunities:** Create jobs and stimulate growth.

## KEY TECHNOLOGIES POWERING AAM: THE TECHNOLOGY BEHIND THE FLIGHT



**Distributed Electric Propulsion:** Provides efficient and reliable lift.



**Advanced Battery Technology:** Enables longer flight times and faster charging.



**Autonomous Flight Systems:** Enhances safety and efficiency.



**Advanced Materials:** Improves aircraft performance.

## AAM APPLICATIONS: THE POSSIBILITIES ARE ENDLESS



## THE FUTURE OF AAM: THE FUTURE TAKES FLIGHT

AAM is poised to revolutionize transportation, creating a more connected and sustainable future.

agricultural operations through aerial surveys, crop health monitoring, and targeted delivery of essential resources. In disaster relief scenarios, AAM can facilitate the swift deployment of aid and resources, thereby strengthening response and recovery efforts.

AAM presents a significant opportunity to expand transportation options and fundamentally reshape the existing transportation paradigm. Traditionally, aviation access has been limited to regional and international airports or heliport infrastructure. AAM, however, is expected to utilize a network of strategically located air access points known as vertiports, providing communities with significantly improved access to aviation and revolutionizing regional mobility and other use cases.

**WHY NOW?**

Globally, governments and technology enterprises are engaged in a concerted effort to develop, certify, and deploy AAM technologies within the next five to ten years.

Phased AAM implementation is projected over the next decade, with initial operations anticipated in select regions by the late 2020s, pending final initial aircraft certification activities necessary to meet existing FAA regulations. Internationally, flights may take off even sooner.

While there are key factors influencing these timelines, including the rate of technological maturation, regulatory approvals, infrastructure development, and public acceptance there is a concerted world-wide effort to get AAM off the ground. Progress in critical areas such as battery technology, advanced air traffic management systems, and the establishment of comprehensive safety standards will be instrumental in determining the pace of AAM scalability and integration into existing transportation networks. Furthermore, collaborative partnerships among industry stakeholders, governmental agencies, and local communities will play a crucial role in shaping the deployment timeline and ensuring the necessary planning steps start early enough for successful implementation.



**ALASKA**

Alaska Center for UAS Integration (ACUASI) is a leader in a variety of UAS testing and operations. Harsh terrain and weather enable resilience testing, while partnerships with Native communities and private firms drive innovation for underserved areas.



**FLORIDA**

Florida has become a hub for advanced air mobility, focusing on eVTOL testing and integrating AAM into existing infrastructure. Key efforts include partnerships for pilot programs, regulatory advancements, and leveraging tourism hubs for innovation.



**KANSAS**

KDOT has developed a statewide strategy for integrating AAM and information networks that support UAS and AAM operations. Kansas is also engaged in supporting the workforce and economic development for AAM.



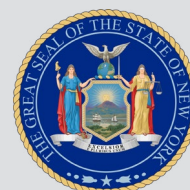
**LOUISIANA**

Bristow, PHI and other companies operating aircraft in support of offshore drill operations are actively pursuing the integration of electric aircraft for their passenger carrying operations. Other cases in the region include medical resupply and logistics.



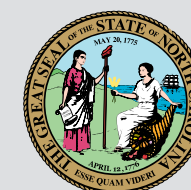
**MASSACHUSETTS**

Numerous UAS and AAM initiatives throughout the state, including supporting DOT operational cases, exploring counter-UAS detection systems and developing a comprehensive plan for AAM in the Commonwealth. Key efforts include partnerships to explore AAM applications in healthcare, logistics, and urban transportation systems.



**NEW YORK**

New York has focused on advanced air mobility through urban air taxi testing and demonstration, drone delivery pilots, and infrastructure planning. The state leverages its dense urban areas and UAS test site to explore integration of advanced aviation.



**NORTH CAROLINA**

NC DOT has implemented a transportation mobility strategic plan to include infrastructure development, partnership facilitation, economic development and policy alignment. The state has a history of drone delivery programs, including medical supply transport, and eVTOL testing.



**NORTH DAKOTA**

Vantis Network enabling BVLOS and AAM Unmanned Aircraft with an infrastructure investment of over \$70M. ND is the first state to receive FAA radar data to complement its network.



**OHIO**

Joby Aviation selected Ohio for Electric Air Taxi Manufacturing Facility. Ohio state government is very engaged in developing AAM in the state and operates the National AAM Center of Excellence (NAAMCE).



**OKLAHOMA**

OSU, The Osage Nation and the Choctaw Nation of Oklahoma (CNO) are actively involved in operations and in developing AAM transportation corridors. State of Oklahoma is developing surveillance infrastructure in the region to allow for more advanced operations.



**TEXAS**

FAA Center for Advanced Technologies to be developed in Texas. FAA UTM Key Site in Dallas-Fort Worth area with first authorization for multiple simultaneous small package delivery BVLOS operations, with industry exploring UTM operations standards development.



**UTAH**

At the request of the Utah Legislature, the Division of Aeronautics conducted a study on the development and implementation of AAM in the state. Key efforts focus on leveraging its diverse terrain to explore AAM applications in transportation, healthcare, logistics, and emergency response.

# VISION OF AAM FOR KANSAS

Kansas aims to sustain its pioneering role in the aviation sector by establishing a vibrant ecosystem that leverages AAM technologies. This vision focuses on strengthening connections within the state, fostering economic prosperity, broadening transportation options, and enhancing the overall well-being of its residents. By integrating AAM into its transportation framework, Kansas seeks to ensure that the benefits of cutting-edge aviation advancements are accessible to all, reinforcing its historical leadership and commitment to innovation in the aerospace industry.

## BENEFITS OF AAM FOR KANSAS

AAM has the potential to bring benefits to all Kansans in a variety of ways, ranging from operational benefits from specific mission spaces to economic and workforce development opportunities. Specific benefits for Kansas include:



### ECONOMIC DEVELOPMENT

AAM will drive significant economic growth in Kansas by creating new business opportunities and diversifying the economy. Developing AAM infrastructure will enhance travel efficiency and keep Kansas aviation competitive, attracting investment and fostering innovation.



### REGIONAL CONNECTIVITY

AAM will greatly enhance regional connectivity in Kansas, especially in remote areas, by bridging transportation gaps. This improved access will boost emergency services with faster response times and promote resource sharing and collaboration among diverse communities.



### TRANSPORTATION MODERNIZATION

AAM is set to modernize transportation in Kansas by offering more flexible and efficient air travel options. This diversification will provide alternatives to traditional travel while reducing aviation noise and the carbon footprint, supporting a more efficient and effective NAS. These advancements reflect Kansas's commitment to innovative solutions that enhance residents' quality of life.



### WORKFORCE DEVELOPMENT

AAM will be key in workforce development in Kansas by creating jobs and enhancing specialized skills. Collaboration with universities will train future aviation professionals, keeping Kansas at the forefront of aerospace advancements and equipping locals with essential skills for the AAM era.



### INCREASED SAFETY

Safety is crucial in integrating AAM technologies. By easing operator workloads, AAM enhances air transportation safety and aids first responders with quick access during emergencies. It also improves infrastructure maintenance, keeping Kansas's transportation systems robust and resilient.

## Vision Statement:

**To maintain Kansas leadership in emerging aviation by creating a dynamic ecosystem to enhance connectivity, drive economic growth, expand transportation access and improve quality of life for Kansans.**



# AAM ECOSYSTEM

## TRANSPORTATION



MULTI-MODAL



PLANNING



COMMUNITY

## TECHNOLOGY



CNS



xTM



AIRCRAFT

## AIRSPACE INTEGRATION



AIRPORTS



AIRSPACE  
USERS



PROCEDURES

## OPERATIONS



DATA



CREW



OPERATORS

## INFRASTRUCTURE



FINANCE



POWER  
SUPPLY



VERTIPOINTS

## REGULATION



AUTOMATION



ENVIRONMENT



HARMONIZATION

# KANSAS INITIATIVES

## AND THE PATH FORWARD

Within the state of Kansas, several organizations are already exploring AAM through various research, testing, and development activities. These activities are creating a foundation addressing several dimensions of the AAM ecosystem. However, enabling AAM operations at-scale in Kansas will require investments, policy, infrastructure, and engagement across other areas of the ecosystem as well.

The roadmap is intended to be used as a strategic framework to address each area and also position the state to enact a cohesive multi-year strategy for AAM implementation. This initiative, the first step towards AAM planning, was undertaken to enable state decision makers to focus on applications with the greatest impact to the state. Therefore, the purpose of this document is to:

**1** Identify areas of opportunity based on greatest market potential.

**2** Understand the potential impact of AAM on Kansas economy.

**3** Establish a shared vision and clear goals to align stakeholders.

**4** Identify actionable activities for stakeholders to implement.



## KANSAS STRATEGIC APPROACH

“ As we plan for the future of Advanced Air Mobility, it’s essential that we stay at the forefront of emerging technologies. Through strategic statewide planning, Kansas will continue to lead — building a modern, connected air transportation system that meets the demands of the future.

Shannon Francis, Kansas State Representative, 125th District



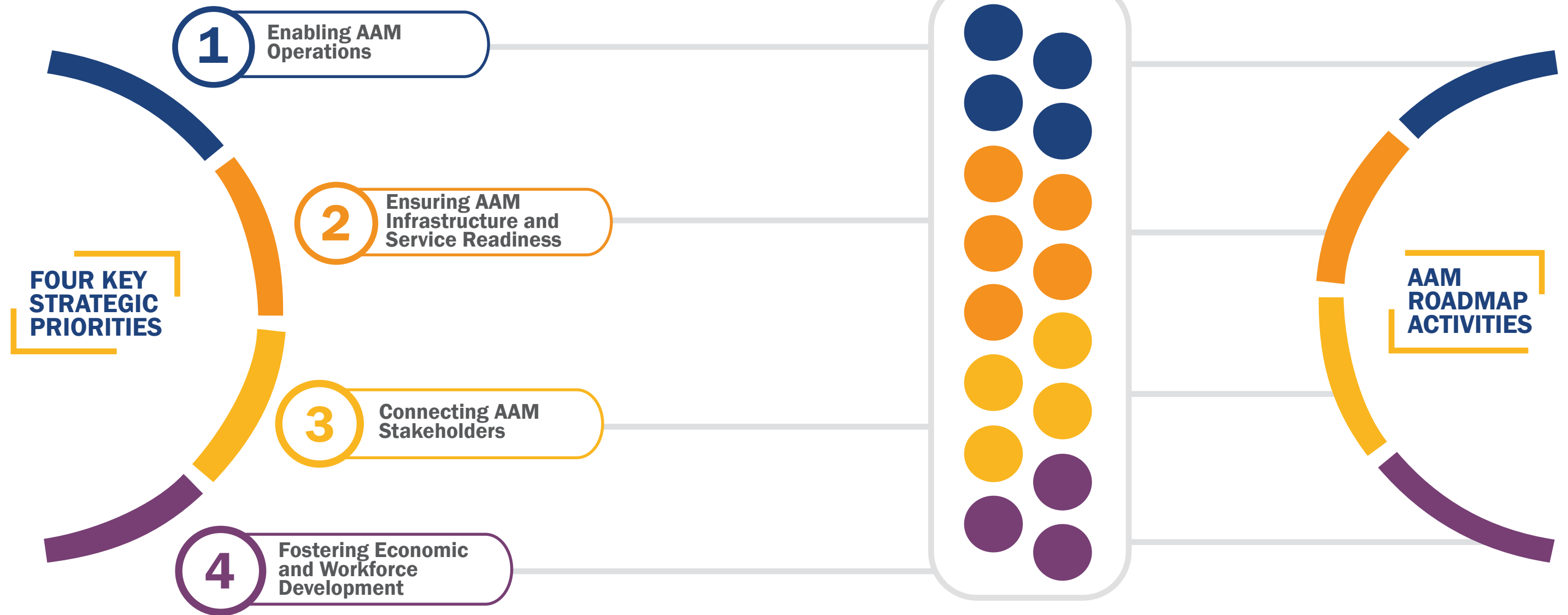
The Kansas AAM Strategic Approach identifies a series of priorities, objectives, and strategic evolutions necessary to realize the Kansas vision of establishing the state as a leader in emerging aviation across a three-phased evolution of AAM implementation.

To best position the state for integration of AAM and realize the vision identified in Part 1, the Kansas AAM Roadmap is organized around a unified strategic approach. The approach complements current national implementation initiatives identified in the FAA Advanced Air Mobility Implementation Plan.<sup>15</sup> In addition, it aligns to existing state strategy documents, including the Kansas Framework for Growth, the Kansas Long Range Transportation Plan, the

Kansas Aviation System Plan, the Kansas Board of Regents’ (KBOR) strategic plan, and organizational strategy elements that were shared through the Kansas Emerging Aviation Technology working groups. Feedback was sought from a multitude of stakeholder groups across the state and aggregated to inform the overall strategic approach.

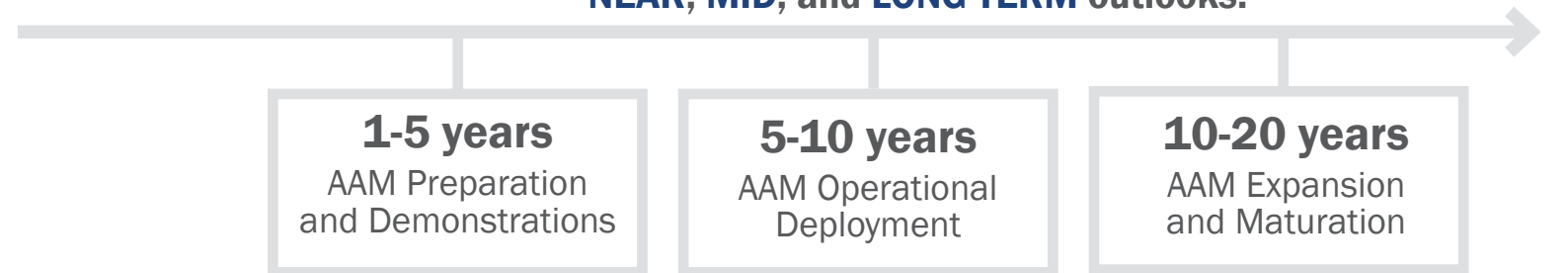
**THE KANSAS AAM ROADMAP IS ORGANIZED AROUND A UNIFIED STRATEGIC APPROACH.**

There are four key strategic priorities for Kansas:



Strategic Priorities are to be implemented along three stages phased across **NEAR, MID, and LONG-TERM** outlooks.

**STRATEGIC EVOLUTION**



In Part 4, this framework is applied to expand the Kansas Strategic Approach in detail and create an actionable way forward for Kansas stakeholders. In order to generate relevant objectives and activities that enable each priority area, an iterative strategic alignment process was undertaken with a wide range of Kansas AAM stakeholders.

*Kansas Strategic Framework*

## STRATEGIC ALIGNMENT

To ensure multiple stakeholders are part of the AAM integration process, the Kansas AAM strategy must align with existing state and national strategies. To achieve this, the roadmap objectives and activities are organized into a series of workstreams for state decision makers.

**WORKSTREAMS** are structured pathways designed to ensure coordinated efforts among various stakeholders, each with specific roles and responsibilities, to achieve shared goals. In the context of the Kansas AAM priorities, workstreams facilitate the alignment of diverse parties such as government agencies, private sector partners, and community organizations across the state. The following sections summarize how the workstream areas were generated to form a cohesive strategy.

## NATIONAL ALIGNMENT

The FAA has identified state, local, tribal, and territorial government entities as key stakeholders with vested interest in informing successful integration of AAM, including in areas of regional planning, infrastructure, intermodal transportation, and community perspectives. It has also indicated that they expect the state and associated planning organizations to be responsible for the coordination, zoning, logistics, and other elements necessary to support AAM operations. The FAA has identified near-term workstreams that will enable early operations in the following areas:

- **Certification**
- **Airspace and Air Traffic Management**

- **Infrastructure**
- **Environment**
- **Hazardous Materials Safety, and**
- **Community Engagement**

Kansas should be prepared to support all the near-term objectives of the FAA, however two were identified with higher priority alignment to existing state-level strategy documents:

- **Infrastructure**
- **Community Engagement**

Entities and organizations within Kansas may help enable other workstream areas through research, testing, prototyping or other means. Workstreams were established that align with these areas through analysis of existing state strategy documents and through discussion with state stakeholders.

## STATE ALIGNMENT

To further inform the Kansas AAM strategic approach, existing state strategy documents were reviewed for alignment to the national workstreams and to further identify state-involved workstreams that have not been explicitly identified.

**THE KANSAS FRAMEWORK FOR GROWTH**<sup>16</sup> identifies aerospace as a key sector, urging the state to expand value chain, drive innovation, and capture projected growth within the aerospace industry. The plan also commits Kansas to be an early customer for disruptive aerospace technologies, while leveraging existing research assets and scaling them for emerging entrants and technologies. Workstreams were ultimately intended to show alignment with the strategic pillars referenced in this document.

**THE 2020-2045 KANSAS LONG RANGE TRANSPORTATION PLAN**<sup>17</sup> also includes information related to emerging entrants (small UAS) that will drive infrastructure, economic growth, and technology change considerations across the department of transportation. The plan identifies a series of long-range transportation goals that AAM aims to advance significantly by 2045. This document indicates that the airport system of the future should be prepared for emerging entrants as a new mode of transportation, further supporting the need to consider AAM implications.

**KANSAS AVIATION SYSTEM PLAN**<sup>18</sup> identifies goals to provide a modern network of airports, support local and statewide economic growth, promote aviation education, and increase accessibility to airports. The overall goals of this document were used to construct workstream areas that enable the Kansas Transportation System as AAM is envisioned to be a new mode of transportation for Kansas citizens.

**BUILDING A FUTURE**<sup>19</sup>, the strategic plan for the state's higher education system, also indicates intentional economic development and facilities initiatives focused on aerospace and advanced aviation manufacturing capabilities. It further outlines industry sponsored research as a key area of innovation both for enabling talent pipelines and enabling Kansas businesses. KBOR identified agriculture, advanced manufacturing in aviation, computer science, and energy as particular areas of importance. State universities are directly encouraged to advance economic activity aligned with agriculture, aviation, and manufacturing that can enable AAM.

**CONNECTED KC2050** outlines specific regional planning strategies and goals for the Kansas City region, including a focus on strategies that encourage adoption of new and novel types of transportation technologies and modes. The strategy includes efforts to expand transportation choices, reduce transportation costs, address climate resilience, and increase overall access to transportation opportunities. It is envisioned that the AAM workstreams will enable many of these objectives and strategies.

**KANSAS SCIENCE AND TECHNOLOGY PLAN**<sup>20</sup> outlines the specific role KBOR institutions play within state initiatives for Kansas Science and Technology programs. The strategy document is aligned with the Kansas Framework for Growth and Building a Future strategic plans, intended to focus on individual opportunities and strengths related to emerging research. Notably, the plan outlines the Kansas innovation profile for each university, including identifying aviation and transportation as a critical resource and area of focus for the state, particularly related to UAS and aerospace engineering. The plan notes precision agriculture and autonomy as key areas for Kansas to grow their economy and innovation profile.

*"I think we're well-positioned to not only be able to be the Air Capital of the World for general aviation and commercial aircraft, as we have been historically, but also the capital for advanced air mobility."*<sup>7</sup>

**Pierre Harter**  
Associate Vice President of  
Research and Industry Engagement,  
Wichita State University

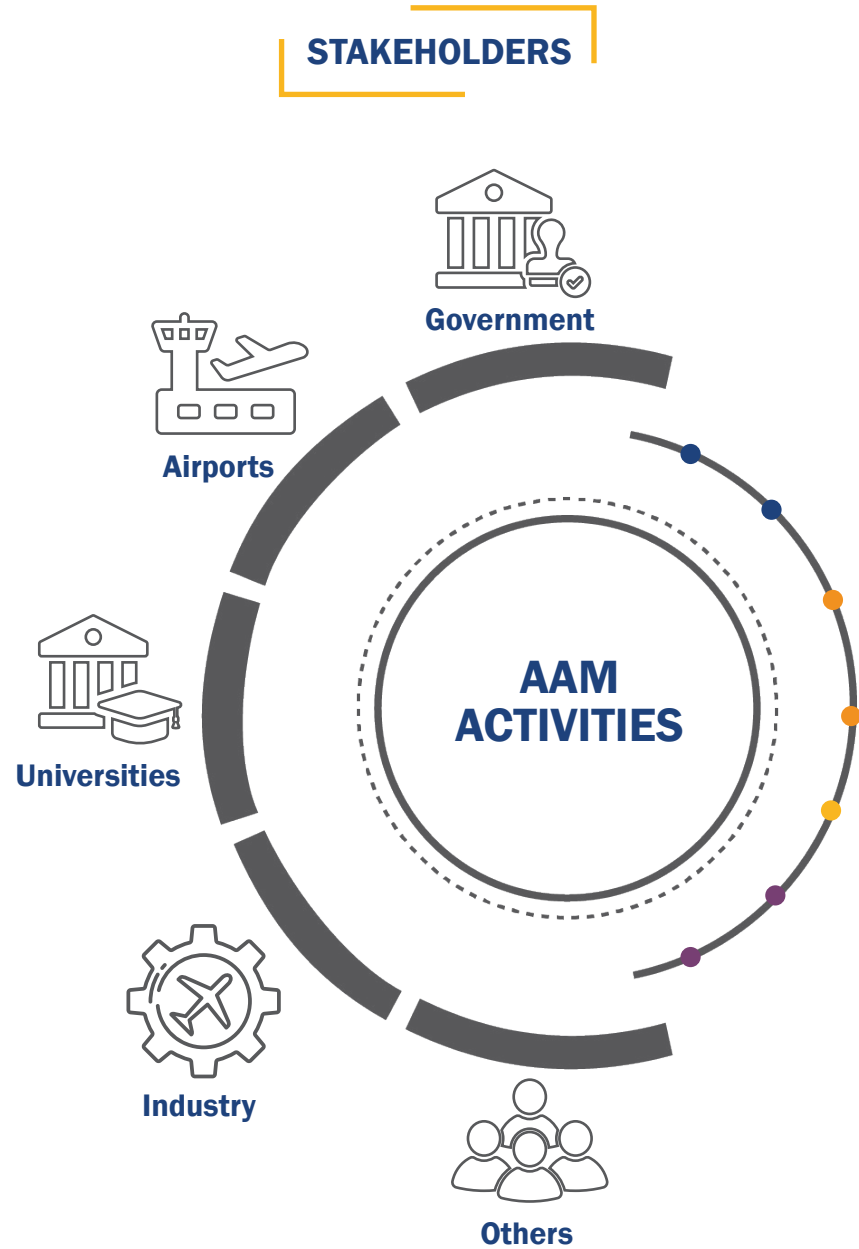
## STRATEGY IMPLEMENTATION

Alignment of the strategy objectives from each of these documents were assessed utilizing the AAM Ecosystem areas. In addition, identified strengths, weaknesses, and opportunities from existing state and national documents, further supported by stakeholder input were consolidated. This analysis ultimately identified the following Kansas workstream areas that the AAM strategy must support:

- **Autonomy-Ready Workforce**
- **Aerospace Economic Development**
- **Public Engagement and Outreach**
- **Airport System Planning**
- **Aviation Safety & Policy**
- **Multi-modal Integration**
- **Innovation & Knowledge Sites**

It is envisioned that stakeholders will collaborate in workstreams to carry out the necessary activities for each objective and priority. By doing so, relevant aerospace, transportation, economic development, and education goals will be realized, culminating with a state level impact across the Kansas Growth Pillars.

As specific objectives are prioritized by state stakeholders, a Kansas AAM Implementation Plan will be developed to identify roles, responsibilities, aircraft, infrastructure, policy, and other elements the state will need to address. This strategic framework will allow state decision makers to align with any implementation plans by updating and refining this framework for each Phase of AAM implementation.



# AAM STAKEHOLDERS OVERVIEW

As a cross-cutting initiative, AAM encompasses many dimensions that will impact areas outside traditional aviation, necessitating key stakeholders to help address areas they may previously have had no domain interaction with. In addition to advanced vehicle technologies, the AAM ecosystem includes supporting infrastructure, regulations and policies, and community integration, among other factors. For AAM to be realized, all cross-cutting elements will need to be addressed. Advancements in one area will not lead to AAM operations at-scale.

The successful implementation of AAM in Kansas will require active collaboration by stakeholders across this ecosystem. By fostering a collaborative environment among these stakeholders, Kansas can effectively navigate the complexities of AAM integration and realize the full potential of this emerging transportation technology. Some of the primary stakeholders that will have direct authority or roles in enabling AAM operations in Kansas include:

## INDUSTRY

Industry partners are key to enabling AAM in Kansas, ranging from organizations with specific operational missions to original equipment manufacturers (OEMs) and manufacturing, maintenance, repair, and overhaul providers (MMROs).

## AIRPORTS

Airports across Kansas will provide critical infrastructure for AAM, particularly to enable initial operations using existing infrastructure. This could include charging facilities, takeoff and landing platforms, and other supporting capabilities. This stakeholder group includes airport authority members.

## UNIVERSITIES

Kansas is home to several institutions conducting innovative research on emerging technologies. This research will be critical to understanding potential technology solutions, for conducting operational testing, and creating workforce development and training programs. Each of the three largest state

universities hosts national aerospace research and development centers for a multitude of government and industry partners.

## STATE GOVERNMENT

The state government will provide a role in enabling AAM in Kansas through investments in augmenting the aviation system of Kansas, establishing multimodal transportation connections, pursuing economic development activities, and establishing relevant regulations and policies.

## LOCAL GOVERNMENT

Local government entities, including economic development organizations and city planners will play a role in policy development, zoning and site planning, transportation integration planning, and community outreach and engagement. For smaller communities, this may include the airport authority board or committee.

## ASSOCIATIONS AND COMMUNITY GROUPS

Coalitions, associations, or local community groups will have a role in ensuring safe operational integration aligned with their mission and role within the state, specifically groups like the Kansas Aviation Museum, Cosmosphere, Combat Air Museum, and the Mid-America Air Museum will act as vital community members.

## AAM SERVICE PROVIDERS

The FAA and industry have defined an extensible service architecture to qualify and enable providers of services such as air traffic management services, surveillance services, Vehicle-to-Vehicle communication services, and data services. These services also rely on Cooperative Operating Practices, which define operating agreements among stakeholders in a shared airspace environment.

Additional stakeholders will influence the implementation of AAM in Kansas or will be impacted by potential benefits, such as local governments and metro planning organizations, real estate developers, and community members.

# KANSAS AAM

## STAKEHOLDERS SUMMARY

## INDUSTRY



## UNIVERSITIES



## GOVERNMENT



## AIRPORTS

400  
Airports  
in Kansas



## OTHERS



Farmers



Businesses



Local Communities

# KANSAS AAM STAKEHOLDERS

Kansas's well-established aeronautics industry and legacy provide a strong foundation for AAM development that many stakeholders are already capitalizing on. Across the state, major aerospace manufacturers, innovative startups, suppliers, and research institutions are contributing expertise in next-generation aircraft, avionics, autonomy, and infrastructure. A list of key Kansas-based industry members involved in AAM is summarized below by stakeholder groups identified in the Kansas AAM Strategic Framework. These entities are actively and collectively strengthening Kansas's broader AAM ecosystem and will continue to drive the advancement of next-generation air mobility solutions.

## INDUSTRY

AAM will be primarily driven by industry, beginning with technological innovations from original equipment manufacturers (OEMs). These OEMs are at the forefront of designing and developing critical technologies, including vertical takeoff and landing aircraft, autonomous flight systems, electric battery technology, advanced control systems, new human interface systems, novel propulsion systems, and advanced materials. These technologies are currently undergoing extensive testing, progressing towards aircraft type and production certifications. Kansas is one of the few states where active AAM aircraft

manufacturing and development is occurring, notably with some of the leading global aircraft manufacturing companies such as Textron, Airbus, Bombardier, Spirit AeroSystems, Honeywell, and Garmin.



Photo Credit: Textron eAviation



### TEXTRON

Textron eAviation, headquartered in Wichita, Kansas is well into development of its four-passenger Nexus eVTOL intended to serve multiple AAM missions from air mobility to law enforcement to emergency medical services. In parallel, eAviation’s Pipistrel team is developing the longer range Nuuva V300 cargo eVTOL. Development of the Nexus eVTOL is a unique use case that demonstrates Kansas’s ability to design, develop, manufacture, and test novel systems all in the state: Development of some of the key aerospace structures for the aircraft are undergoing prototype iterations leveraging NIAR’s Advanced Technologies Lab for Aerospace Systems and continued testing is planned in partnership with the Salina Airport Authority to conduct operational testing. (Photo Credit: Textron eAviation)



### AIRBUS

The first engineering facility outside Europe opened in Kansas in the early 2000’s. The facility, headquartered on Wichita State’s University campus provides aerostructure design and aircraft primary structure expertise for all major airbus products.



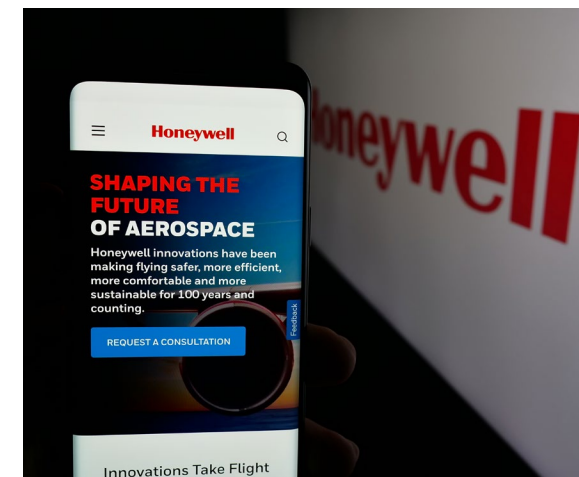
### SPIRIT AEROSYSTEMS

Spirit AeroSystems, headquartered in Wichita, Kansas is the largest manufacturer of aerostructures for commercial airplanes, defense platforms, business and regional jets. The company specializes in advanced composite manufacturing and primary structure manufacturing. A future planned acquisition by Boeing, who is supporting development and manufacturing of the Wisk eVTOL, may also lead to yet another AAM platform with ties to Kansas future<sup>21</sup>. (Photo Credit: JHVEPhoto - stock.adobe.com)



### GARMIN

Garmin International, headquartered in Olathe, Kansas, is focusing on development of advanced flight deck capabilities and avionics for emerging entrants, including the Garmin G3000 PRIME. Garmin continues to focus on development of FAA certified avionics to support simplified vehicle operation (SVO) and automation, which will both be critical for uncrewed AAM operations in the future. Garmin has announced partnerships with BETA, Joby, Eve and other AAM manufacturers and has already received a technical standard order (TSO) authorization for Part 23 turbine, advanced air mobility, and military aircraft<sup>22</sup>.



### HONEYWELL

Honeywell, which maintains a presence in Olathe, Kansas, is investing \$84 million to expand its manufacturing facility. The facility is expected to bolster the production of avionics and printed circuit board assemblies for both commercial and military applications. The plant currently manufactures components for Honeywell avionics, safety and flight control systems, and other NAS components that may help enable AAM integration. (Photo Credit: Timon - stock.adobe.com)

Other aerospace companies spread across Kansas, 450 in total, will also be critical to provide engineering services, composites, and material pipelines for AAM vehicles across the globe.

Beyond OEM and manufacturing, ongoing collaboration between industry developers, regional planners, government entities, and airports is essential for establishing the infrastructure necessary to support the AAM ecosystem. Real estate and vertiport developers will play a key role in adapting existing airports and helipads, as well as creating new takeoff and landing sites, and implementing vehicle charging and fueling capabilities. Architecture, engineering, and power companies will contribute to regional development plans, which will include multimodal transportation hubs and AAM vehicle hangars.



## UNIVERSITIES

Kansas universities host a range of innovative research centers and higher education institutions that are pivotal in advancing AAM technologies and providing an AAM-ready workforce. They play a crucial role in expanding the knowledge base through research labs, technical capabilities, and test sites, often collaborating with industry to develop specific solutions. Their research and development efforts foster interdisciplinary collaboration, integrating expertise in material science, composites, aerodynamics, propulsion systems, autonomy, and more.

Moreover, these institutions and labs act as catalysts for entrepreneurship, providing foundational research that can be transitioned to market development or startup ventures. Through specialized educational experiences, skills development programs, public-private partnerships, and on-the-job training opportunities in partnership with industry, they offer comprehensive training and workforce development initiatives.

Several of Kansas's largest universities are actively engaged in AAM research and testing, with specialized labs and research centers strategically positioned to support AAM development.

**KANSAS STATE**  
UNIVERSITY

**APPLIED AVIATION  
RESEARCH CENTER**

SALINA, KS

**KU** THE UNIVERSITY OF  
KANSAS

**GARRISON FLIGHT  
RESEARCH CENTER**

LAWRENCE, KS

**WICHITA STATE**  
UNIVERSITY

**NATIONAL INSTITUTE FOR  
AVIATION RESEARCH**

WICHITA, KS



**KANSAS STATE UNIVERSITY**

The Applied Aviation Research Center specializes in topics such as BVLOS communication, navigation and surveillance, airspace assessments, aviation safety, and emergency management and disaster response among others. This research center supports Kansas State University’s core partnership in FAA Alliance for System Safety of UAS through Research Excellence (ASSURE) through the Center of Excellence for UAS Research.

The Next Gen K-State Strategic Plan includes AAM as an emerging technology focus area for exploration at the Salina campus.

- K-State Salina Aerospace Education Hub will provide resources and programs for the next generation of pilots, mechanics, and other aeronautical professionals.

- An Advanced Air Mobility Graduate Certificate is offered to support skilled graduates prepared to further progress in the AAM sector.
- K-State is a partner with Salina Regional Airport and Textron eAviation for testing of the Nexus eVTOL aircraft.

The university has also announced a planned \$28 million facility expansion: the KSU Aerospace Education Hub, intended to establish state of the art education facilities for uncrewed aircraft systems, composites, and aviation maintenance programs that align with AAM. The future establishment of an advanced systems integration laboratory is intended to enable KSU to service business partner needs related to design, building, testing, improving, and certifying aircraft.



Applied Aviation Research Center (AARC) supports KSU’s core partnership in FAA Alliance for System Safety of UAS.

Kansas Artificial Intelligence Research & Entertainment Studio (K-AIRES) will support artificial intelligence, machine learning, and edge computing.

The university announced \$28 M facility expansion, KSU Aerospace Education Hub.

*“Kansas State University Salina is proud to be a partner in shaping the future of Advanced Air Mobility in Kansas. As a leader in crewed and uncrewed aviation, integrated systems, and emerging aerospace technologies, we see AAM as a catalyst for economic growth, rural connectivity, and workforce development.”*

**Alysia Starkey**  
CEO and Dean, Kansas State University Salina



## THE UNIVERSITY OF KANSAS

Kansas University is a member of the Midwest Transportation Center, one of 10 regional U.S. Department of Transportation (DOT) centers<sup>24</sup>.

- Staff and faculty provide research expertise in aviation guidance, navigation, and control, sensors and sensors. fusion, aerodynamic modeling, autonomous flight, sense-and-avoid systems, traffic management, and uncrewed operations in adverse meteorological conditions.
- Numerous aviation labs and facilities, including a closed-circuit subsonic wind tunnel, supersonic wind tunnel, and small water tunnel are accessible.
- The Measurement, Materials and Sustainable Environment Center houses resources for research teaming and development of commercial aerospace and other applications.
- The Garrison Flight Research Center and hangar at Lawrence Municipal Airport support research on vehicle manufacturing, intelligent vehicle systems for both piloted and uncrewed air vehicles, propulsion testing, and vehicle testing.
- Active partnership in the Mid-America Transportation Center (MATC) supports students in STEM and transportation-related careers.
- The university is also a core partner with FAA ASSURE through the Center of Excellence for UAS Research.
- The Infrastructure Research Institute performs cutting edge research on products to enhance infrastructure needs.



## RESEARCH EXPERTISE



## VARIOUS WIND TUNNELS



## GARRISON FLIGHT RESEARCH CENTER

SUPPORTS VARIOUS AVIATION RESEARCH

*“Higher academic institutions in Kansas play a vital role in developing emerging technology critical to the state’s aviation future. The University of Kansas School of Engineering is heavily involved in areas critical to this effort and we recognize the importance of the AAM roadmap.”*

**Mary Rezac**  
Dean of Engineering, School of Engineering,  
University of Kansas

## WICHITA STATE UNIVERSITY

The National Institute for Aviation Research (NIAR) at Wichita State University leads research in AAM technologies including flight test, crashworthiness, and contingency testing such as battery drop tests and impacts of bird and lightning strikes<sup>25</sup>.

- NIAR supports facilities for tethered eVTOL hover testing including out-of-ground and in-ground effect test rigs to assess thrust characteristics, aerodynamics, system performance and failure conditions.
- Wichita State/NIAR areas of expertise include virtual engineering and airframe technologies such as advanced materials and structures.
- Wichita State is a member partner of the Center of Excellence for Technical

Training & Human Performance, and a core partner with FAA ASSURE through the Center of Excellence for UAS Research.

- NIAR is creating AAM workforce development programs in coordination with the Wichita State University Campus of Applied Science and Technology (WSU Tech).

*“Wichita State University and its National Institute for Aviation Research serve as an industry partner in all stages of AAM vehicle development and testing – from material selection and prototyping to environmental effects and flight test.”*

**John Tomblin, Ph.D.**

Executive V.P., Research and Industry and Defense Programs, Wichita State University

**FAA CENTER OF EXCELLENCE FOR COMPOSITES AND ADVANCED MATERIALS (CECAM)** validates and provides quality assurance of composites and advanced materials for aircraft.

**NATIONAL CENTER FOR ADVANCED MATERIALS PERFORMANCE (NCAMP)** Works with partners to qualify materials and developed a shared materials database for additive, thermoset, thermoset repair and thermoplastic materials.

**ADVANCED TECHNOLOGIES LAB FOR AEROSPACE SYSTEMS (ATLAS)** is an active participant with the National Aeronautics and Space Administration (NASA) Hi-Rate Composite Aircraft Manufacturing (HiCAM) project to explore making composite structure production more efficient, in collaboration with the advanced Composites Consortium (ACC) public-private partnership.

In addition to these primary universities, numerous community colleges and universities in the state will enable students to enter the AAM workforce through existing Science, Technology, Engineering, and Math (STEM) pathways. These include many of the community colleges, trade & technical schools, and other institutions that offer degrees in advanced manufacturing, engineering, and aerospace areas.





## GOVERNMENT

Federal, state, and local governments serve roles to support AAM integration as an emerging mode of transportation and integration into an existing transportation system. The federal government, predominantly through the FAA, is responsible for certifying new aircraft systems and production, directly impacting the timeline to operationalization. The FAA is also establishing national policies regarding integration of AAM with existing airspace users and operational standards, such as those regulating vertiport and infrastructure development.

At the state level, the Kansas Departments of Transportation and Commerce are leading efforts to integrate AAM ecosystem components into the Kansas multimodal transportation system and economy. This includes system planning, supporting infrastructure development,

and identifying funding streams or grant programs to support AAM transportation initiatives.

**Kansas Department of Commerce** initiates economic development activities by attracting and promoting AAM businesses. The department plays a key role in attracting AAM enterprise to the state through collaboration, partnerships, incentives, and state advocacy. Most importantly, commerce can also engage with state and federal policymakers to help shape an AAM friendly regulatory environment within the state.

**Kansas Department of Labor** provides workforce development programs, and in collaboration with educational institutions will help ensure workforce skill alignment with AAM needs.

**Kansas Board of Regents and Kansas Department of Education** oversee state universities and community colleges, including providing strategy and guidelines for academia to ensure

that Kansas graduates are ready for AAM industries. KBOR also helps facilitate partnerships between government agencies and research and development initiatives and institutions in the state.

**Kansas Department of Transportation** supports the overall Kansas transportation system through planning, investment, and infrastructure. As a new mode of transportation, KDOT is the primary agency responsible for incorporating AAM into existing modes of transportation available to Kansas citizens and will also help enable investment into the necessary infrastructure development necessary for AAM implementation. KDOT provides regulatory leadership for transportation issues in the state and is leading stakeholder coordination through the Emerging Aviation Technology Working Group.

**Local and Regional Government and Affiliations** will also help enable AAM infrastructure investment, development, and implementation. Metropolitan Planning Organizations (MPOs) and Regional

Planning Organizations are critical for coordination within the state and with other states to ensure harmonization and consistency in implementation. In Kansas, this includes organizations such as the Mid-America Regional Council (MARC), Greater Wichita Partnership, local community economic development organizations, and local commissions for transportation planning.

Local governments are also critical partners to enable infrastructure and operations within certain cities and regions. They are responsible for managing zoning and land use policies that support where new AAM infrastructure and vertiports are located, along with urban and regional planning. Economic development organizations at the local level work with the state Department of Commerce to bring business development and job growth opportunities to communities. Local governments also connect AAM initiatives with communities and the general public to ensure their needs or concerns are considered during operational development.

*“Kansas boasts a rich aviation history, and we’re proud to work alongside the Salina Airport Authority to test these emerging technologies so close to home, the support and facilities provided by the Salina Airport Authority are vital as we advance towards bringing the Nexus eVTOL to market.”*

**Kriya Shortt**  
President & CEO, Textron eAviation



## AIRPORTS

Kansas is home to over 400 airports, including seven providing commercial service, five that have a primary role in the national system, and thirteen others with national or regional roles. As the center of aviation activity in their communities, airports will be central to AAM services.

Today, airports in Kansas are preparing for this future in discussions with their communities, consultants, and aspiring AAM service providers. In some cases, discussion is exploratory. In others (e.g., Wichita’s Dwight D. Eisenhower National Airport<sup>26</sup>), master plan updates are considering where on the field AAM operations might be accommodated and the subsequent infrastructure requirements. In Central Kansas, the Salina Airport Authority is pioneering how airports are preparing for AAM. The Kansas Association of Airports has begun to address AAM in its annual meeting.

## SALINA REGIONAL AIRPORT

*The Salina Airport Authority is positioning the airport, its Class D airspace, and airspace to the west as a national proving ground for AAM technologies. Its project for Advanced Aviation & Engineering Research Operations (Project AAERO) is working toward deploying the surveillance and communications enhancements, partly to support detect and avoid systems, needed to support UAS and AAM testing at the airport and Smoky Hill Air National Guard Range. The airport authority has forged a partnership with Textron’s eAviation and other stakeholders to prepare for full flight envelope tests of its Nexus eVTOL aircraft, preparing a hangar, selecting which helipads to convert, and identifying airspace changes. The airport’s community outreach includes regular engagement with the public, regulators, economic development interests, and airport stakeholders including FAA facilities.*

The airport has undertaken activities that can be a model for other Kansas airports, including:

- Assessing letter of agreement and standard operating procedures for Salina Regional Airport (SLN) Tower and Kansas City Air Route Traffic Control Center to identify conflicting corridors and shadow box operations.
- Analyzing historical traffic through multiple FAA and other available data sources in partnership with KDOT to identify potential route and touch-down and lift-off areas and final approach and takeoff area.
- Identifying early surveillance performance requirements for their envisioned beyond visual line-of-site (BVLOS) Concept of Operations (CONOP).
- Evaluating current and emerging infrastructure needs to support initial AAM testing.
- Established formal relationships with AAM manufacturers and early service providers.

As more Kansas airports begin to undertake AAM planning, airport stakeholders will need to consider infrastructure, services, and airspace effects. In addition to providing surfaces for conventional, short, and vertical takeoff and landing, infrastructure must be built to enable these operations. Airports will provide fueling and charging capabilities as well as various levels of MRO services and hangars for aircraft and battery storage. Some airports will also provide facilities for passengers and AAM service providers, while others will provide aircraft rescue and firefighting (ARFF) on premises, and others still will coordinate with local first responders. At the ten public-use Kansas airports with control towers, air traffic services will continue to provide information important to air operations and assure safe and efficient traffic flow. All will need to implement appropriate physical and cybersecurity measures.



## OTHER STAKEHOLDERS

The implementation of AAM will extend its influence beyond primary stakeholders, impacting various groups and communities. It will foster regional collaborations and initiatives with neighboring states, enhancing opportunities for partnerships. Integrating AAM into Kansas's existing transportation network will facilitate a multi-modal transportation experience, connecting AAM with other air, rail, and ground transit systems. Partnerships and organizations that are already in place and preparing for AAM introductions include:

### Aviation Innovation and Maintenance Center of Excellence (AIM)<sup>27</sup>:

Established in 2023, AIM is a partnership of local, regional, and national entities focused on addressing industry workforce needs for current and emerging technologies. AIM is intended to address the shortage of skilled aviation maintenance workers for airframe and powerplant mechanics, electronics and

avionics technicians, composites, and aircraft paint. The center provides an accelerated path to becoming an FAA certified mechanics, with the overall objective to address new demands and skills that AAM will require.

**Kelly Hills Unmanned Systems Test Site<sup>28</sup>:** Through a partnership with the University of Alaska-Fairbanks, Kelly Hills Unmanned Systems have secured approval from the FAA for a vast UAS test range covering approximately 49,000 square miles across parts of Kansas, Missouri, Nebraska, and Iowa. The test site, approved in June 2024, is intended to address issues such as safety concerns associated with precision agriculture, specifically traditional aerial applications through autonomy and AAM applications. Most recently, the test site demonstrated how AAM technology can be leveraged for precision agriculture with their key partner, Pyka<sup>29</sup>.

## STAKEHOLDER SUMMARY

Together, these stakeholders form a complementary network that drives Kansas's advanced air mobility leadership. Established OEMs like Textron and tier-1 suppliers like Spirit AeroSystems provide the vehicle design and manufacturing muscle, while tech companies like Garmin and Honeywell supply the avionics, autonomy, and technologies that broaden AAM applications. Research powerhouses Wichita State (NIAR), Kansas State University, and the University of Kansas inject innovation, testing infrastructure, and workforce development into the ecosystem, partnering with industry and government to solve technical and regulatory challenges. This aviation ecosystem, formed by Kansas's aeronautical heritage and proactive state support, strongly positions Kansas to remain at the forefront of the next generation of flight.



**120**  
AGRICULTURAL  
COMMODITIES

**1<sup>ST</sup>**  
GRAIN SORGHUM  
PRODUCTION

**\$57B**  
CONTRIBUTING TO  
KANSAS ECONOMY

**140,000**  
JOBS IN KANSAS

**14%**  
AGRICULTURE  
TOTAL GRP

**13%**  
OF ENTIRE KANSAS  
WORKFORCE

## KANSAS AAM USE CASES OVERVIEW

Five AAM use case categories were identified utilizing a Market Analysis process (Part 3) that have the highest potential to deliver significant benefits to Kansas citizens:

- **AERIAL APPLICATION**
- **CARGO TRANSPORT**
- **AIR MEDICAL TRANSPORT**
- **EMERGENCY RESPONSE**
- **URBAN AND REGIONAL AIR MOBILITY**

### AERIAL APPLICATION

Known as the “Breadbasket of America,” Kansas is one of the nation’s leading agricultural producers with more than 120 different agricultural commodities. The state ranks first in grain sorghum production (growing 53 percent of the nation’s crop), winter wheat production, as well as total cropland acres and acres planted to principal crops.<sup>30</sup> Not only is agriculture a cornerstone of Kansas’s economy – directly contributing \$57 billion and over 140,000 jobs—it also supports rural communities, other economy sectors, and sustains the state’s cultural heritage. The combined direct and indirect impact of agricultural activities translates to 14 percent of the state’s total gross regional product and is tied to about 13 percent of the entire Kansas workforce.<sup>31</sup>

In terms of aerial application, a 2016 study has shown that \$490 million worth of the state’s agricultural output were preserved or enhanced by aerial application – this underscores the potential for AAM to drive substantial benefits by expanding or optimizing aerial application operations.<sup>32</sup> By employing advanced aircraft systems equipped with automation and precision agriculture technologies, AAM will significantly enhance the efficiency of applying pesticides, fertilizers, and other treatments. These systems allow for precise targeting over large agricultural areas, minimizing waste and environmental impact. Using AAM for aerial application missions will also avoid the safety risks associated with traditional low altitude flying, as it eliminates the need for human pilots to be exposed to potentially hazardous chemicals and challenging flight conditions.

## CARGO TRANSPORT

Kansas is home to over 7,000 logistics and distribution-related companies, positioning the state as a key player in cargo transport. It ranks 7th nationally in terms of freight volume based on tons transported<sup>33</sup>. AAM will revolutionize cargo transport in Kansas through two primary applications:

**Middle-mile delivery:** AAM will streamline the transport of goods between distribution centers or warehouses and local fulfillment centers. This segment of the supply chain is crucial for ensuring efficient and timely delivery of products to the end consumer. In Kansas, there are several major distribution centers and multimodal hubs including Logistics Park Kansas City and the Wichita Delano Multi-Modal Transit Facility which have an opportunity for AAM middle-mile deliveries to bring reduced cargo transit times and improved supply chain efficiency.

**Regional cargo feeder:** AAM will improve logistics networks by streamlining the transport of goods to and from cargo hub airports, where major shippers contract feeder operators to serve smaller airports and rural communities. In Kansas, notable cargo feeder airlines include Central Air Southwest (operating out of Kansas City), Empire Airlines (a major regional operator for FedEx), and Eastern Airlines.

The use of AAM for regional cargo feeder flights is especially valuable for boosting the efficiency and reach of logistics networks by strengthening connections and services between small airports and cargo hubs.



7,000

LOGISTICS AND DISTRIBUTION-RELATED COMPANIES



7<sup>TH</sup>

NATIONALLY IN TERMS OF FREIGHT VOLUME BASED ON TONS TRANSPORTED





## AIR MEDICAL TRANSPORT

AAM offers critical advancements in air medical transport, addressing both interfacility patient transport and the delivery of medical supplies. While many AAM providers prefer to operate fixed wing aircraft due to operational costs, the infrastructure (such as runway length) that fixed wing operations require current inhibits air medical access throughout the state. KDOT has identified air ambulance access as a critical performance indicator that AAM can help address through two types of implementations:

**Interfacility Transport:** AAM will drastically reduce patient transport times between medical facilities due to its speed and the ability to avoid ground traffic delays. In rural or remote areas where medical facilities are widely dispersed, AAM enables swift transportation between medical facilities by averting challenges traditional ambulances frequently face. This ensures that more patients in these locations receive timely medical attention and improved access to medical resources.

**Medical Supplies:** AAM enables the rapid transport of medical supplies, organs, and other healthcare-related items. This is essential for maintaining the efficiency and responsiveness of healthcare systems in Kansas, and to ensure the well-being of residents across the state, particularly in rural and underserved areas. Kansas faces unique challenges due to its large rural population, which can make access to healthcare services more difficult. AAM-enabled courier services will transport medical supplies to rural and underserved areas to enhance the overall effectiveness of medical logistics.

## EMERGENCY MANAGEMENT

In emergency situations, the speed and flexibility of AAM will be lifesaving. AAM will enhance the speed and efficiency of disaster and emergency management in Kansas by utilizing direct aerial routes and bypassing ground obstacles such as traffic congestion or damaged infrastructure. Additionally, their vertical take-off and landing capabilities allow them to access hard-to-reach locations, making them invaluable for delivering aid, conducting search and rescue operations, and providing emergency services.

## URBAN AND REGIONAL AIR MOBILITY

AAM has the potential to transform passenger transport in both urban and rural areas of Kansas:

- **Urban Air Mobility:** In urban centers, AAM will offer airport shuttle services and air taxi operations, providing a faster alternative to traditional ground transport for passengers traveling between high-demand locations.
- **Regional Air Mobility:** For rural parts of Kansas, AAM will improve access from remote locations where public transportation options are limited. By enhancing connectivity, AAM supports economic development and improves access to essential services for rural residents, contributing to broader coverage of the transportation system across the state.



# ECONOMIC IMPACT

## STUDY APPROACH



“ *This initiative is poised to reshape the airport authority landscape, creating new opportunities for economic growth and innovation in Kansas.* ”

*Pieter Miller, Executive Director, Salina Airport Authority*

Economic models help evaluate the effects of events, technologies, or policies on an economy. Common models for statewide economic impact analysis include the Regional Input-Output Modeling Systems (RIMS II), IMPLAN (short for “impact analysis for planning”), and Regional Economic Model (REMI).<sup>34 35 36</sup>

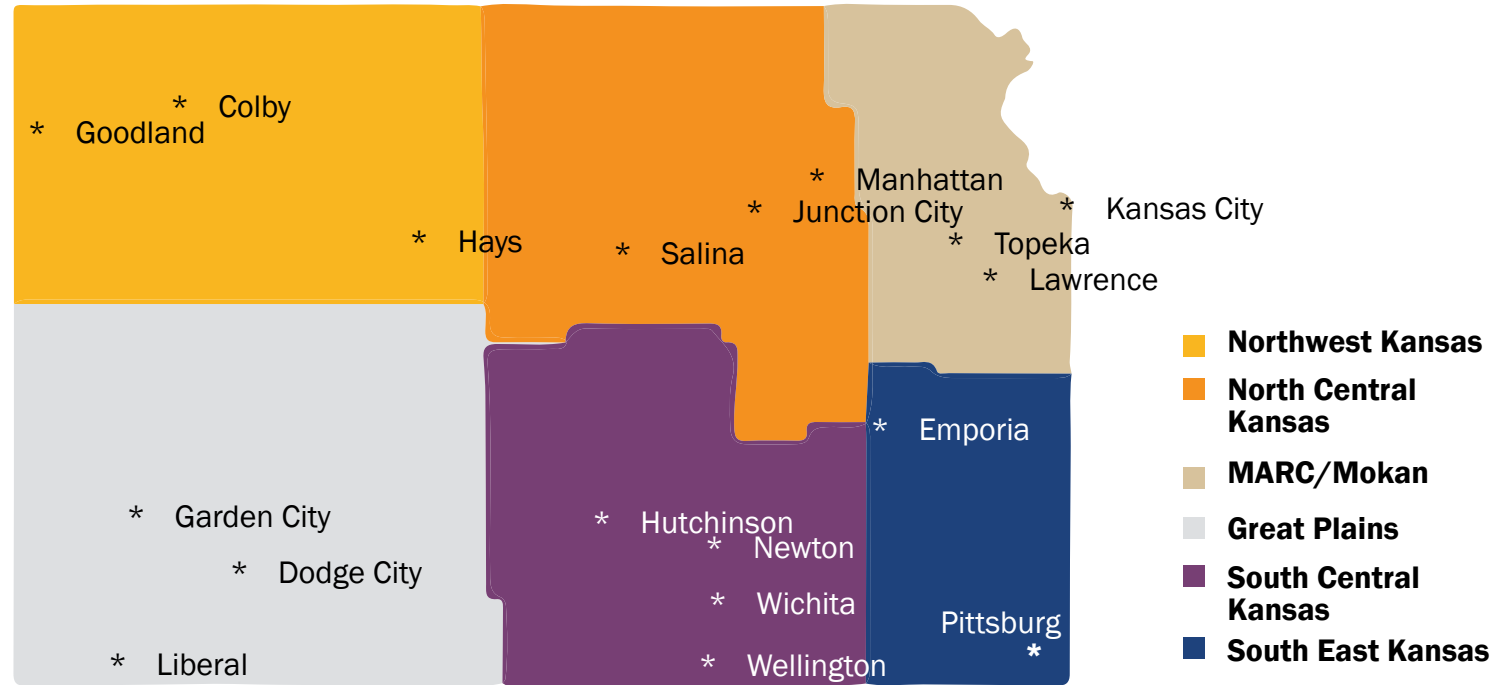
To conduct the Kansas AAM economic impact study (EIS), the REMI PI+ model was chosen for its superior dynamic macroeconomic analysis and regional forecasting capabilities. The REMI PI+ model uses a structural approach which, based on economic theory, models the cause-and-effect relationships within the regional economy. The model captures the time-dependent effects of economic policies, showing how impacts evolve over time while incorporating factors like population shifts, and labor force dynamics.

This study used a customized REMI PI+ model with six distinct regions mapped from the eight Economic Development Districts<sup>37</sup> in Kansas, as shown in *REMI Regional Aggregations for Kansas Economic Impact Study*.

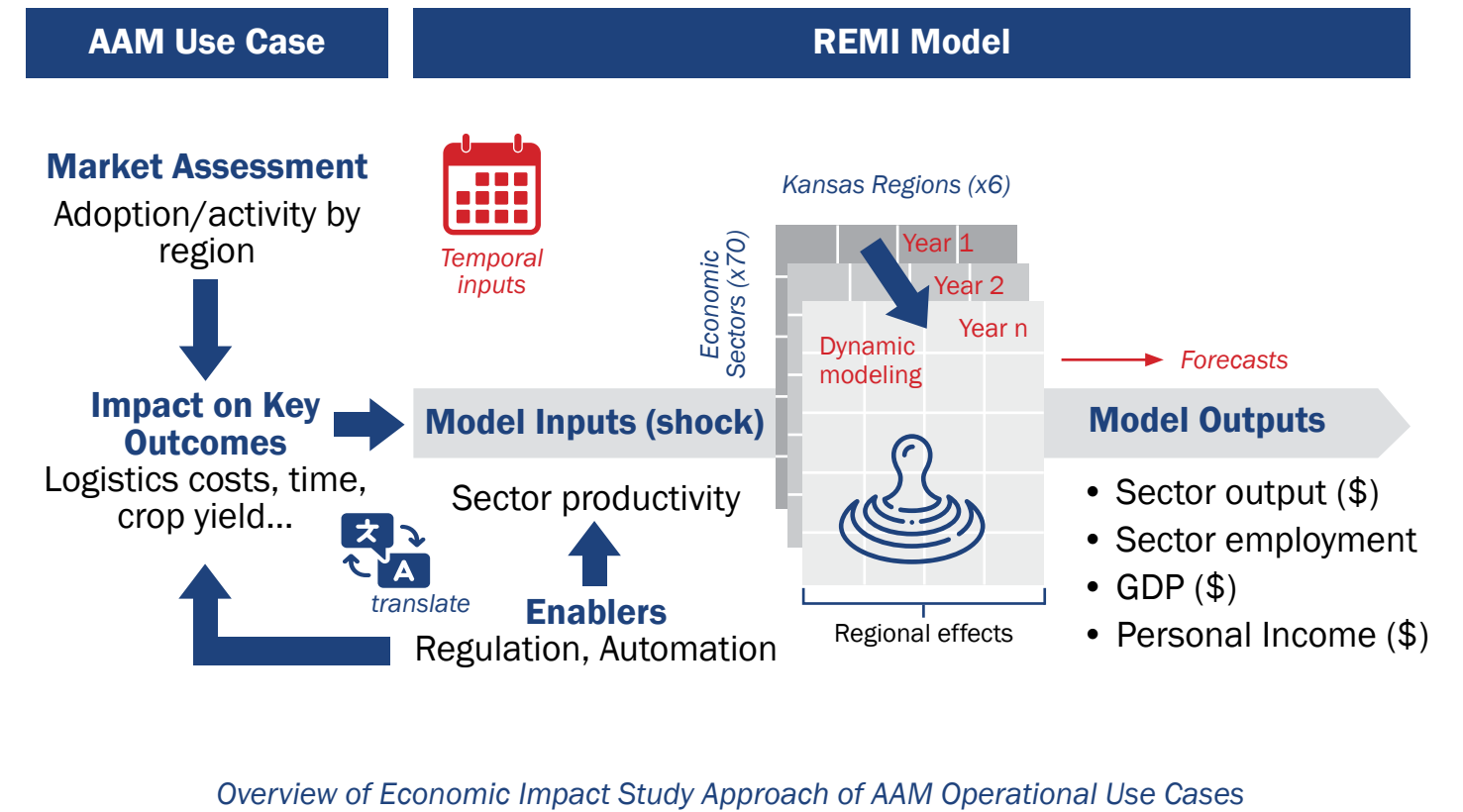
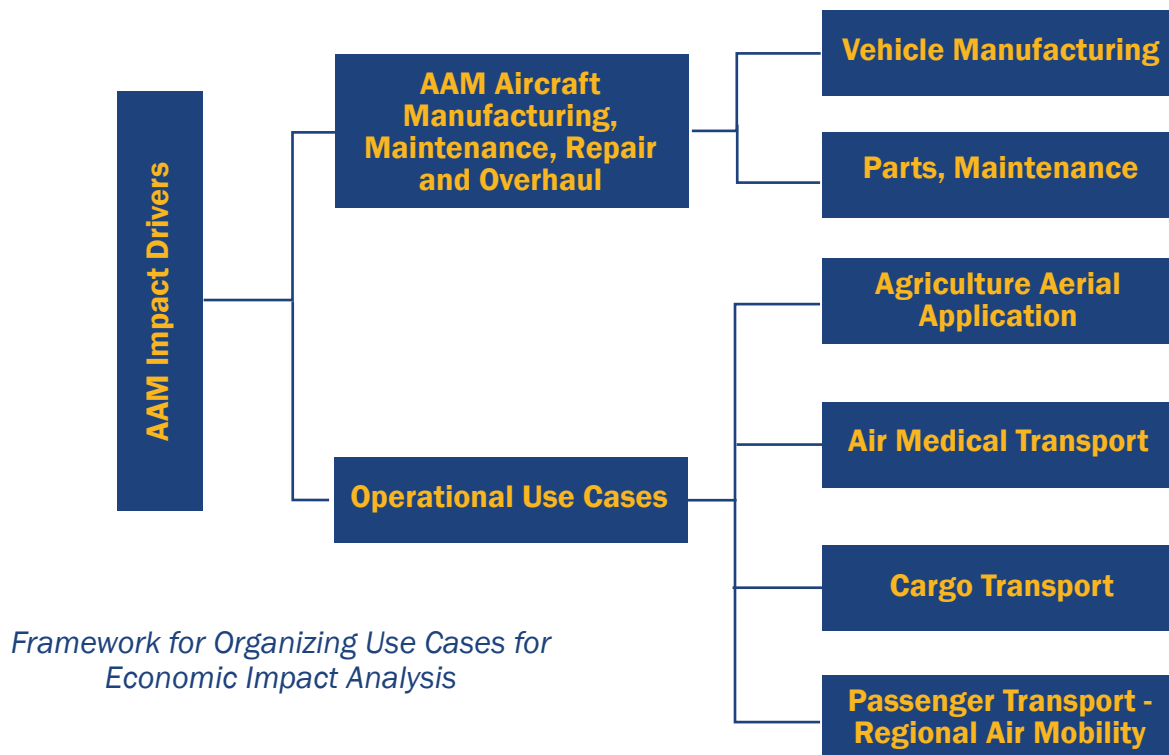
A 70-sector model was used for this analysis covering 145 industries. To assess operational use cases, the EIS focused on the period 2028-2050 and used bottom-up forecasts of AAM activities and their estimated operational and cost impacts obtained from individual market analysis of key AAM use cases for Kansas, described later in this document. AAM aircraft, component, and parts manufacturing,

*ECONOMIC MODELS HELP EVALUATE THE EFFECTS OF EVENTS, TECHNOLOGIES, OR POLICIES ON AN ECONOMY.*

including maintenance, repair, and overhaul (MRO) activities were also analyzed based on low, medium, and high assumptions of global AAM demand and the portion that will be supplied by Kansas. Defense applications of AAM and their associated impacts were outside the scope of this study but may have significant impact to the Kansas economy, particularly as focus on advanced autonomous systems increase. All the estimates presented in this section represent “net” contributions to the State (and regions) or an increment over the comparable baseline trend in the same period for each of the impacts.<sup>38</sup>



REMI Regional Aggregations for Kansas Economic Impact Study



Kansas is highly specialized in aircraft manufacturing and is home to advanced aerospace regional manufacturing clusters. *Framework for Organizing Use Cases for Economic Impact Analysis* depicts the framework used for conducting impact analysis, accounting for the distinct effects AAM is expected to have on the Kansas aeronautics production supply chain and realize related impacts from the dominant expected operational use cases in the State. For the AAM operational use cases, it was assumed (based on current AAM aircraft certification progress and operator plans) that commercial cargo transport could begin as early as 2028. More complex use cases, including air medical transport and commercial passenger transport, are not expected in Kansas prior to 2030. Meanwhile, because AAM aircraft for agricultural aerial application have already been manufactured and delivered to a launch customer in Kansas, the impacts for aerial application, AAM aircraft manufacturing, maintenance, repair, and overhaul are measured starting from 2025.

*Overview of Economic Impact Study Approach of AAM Operational Use Cases* illustrates the approach for determining the economic impacts of each AAM operational use case. The results of the market analysis included AAM use case-specific outcome indicators (i.e., operational impacts) for each of the six REMI regional aggregations in Kansas. These outcome indicators were each translated into region and sector specific shocks to the REMI PI+ model. A shock is defined as the difference in an outcome indicator due to the presence of AAM (the alternative scenario) and without the presence of AAM (the baseline scenario) over time. Shocks are the initial triggers that generate economic activity in affected production sectors, leading to broader statewide effects.

# AVIATION BASELINE

## RELATED DATA

This section provides key recent economic statistics for Kansas that will be used throughout the section as a way to benchmark the economic impact estimates, shown in *Kansas State Baseline Economic Data*.

Economic Measures	Value (Units, Annual)	Year	Source:
Gross Domestic Product (All Industries)	\$234.673B	2024	St. Louis Federal Reserve (KSNLSP)
Personal Income (Total)	\$202.115B	2024	St. Louis Federal Reserve (KSOTOT)
Manufacturing Employment	174,600 people	2024	St. Louis Federal Reserve
Total Employment (All Sectors)	\$1.495M	2025	St. Louis Federal Reserve and Bureau of Labor Statistics
Air Cargo Moved	33,000 metric tons	2021	National Association of State Aviation Officials (NASA), USDOT T-100 Data
Aviation MRO Employment (Direct)	8,587 jobs	2024	Aeronautical Repair Station Association (ARSA) <sup>40</sup>
Aviation MRO Total Economic Activity (Parts, manufacturing)	\$1.8B	2024	Aeronautical Repair Station Association (ARSA)
Internal Calculation of Total MMRO (Direct Covering 3 Sectors) Employment	23,753 jobs	2023	Data Analysis- County Business Patterns 2023
Kansas Agriculture Sectoral Industry Output (Direct Only)	\$61.8B	2024	Kansas Department of Agriculture, Economic Contribution Report <sup>41</sup>
Kansas Agriculture Sectoral (Direct Employment Only)	143,555 jobs	2024	Kansas Department of Agriculture, Economic Contribution Report

*Kansas State Baseline Economic Data*

# KANSAS IMPACT

## SUMMARY

Kansas stands poised to become a national leader in AAM by leveraging existing aerospace manufacturing expertise and strategic central location. The integration of AAM Manufacturing, Maintenance, Repair, and Overhaul (MMRO) activities, and operational use cases into the state’s economy is projected to generate transformative economic benefits through 2050, driving growth across multiple sectors and regions.

Across all potential impact sectors, Kansas is projected to conservatively generate \$10.73 billion in cumulative gross domestic product (GDP), \$20.31 billion in gross output, \$8.42 billion in personal income, and 40,697 jobs by 2050 (over the normal expected growth trends for all the measures reported during the period 2025-2050). Data is summarized in the *Total Kansas EIS Impact Summary* table.

Realized growth is expected in the MARC/Mokan, South Central Kansas, and Great Plains regions, which will benefit from AAM use cases like Aerial Application and AAM production. Aerial Application, expected to be the largest economic driver in Kansas, is expected to drive early AAM adoption, followed closely by Cargo Transport use cases to enable Kansas supply chain efficiency for high-value commodities. Passenger Transport and Air Medical Transport use cases will also help improve South Central Kansas and MARC/Mokan regions’ connectivity while enhancing rural interfacility transportation and reducing healthcare costs.

Cumulative Total Impact (Summation from 2025 to 2050)	Conservative	Optimistic <sup>42</sup>	Benchmark Likely Contribution to State
GDP	\$10.73B	\$34.09B	4.6-14.5% of 2024 GDP (Table 1)
Gross Output	\$20.31B	\$63.72B	-
Personal Income	\$8.42B	\$26.99B	4.2-13.4% of 2024 Total Kansas Personal Income in 2023 (Table 1)
Employment	40,700 jobs	122,100 jobs	2.7-8.2% of 2024 Total Kansas Employment (Table 1)

*Total Kansas EIS Impact Summary (Operational Use Cases)*

Under optimistic scenarios, AAM-related activities could contribute up to 25 percent of Kansas’s aviation sector GDP (relying heavily on Kansas capturing a significant portion of the AAM MMRO market), underscoring the state’s potential to attract investment and solidify its position as a hub for advanced aerospace innovation. The combined impact of AAM manufacturing, MRO, and operational use cases represents a transformative opportunity for Kansas. By 2050, AAM adoption could generate billions in economic output, tens of thousands of jobs, and significant improvements in personal income. Strategic investments driven by Kansas priorities and objectives outlined within the Kansas AAM Roadmap will be critical to maximizing these benefits and ensuring Kansas is positioned to benefit from AAM implementation across key aerospace and economic sectors.

# MANUFACTURING

## MAINTENANCE, REPAIR AND OVERHAUL (MMRO)

Projections of overall demand for AAM aircraft are highly uncertain. While several organizations have produced forecasts for AAM production over the next 15 to 25 years, those projections are of limited use to state planning agencies given the large uncertainty and, typically, the lack of a range estimate. To address that, this analysis of the economic impact of AAM production and MRO within Kansas provides a view of that uncertainty in two dimensions: low-medium-high scenarios of global demand for AAM aircraft, and low-medium-high scenarios of the share of that global demand supplied by suppliers of services and products in Kansas.

This approach is intended to give state planners a sense of the combined effect of a range of global AAM demand, which is outside their control, and a range of Kansas AAM production and maintenance revenue, which could be influenced by state policies on economic development and incentives. In all cases, the low-medium-high scenarios reflect a synthesis of published projections and subject matter expertise along with assumptions of AAM aircraft prices and maintenance costs in constant dollars from 2025-2050.

### ECONOMIC IMPACT OF MMRO SUMMARY

For the conservative (low) scenario, the GDP statewide estimated annual impacts grow from \$2 million in 2025 to \$636 million in 2050, representing a cumulative 25-year impact of \$7.14 billion. The medium scenario implies annual GDP levels increasing from an estimated \$3 million to \$1.15 billion in 2050 for a cumulative total of \$12.24 billion by 2050. Similarly, the optimistic (high) scenario estimates an increase in annual GDP from \$8 million to \$2.21 billion in 2050, representing a cumulative total of \$28.32 billion over the 2025-2050 duration.

Accounting for an annual two percent growth of Kansas's 2024 GDP of \$228.23 billion<sup>43</sup> without AAM, the 2050 projected statewide GDP is \$393 billion. The simulated 2050 impacts for the three MMRO sectors represent 0.2, 0.3 and 0.6 percent incremental contribution to the projected statewide GDP in 2050.

Cumulative MMRO Impact	Conservative (Low)	Medium-Range	Optimistic (High)	Benchmark Likely Cumulative Contribution to State
GDP	\$7.14B	\$12.24B	\$28.32B	3-12.1% of 2024 GDP (Table 1)
Gross Output	\$12.99B	\$22.69B	\$52.43B	-
Personal Income	\$4.33B	\$7.41B	\$17.22B	2.1-8.5% of 2024 Total Personal Income (Table 1)
Employment <sup>44</sup>	21,500 jobs	36,500 jobs	88,300 jobs	1.4-5.9% of 2024 Total Statewide Employment (Table 1)

Cumulative Total Impacts on Kansas Manufacturing and Parts Supply Chain: Low, Medium, High Scenarios (2025-2050)

### GLOBAL DEMAND

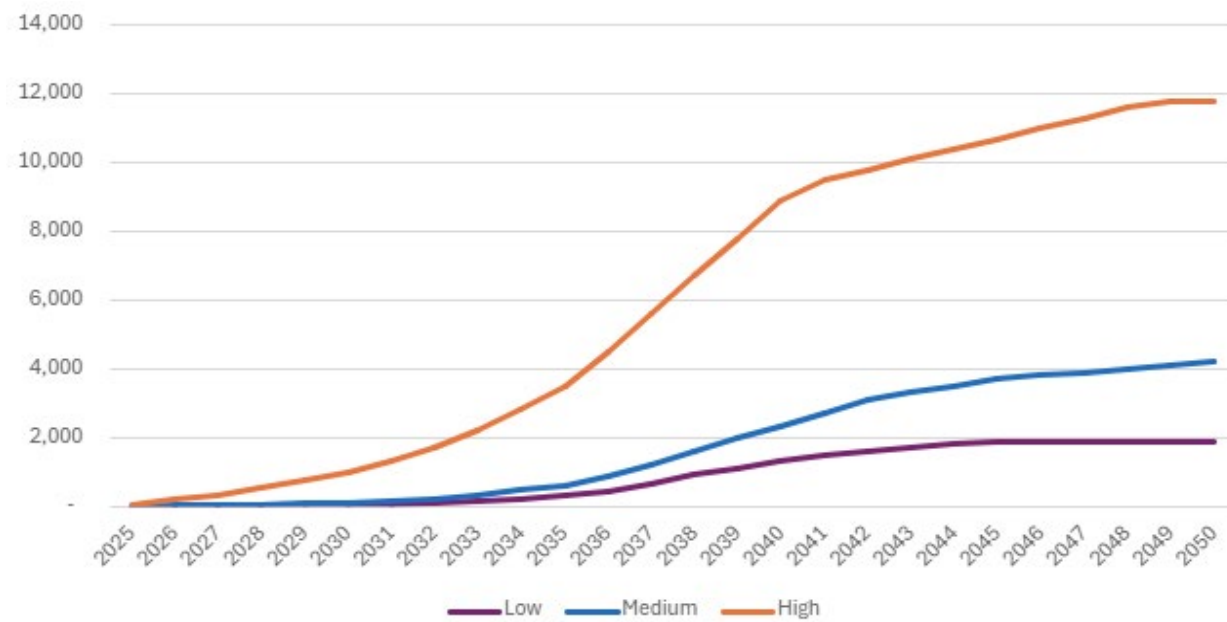
Three scenarios for global AAM production and in-service AAM fleet were envisioned. The in-service fleet is based on an assumed AAM aircraft service life of ten years.

**Low Global Demand:** Assumes that AAM encounters some combination of technical, regulatory, air traffic management, economic, and public-acceptance challenges that constrain uses. These challenges are slowly resolved but still create a drag on the market. By 2050, annual AAM production reaches numbers that are 1.8 times annual civil helicopter production and an in-service fleet that is about half of the current global fleet of civil helicopters.

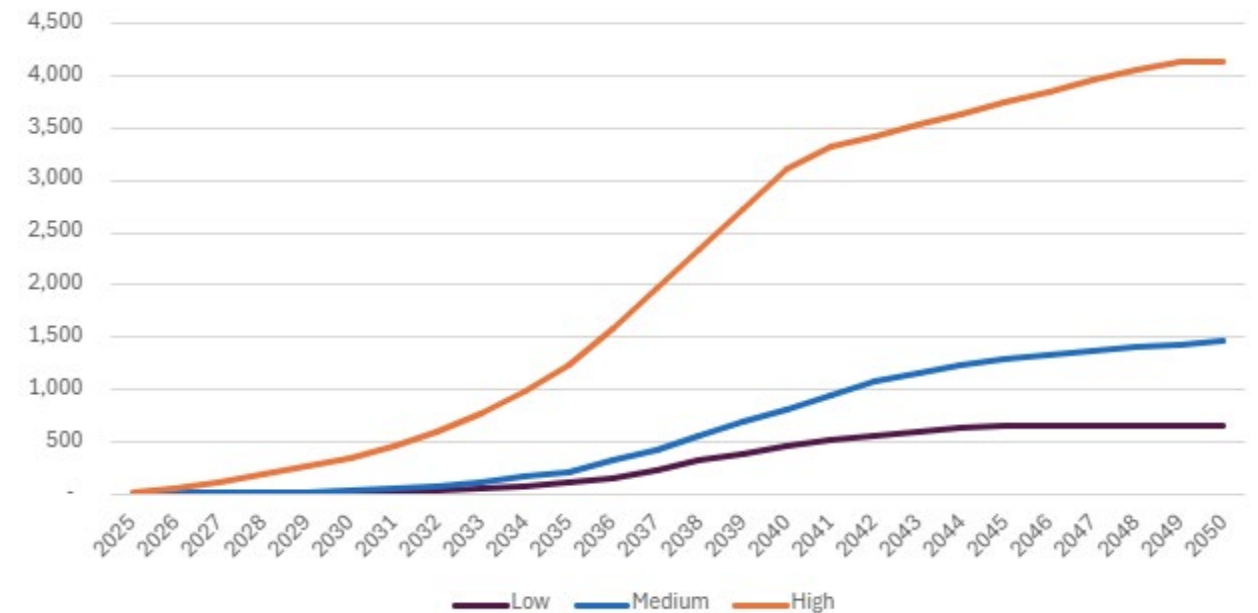
**Medium Global Demand:** Assumes the barriers in the low scenario exist but are largely resolved by 2035, leading to annual production by 2050 that is over 4 times larger than the current global annual production of civil helicopters, and an in-service fleet that is about 13 percent larger than the current global in-service fleet of civil helicopters.

**High Global Demand:** Assumes most of the technical, regulatory, and air traffic management barriers are resolved quickly, the economics are attractive for many applications, and there is broad public acceptance. AAM is a transformative concept in aviation, with annual production numbers in 2050 equal to nearly 12 times the current civil helicopter production and an in-service fleet that is about 3.4 times the current civil helicopter in-service fleet.

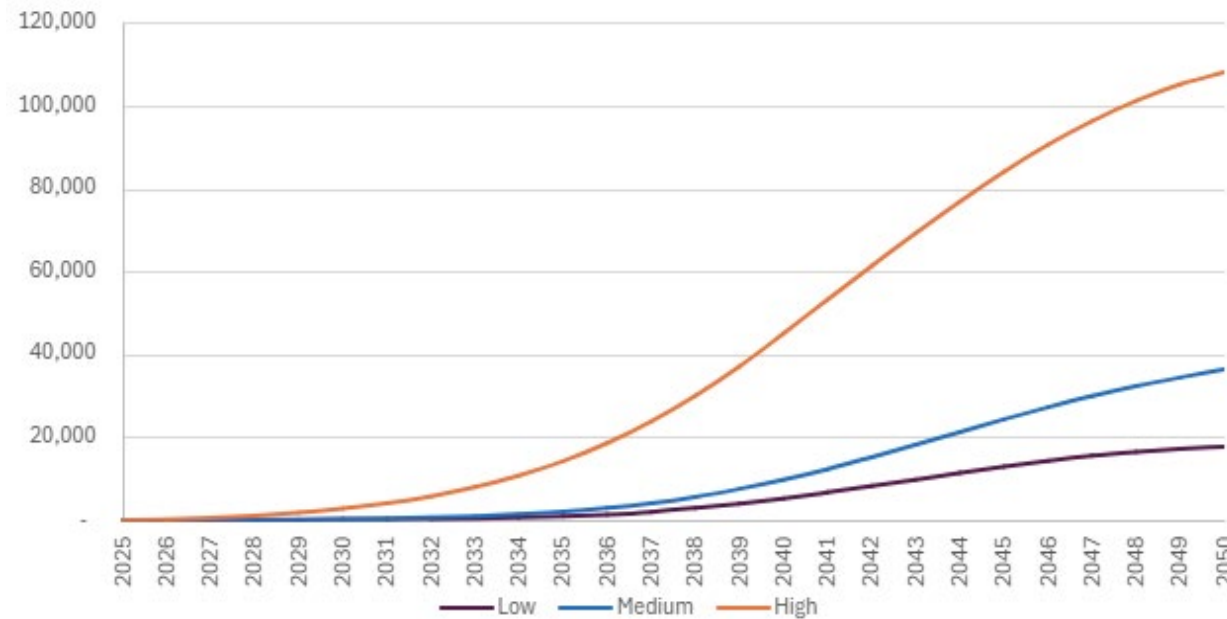
The three global low, medium and high scenarios (*Annual Global AAM Aircraft Production, Global AAM In-Service Fleet and United States Annual AAM Production*) provide a reasonable range of possible global outcomes that will be used to develop a range of outcomes for Kansas. The low scenario is not intended to be the lowest conceivable outcome. Far lower global outcomes are possible given the range of technology, regulation, air traffic management, and economics that needs to come together for AAM to reach even the low scenario. Similarly, the high scenario is not intended to be the highest conceivable outcome.



Annual Global AAM Aircraft Production (Low, Medium, and High Scenarios)



United States Annual AAM Production (Low, Medium, and High Scenarios)



Global AAM In-Service Fleet (Low, Medium, and High Scenarios)

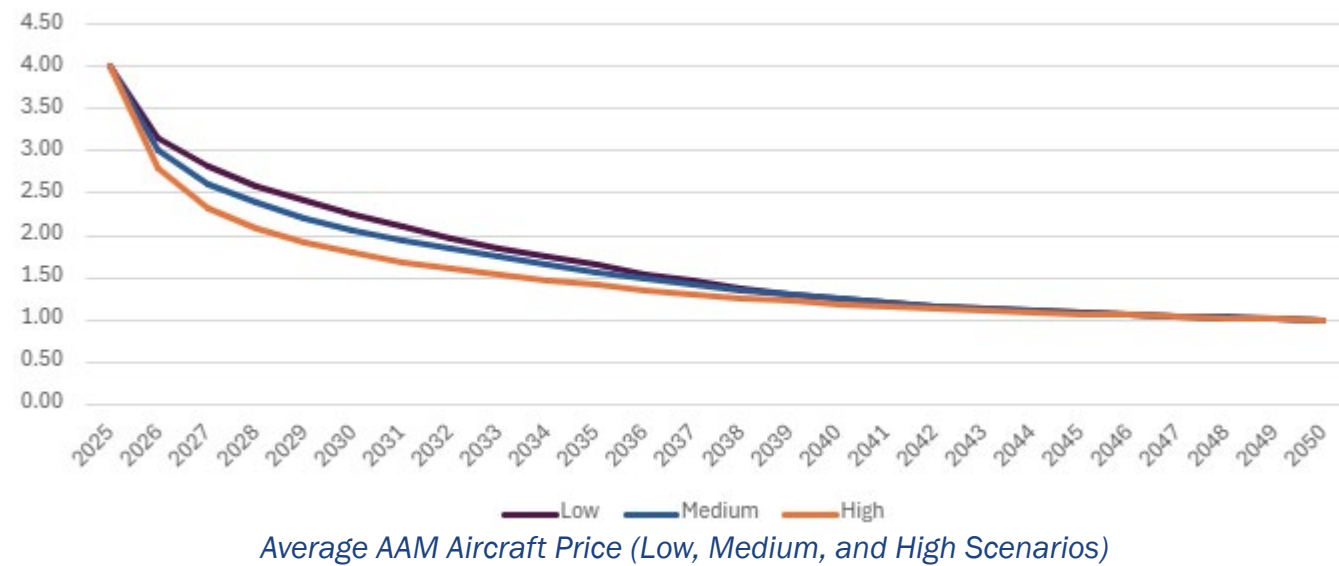
## U.S. SHARE OF GLOBAL PRODUCTION

The study assumes the U.S. share of global AAM production is a constant 35 percent across the low, medium, and high global scenarios. This is a conservative assumption based on rough estimates of the U.S. share of global civil aerospace production (40 to 60 percent) and the expectation that global AAM production is likely to be more globally dispersed over the next 25 years than the current production of civil aircraft.

## AVERAGE AAM AIRCRAFT PRICES FOR EACH SCENARIO

In constant dollar terms, we assume that AAM vehicles start at a quantity-weighted average price of \$4 million in 2025 and that prices decline, due to design and manufacturing improvements along with economies of scale, to a quantity-weighted average price of \$1 million in 2050. This assumption is based on market research on economically viable prices for AAM air taxi services (\$3 million to \$6 million) and recent long-term sales agreements.<sup>45 46</sup> There is a wide range of potential AAM designs and prices, but the higher sales volume in that price range is expected to dominate the quantity-weighted average price.

The prices in the intervening years are calculated based on a production learning curve with a 90 percent learning rate. Because of differences in annual production rates, the resulting prices by year are different across the scenarios. For example, the high scenario will see lower prices sooner than the other scenarios because of the more rapid increase in production (*Average AAM Aircraft Price (Low, Medium, and High Scenarios)*).



### TOTAL KANSAS REVENUE FROM AAM PRODUCTION

Based on the global scenario, U.S. share, and AAM prices, the study constructed low, medium, and high levels for the share of U.S. production that occurs in Kansas (*Kansas Share of U.S. AAM Production by Global Scenario*). To obtain Kansas revenue numbers from AAM production, the U.S. AAM production numbers for each global scenario are multiplied by the corresponding prices for each scenario to give total U.S. AAM production revenue by year. A portion of that revenue is allocated to production within Kansas based on a range of possible outcomes.

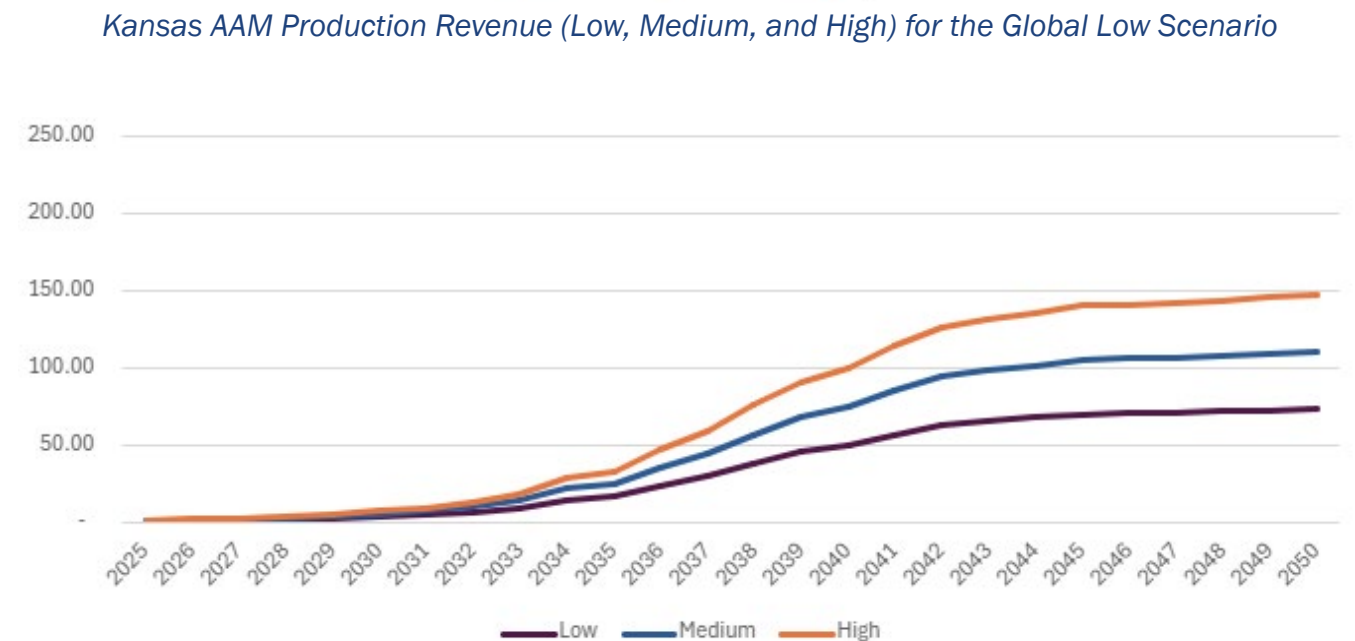
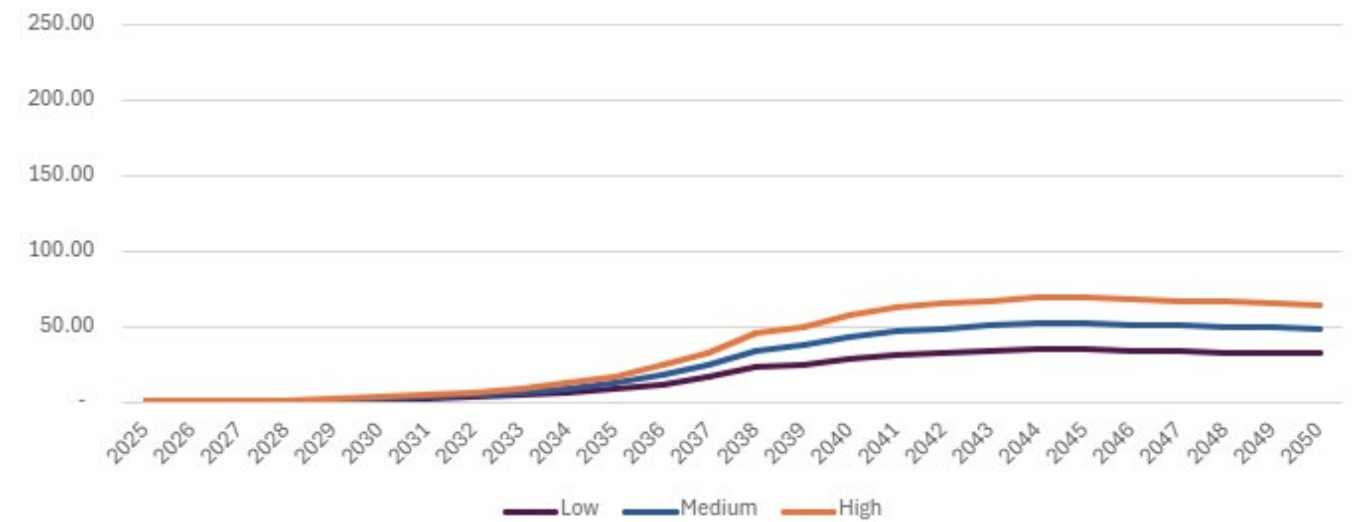
**Low and Medium:** Assume the share of U.S. production occurring in Kansas ranges from 5 percent to 10 percent. At the lower global scenarios, it is reasonable to expect that there will be some rapid consolidation in the AAM industry to get scale economies. In that environment, the existing concentration of aerospace in Kansas will likely attract investment and the Kansas economy will be able to absorb the moderate increase in industrial output.

**High:** Assume the high production levels in the U.S. will support a more broadly distributed production base with less consolidation through 2050. Also, a 5 to 10 percent share of U.S. AAM production under the high scenario would strain the ability of the Kansas economy to absorb that increase in industrial output, thereby limiting at some point the tendency of companies to shift production to Kansas. For these reasons, the allocation of U.S. production that occurs in Kansas in the high global scenario, which is a substantial increase above the medium and low global scenarios, ranges from 2.5 percent to 5 percent.

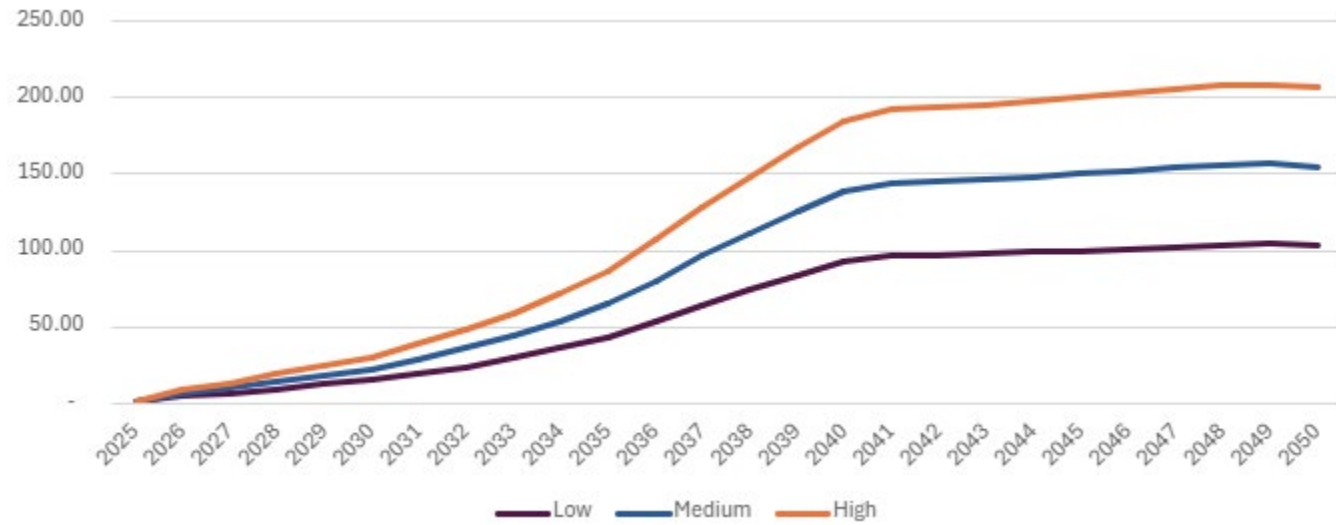
Scenario	Low	Medium	High
Global Low	5%	7.5%	10%
Global Medium	5%	7.5%	10%
Global High	2.5%	3.75%	5%

*Kansas Share of U.S. AAM Production by Global Scenario*

The resulting Kansas revenue numbers are presented in the figures below (*Kansas AAM Production Revenue (Low, Medium and High) for the Global Low Scenario; Kansas AAM Production Revenue (Low, Medium and High) for the Global Medium Scenario; and Kansas AAM Production Revenue (Low, Medium and High) for the Global High Scenario*). The figures are set to the same scale to make the differences across the global scenarios clearer. The flatter revenue lines compared to global AAM production reflect declining average AAM prices over time. While based on projected AAM aircraft production, these total revenue figures can also represent aircraft-equivalent production in Kansas. For instance, a Kansas company producing five fuselages (each comprising roughly 20% of an AAM's total cost) could account for one aircraft-equivalent exported for out-of-state assembly. The same approach applies to MRO revenue estimates in the next section.



*Kansas AAM Production Revenue (Low, Medium, and High) for the Global Medium Scenario*



Kansas AAM Production Revenue (Low, Medium, and High) for the Global High Scenario

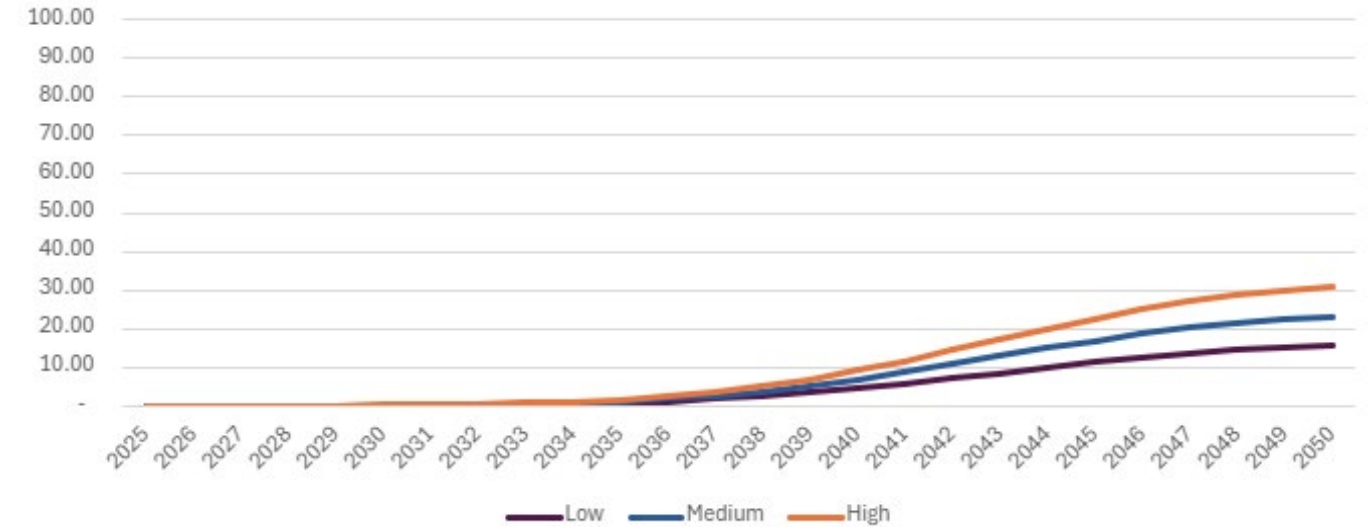
## TOTAL KANSAS REVENUE FROM MRO

MRO costs for AAM aircraft are expected to be at the lower end of the general aviation spectrum, though battery cost and performance remain key variables. Due to electric AAMs' limited range and the logistical challenges of cross-country movement, MRO services are likely to progress towards regional concentration. As a result, Kansas revenue impact is expected to benefit primarily from supplying parts to out-of-state MRO operations rather than hosting major MRO services itself as AAM adoption increases. The regional allocation of AAM MRO services within Kansas is expected to mirror the current regional distribution, especially where aircraft manufacturing and parts manufacturing are already occurring or concentrated.

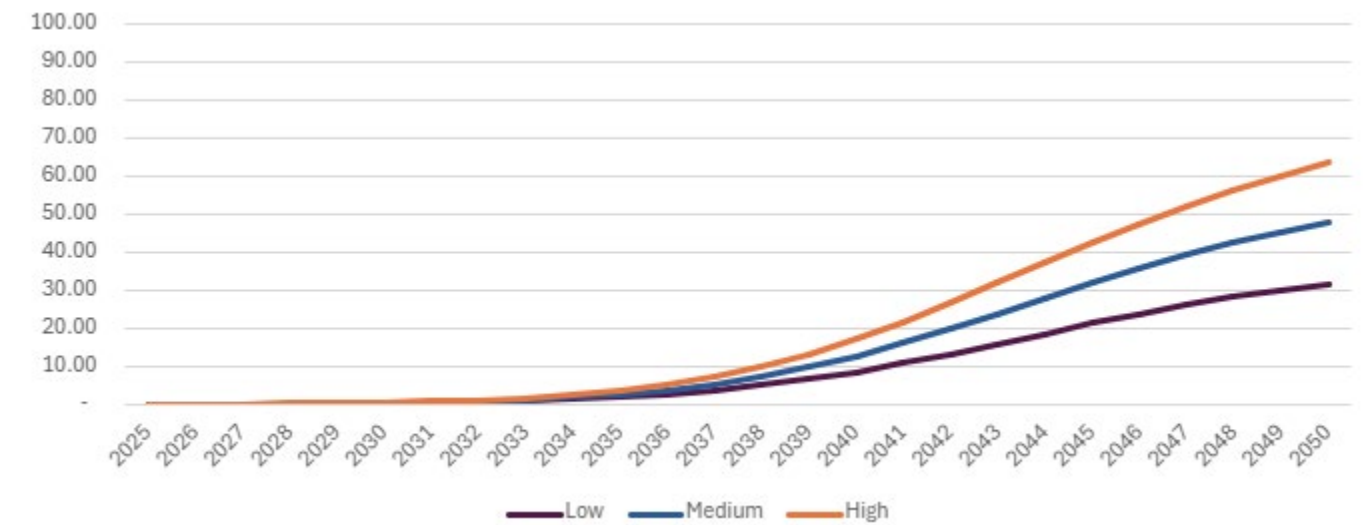
For Kansas MRO revenue estimates, we assume AAM aircraft in high-tempo commercial use incur \$90,000 annually in MRO costs, with \$50,000 attributed to parts, held constant in real terms over the service life. This puts the assumed AAM MRO costs in between single-engine piston aircraft in commercial use and single-engine turbine aircraft in commercial use. The allocation of 55 percent to the cost of materials is slightly above the typical range for MRO activities of current aircraft to account for the potentially high component cost and relatively low labor cost of battery replacement.

Accordingly, for each global scenario, Kansas MRO revenue is based on the share of the global in-service fleet produced in-state. The expectation is that Kansas companies will supply parts globally for AAMs they manufacture, with only limited in-state MRO activity serving local and neighboring operations.

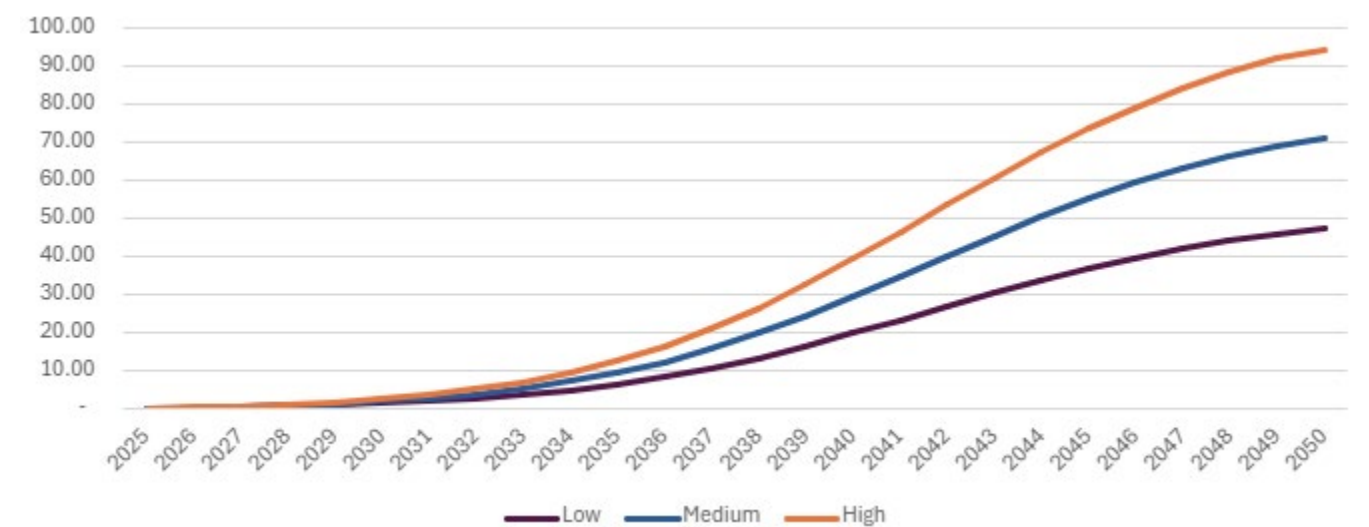
The resulting MRO revenue projections are in the figures (*Kansas MRO Revenue (Low, Medium and High) for the Global Low Scenario*; *Kansas MRO Revenue (Low, Medium and High) for the Global Medium Scenario*; and *Kansas MRO Revenue (Low, Medium and High) for the Global High Scenario*), which are set to the same scale to make the differences across the global scenarios clearer.



Kansas MRO Revenue (Low, Medium, and High) for the Global Low Scenario



Kansas MRO Revenue (Low, Medium, and High) for the Global Medium Scenario

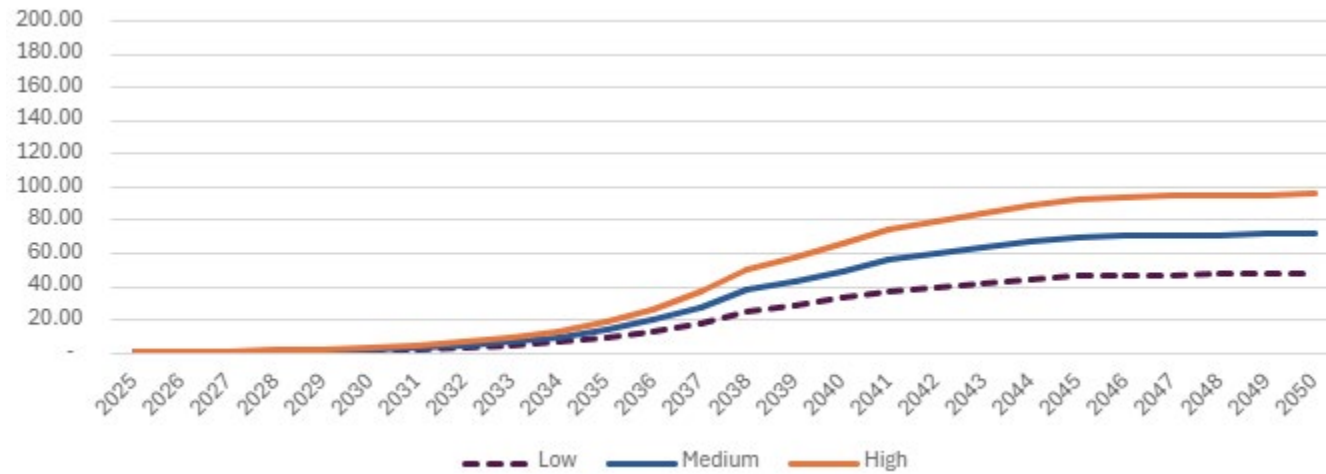


Kansas MRO Revenue (Low, Medium, and High) for the Global High Scenario

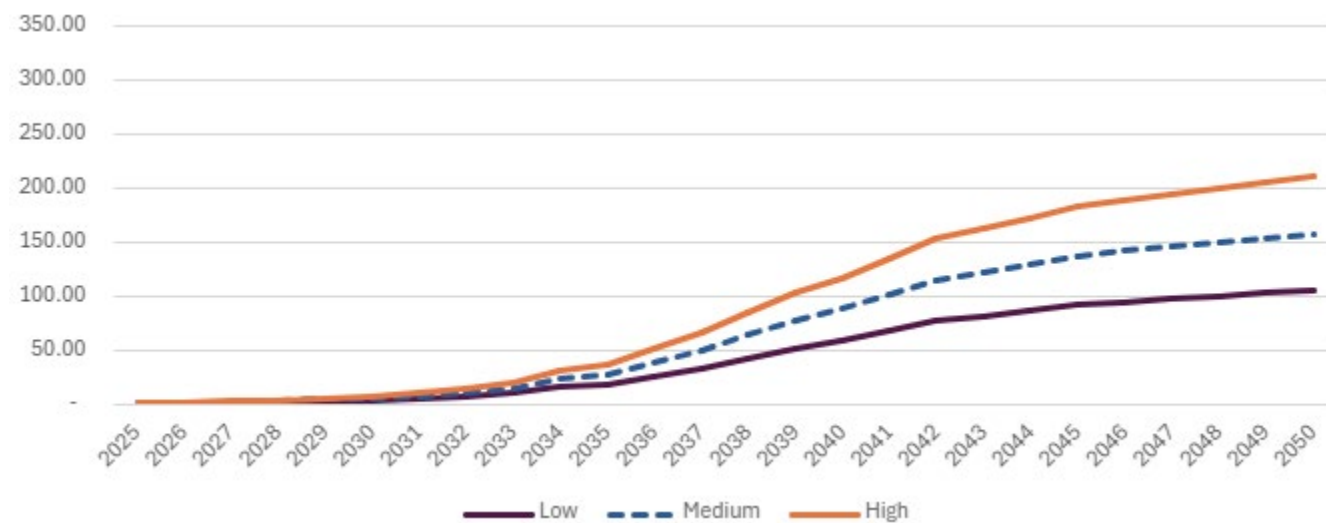
## COMBINED ESTIMATES

The figures below add production and MRO revenues for Kansas for each global scenario. As mentioned earlier, Kansas cannot influence which global scenario occurs but can influence, to some extent, the share of AAM production that occurs in Kansas through incentive programs to attract and retain AAM-related industries, further investing in skilled workforce development and prioritization of the objectives outlined within the Kansas AAM roadmap.

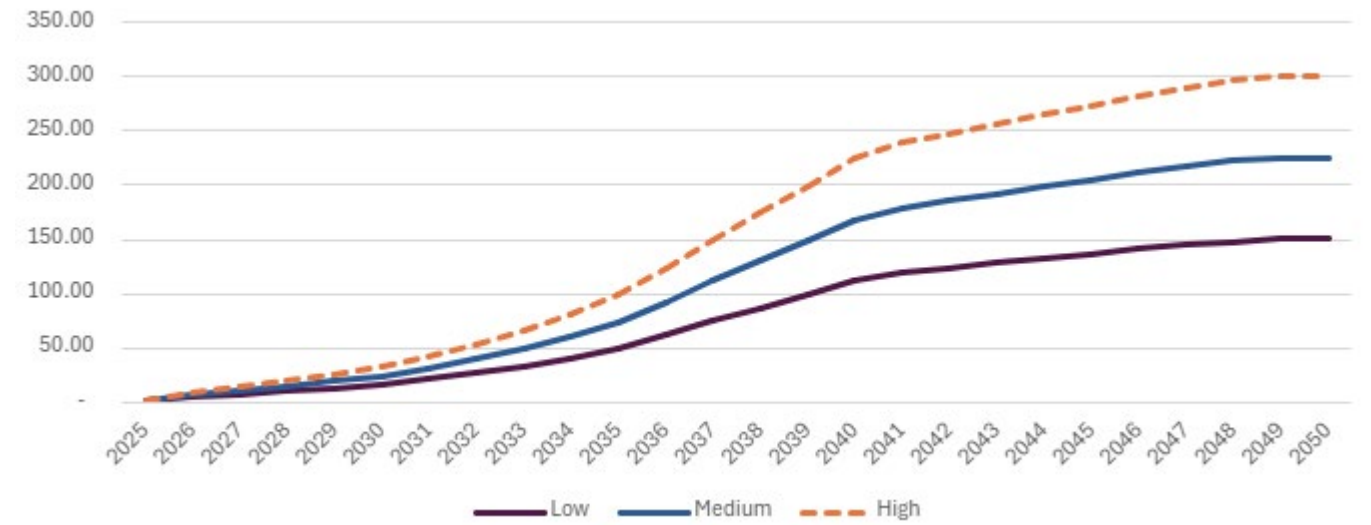
The range of possible outcomes for Kansas can be presented as a combination of the low share from the low global scenario (*Kansas Total Revenue (Low, Medium and High) for the Global Low Scenario*), the medium share from the medium global scenario (*Kansas Total Revenue (Low, Medium and High) for the Global Medium Scenario*), and the high share from the high global scenario (*Kansas Total Revenue (Low, Medium and High) for the Global High Scenario*). In the figures below, these outcomes are highlighted with dashed lines. These are the three projections that are used in the economic-impact estimates that follow.



*Kansas Total Revenue (Low, Medium, and High) for the Global Low Scenario*



*Kansas Total Revenue (Low, Medium, and High) for the Global Medium Scenario*



*Kansas Total Revenue (Low, Medium, and High) for the Global High Scenario*

## MANUFACTURING, MAINTENANCE, OVERHAUL, REPAIR (MMRO) SCENARIOS DATA

Cumulative total regional impacts over the 2025-2050 duration are shown in *Regional GDP Impacts-Manufacturing and Parts Cumulative Sum from 2025-2050 (Low, Medium, High Scenarios)*; *Regional Employment Impacts-Manufacturing and Parts (Low, Medium, High Scenarios)*; and *Regional Personal Income Impacts-Manufacturing and Parts (Low, Medium, High Scenarios)* for GDP, gross output (direct, indirect and induced), employment (direct, indirect and induced full time equivalent (FTE) job impacts) and personal income.<sup>47</sup> The regional impacts are most concentrated in South Central Kansas and MARC/Mokan regions. The impacts suggest that AAM related manufacturing will also likely cluster around regions that are already highly specialized in those areas.<sup>48</sup>

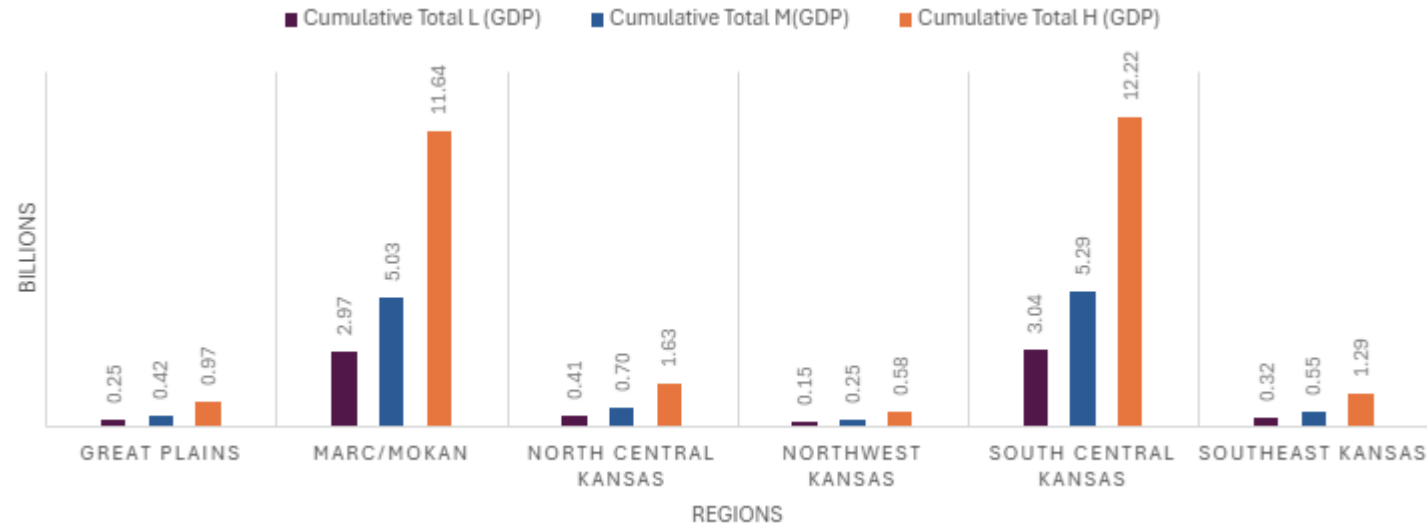
The annual statewide impacts for GDP, output, employment and personal income are shown in *GDP Impacts Manufacturing and Parts (Low, Medium and High Scenarios)*; *Output Impacts Manufacturing and Parts (Low, Medium and High Scenarios)*; *Employment Impacts Manufacturing and Parts (Low, Medium and High Scenarios)*; and *Total Cumulative Personal Income Impacts Manufacturing and Parts (Low, Medium and High Scenarios)*, respectively.

The economic impact analysis<sup>49</sup> assumes that three sectors are impacted under the manufacturing and MRO combined scenarios. The three pertinent sectors are those associated with classification code 3364<sup>50</sup>:

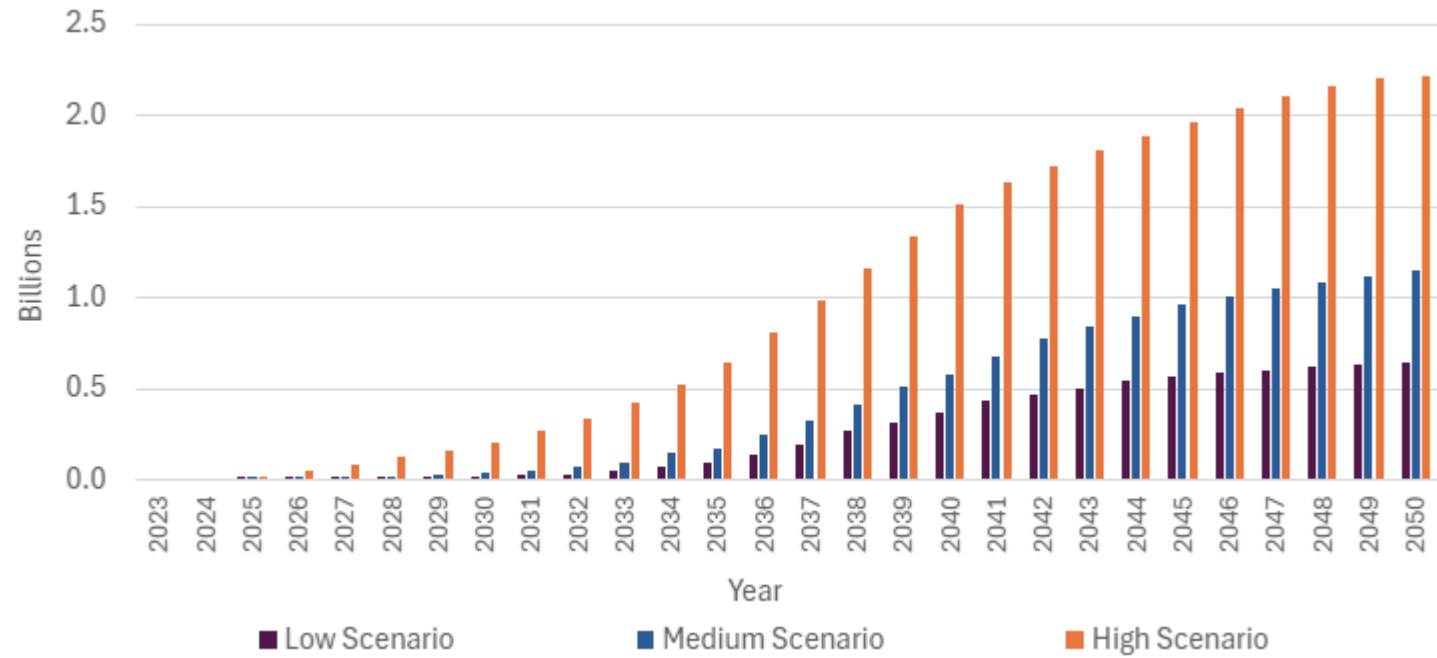
- Aircraft manufacturing
- Aircraft engine parts and engine parts manufacturing
- Other aircraft parts and related parts manufacturing

Impact assessments were simulated for the lowest, middle range, and high scenarios (shown in dashed lines below). The three scenarios represent the full range of likely impact for Kansas's projected role in manufacturing and MRO in relation to the evolving US AAM market.

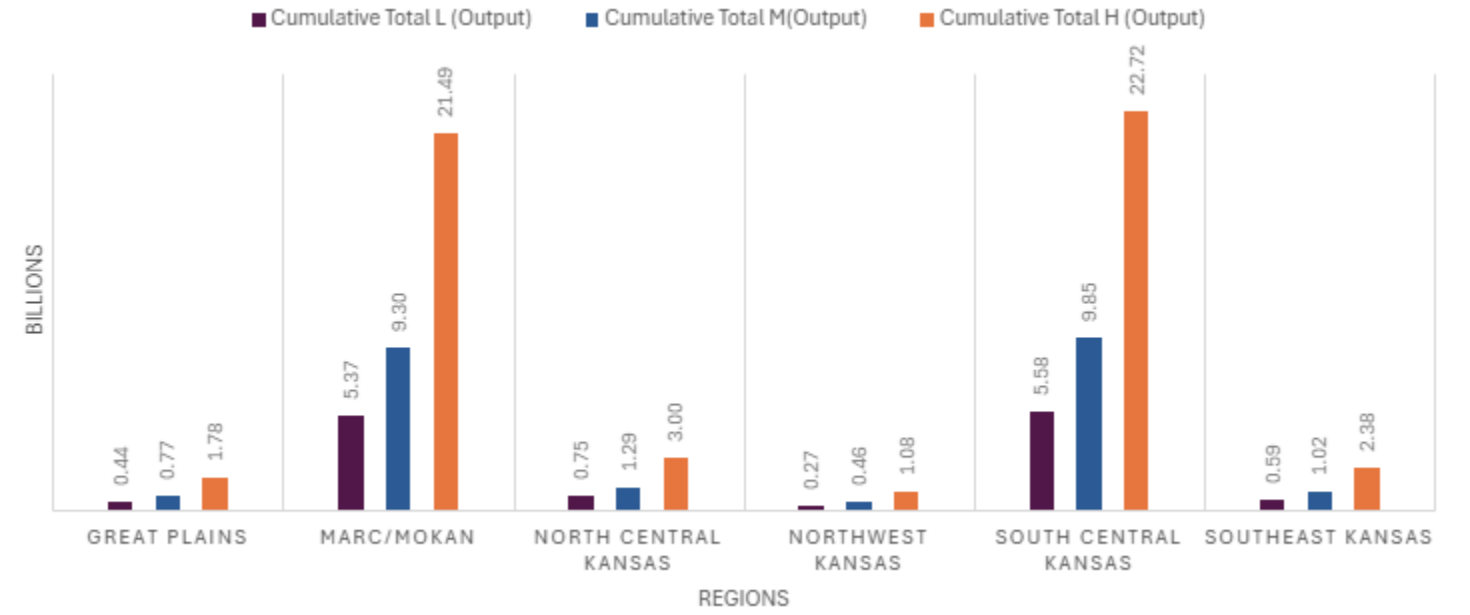
## CUMULATIVE IMPACTS BY REGION AND ANNUAL EXPECTED IMPACT



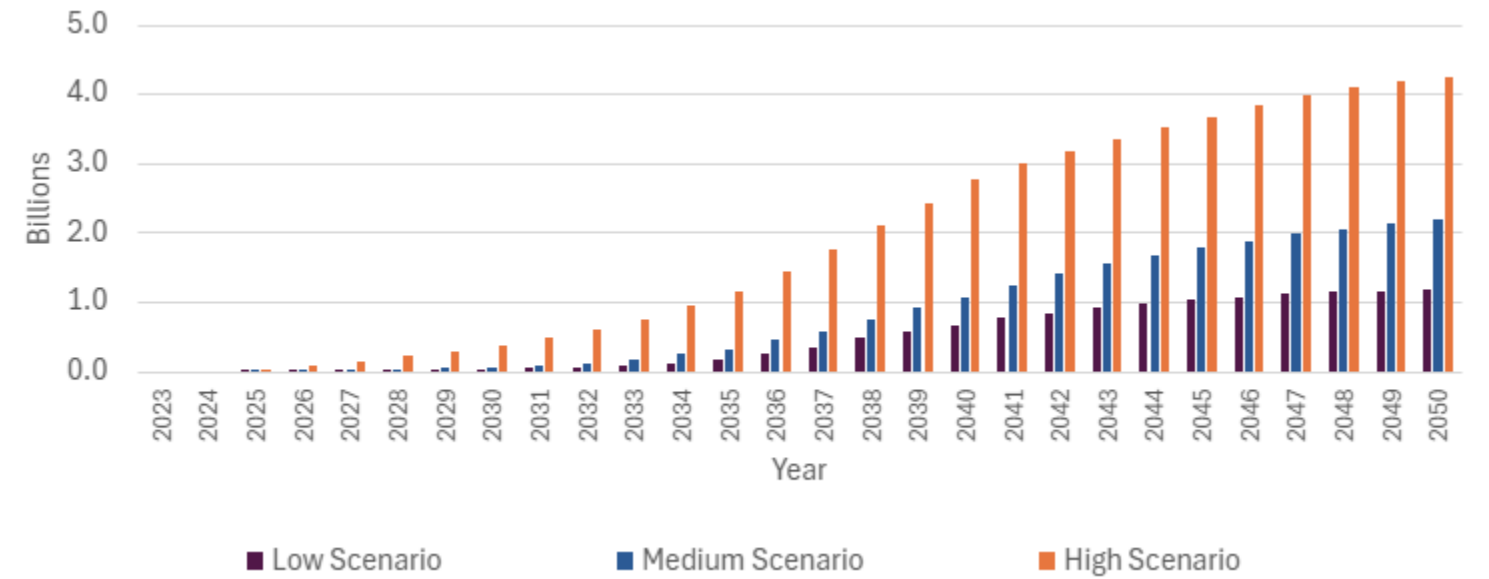
Regional GDP Impacts-Manufacturing and Parts Cumulative Sum from 2025-2050 (Low, Medium, High Scenarios)



GDP Impacts Manufacturing and Parts (Low, Medium and High Scenarios)



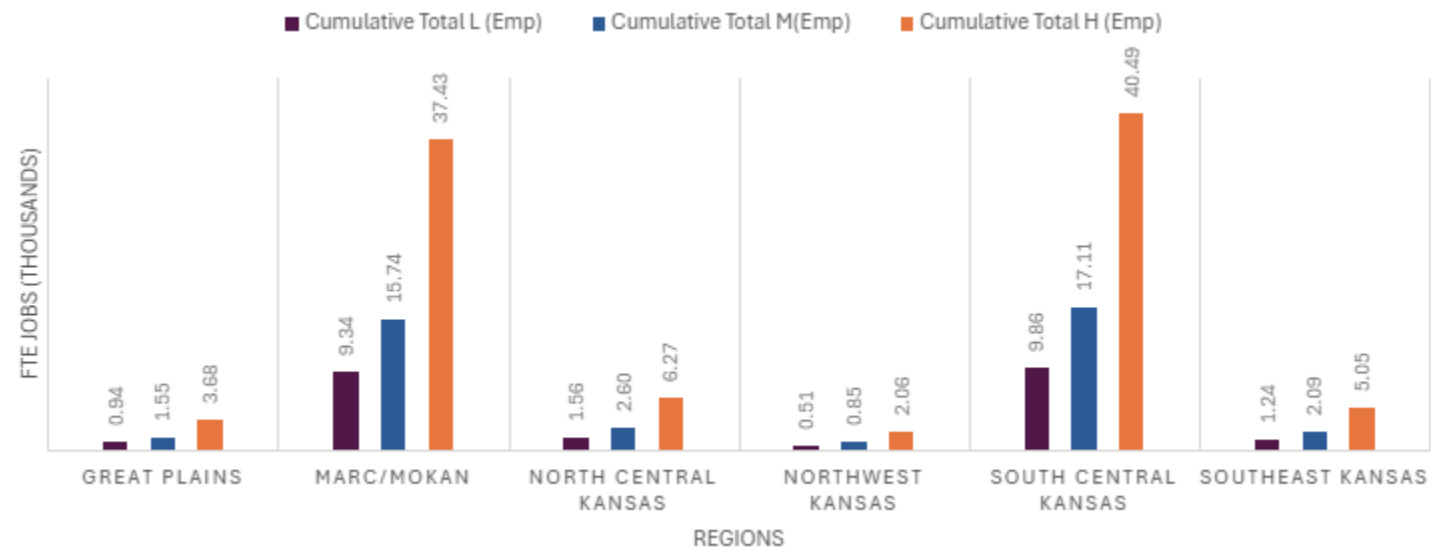
Regional Output Impacts-Manufacturing and Parts (Low, Medium, High Scenarios)



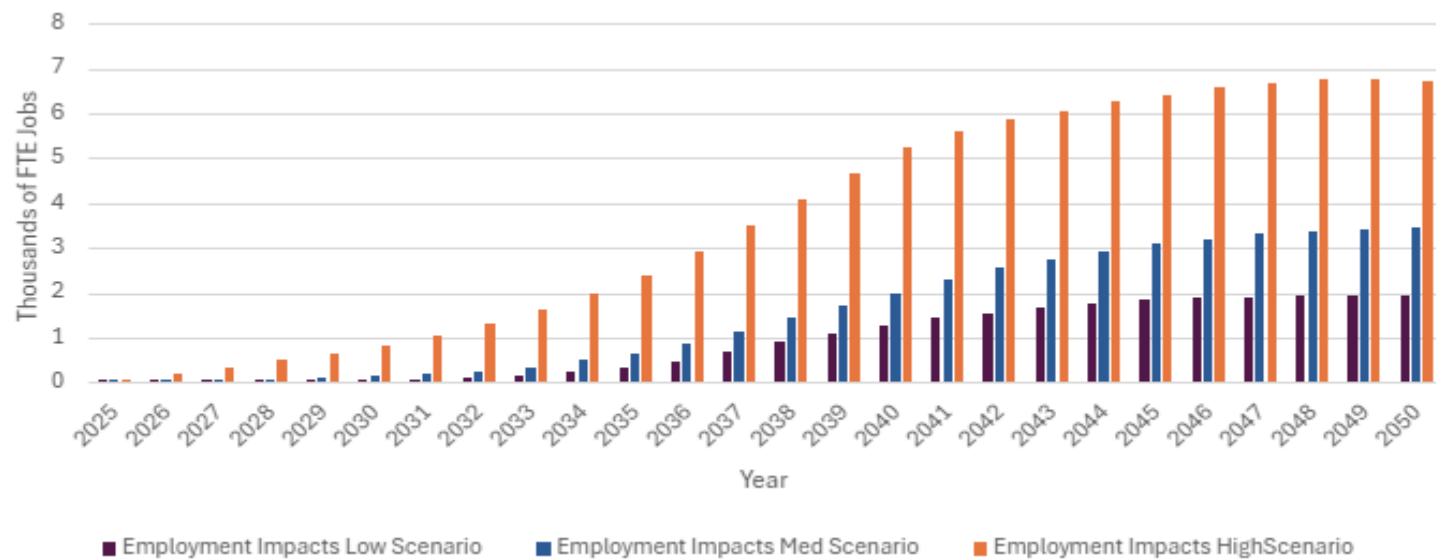
Output Impacts Manufacturing and Parts (Low, Medium and High Scenarios)

The estimated job impacts (*Employment Impacts Manufacturing and Parts (Low, Medium and High Scenarios)*) range from 8 jobs in the low scenario to 12 in the middle range to 66 for the more optimistic estimate in year 2025. By 2050, the estimates translate to an annual contribution of 1,945, 3,474, and 6,709 additional FTE direct, indirect, and induced jobs for the three scenarios. As a baseline example, the three NAIC sectors assessed currently support 23,753 direct jobs in Kansas.<sup>51</sup> Assuming that the projected direct jobs in the three sectors grow by 1.5 percent annually, the 2050 estimates imply MMRO scenarios could lead to significant job growth across aviation related sectors.

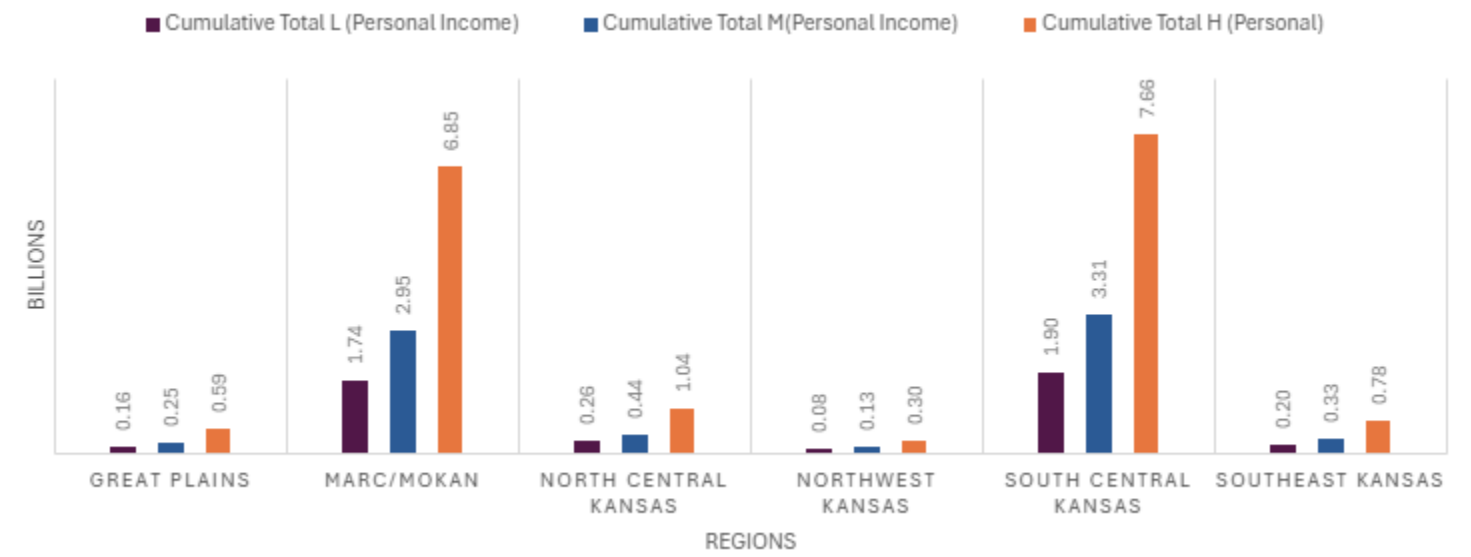
**Estimates show that AAM scenarios may contribute from 4% up to 14% of direct jobs in the three sectors in 2050.<sup>52 53</sup>**



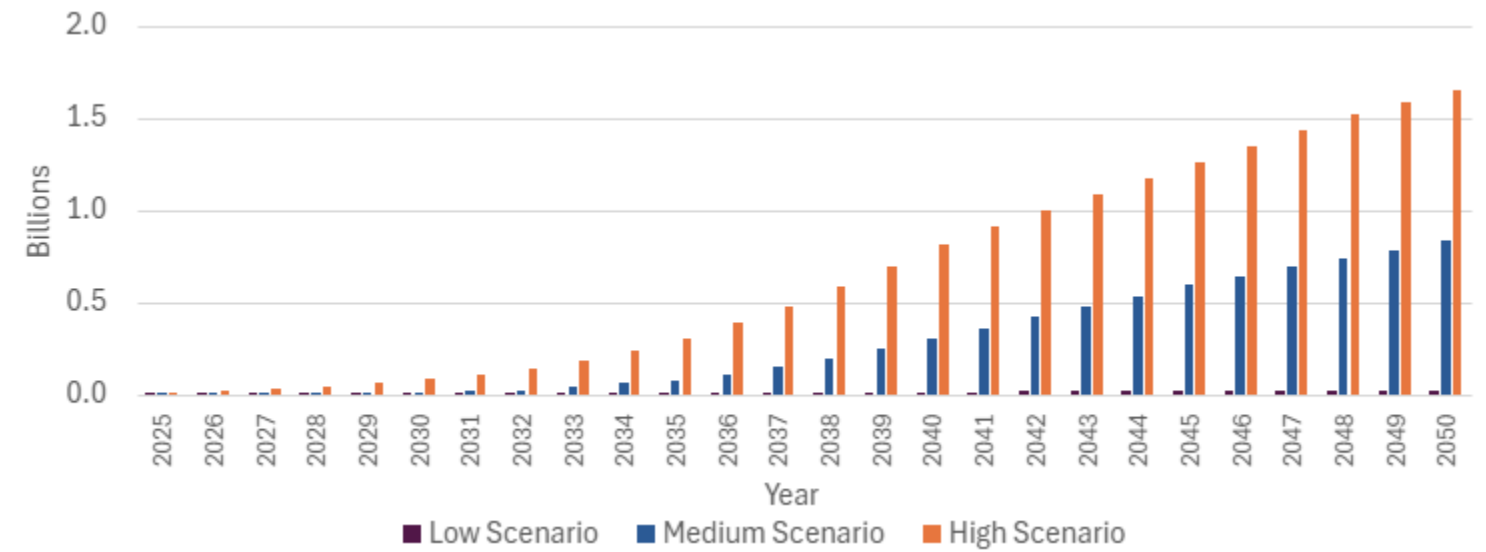
Regional Employment Impacts-Manufacturing and Parts (Low, Medium, High Scenarios)



Employment Impacts Manufacturing and Parts (Low, Medium and High Scenarios)



Regional Personal Income Impacts-Manufacturing and Parts (Low, Medium, High Scenarios)



Total Cumulative Personal Income Impacts Manufacturing and Parts (Low, Medium and High Scenarios)

Finally, *Occupations Facing Increased Demand (Manufacturing, MRO, and Parts Supply Chain)* highlights the top ten occupational clusters that are likely to have a larger role in AAM manufacturing and MRO sector activity, regardless of the scenario.

- 1 Engineers**
- 2 Assemblers and fabricators**
- 3 Metal workers and plastic workers**
- 4 Other production occupations**
- 5 Computer occupations**
- 6 Business operations specialists**
- 7 Vehicle and mobile equipment mechanics, installers and repairers**
- 8 Supervisors of production workers**
- 9 Operations specialists managers**
- 10 Drafters, engineering technicians, and mapping technicians**

*Occupations Facing Increased Demand (Manufacturing, MRO, and Parts Supply Chain)*

# KANSAS AAM

## USE CASES ANALYSIS

Overall impacts from four AAM operational use cases most likely to occur in Kansas were also estimated, including: Aerial Application, Air Medical Transport, Cargo Transport, and Passenger Transport. The results were translated as inputs to the REMI model to assess their cumulative impact through the year 2050 in terms of Kansas's Gross Domestic Product (GDP), gross output, personal income, and employment impacts expressed in full-time equivalent (FTE) jobs. These results are summarized in *Summary of Kansas AAM Operational Use Cases Economic Impact Through 2050*. Note, impact is assessed from the year that expected operations for a particular use case are to begin, ranging between 2025 in limited instances and 2030 for other more complex use cases.

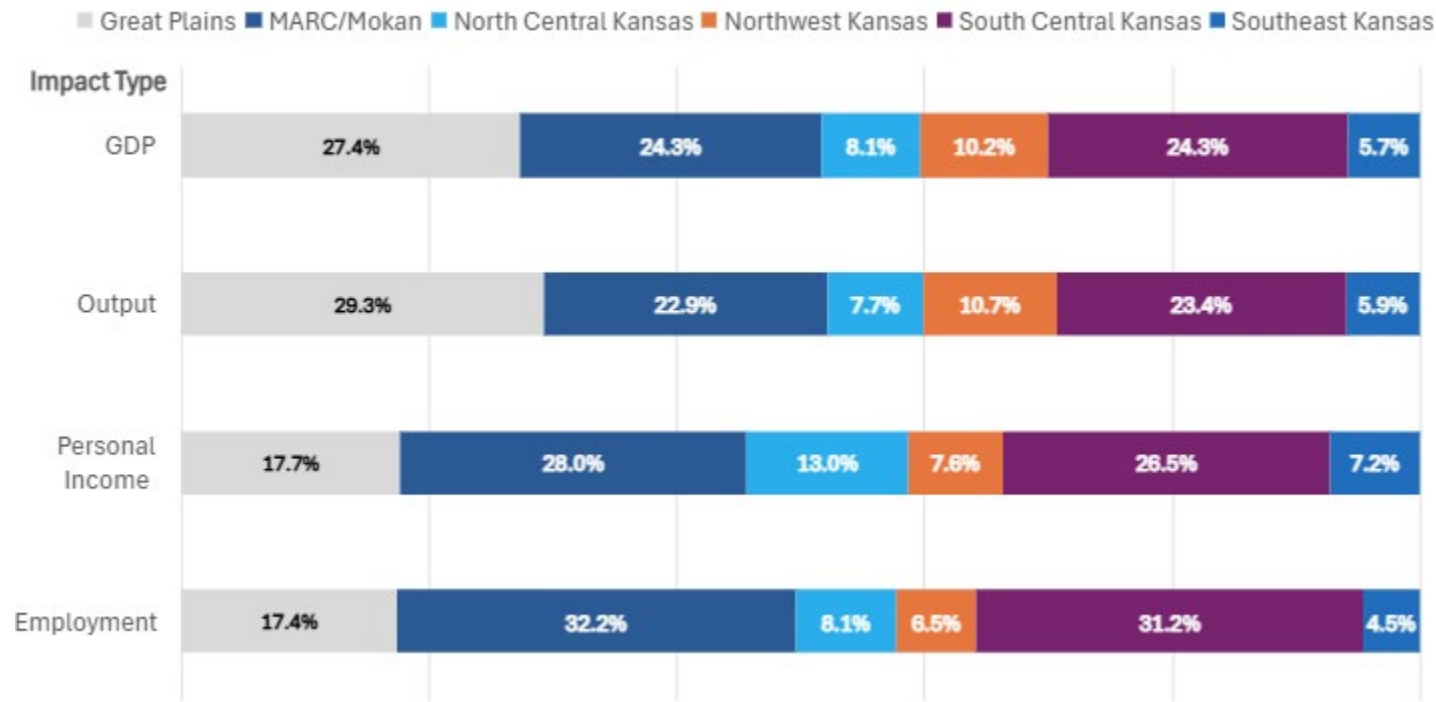
Similar to MRO and Manufacturing outputs, the estimates are provided in ranges given the level of uncertainty and the assumptions associated with each AAM operational use case. A fifth case, Emergency Management, was assessed qualitatively to increase overall public service benefit, not driven by sector-specific financial impact (Appendix 1).

### ECONOMIC IMPACT OF AAM OPERATIONAL USE CASES SUMMARY

AAM Operational Use Case	Kansas Cumulative Impact Through 2050 <sup>54</sup>			
	GDP	Gross Output	Personal Income	Employment <sup>55</sup>
Aerial Application	\$1.87-2.34M	\$4.07-5.09B	\$708-885M	5,500-6,900 jobs
Air Medical Interfacility Transport	\$109-131M	\$171-206M	\$130-156M	800-1,000 jobs
Cargo Transport	\$1-1.26B	\$2.05-2.56B	\$1.01-1.27B	8,200-10,200 jobs
Passenger Transport	\$611M-2.04B	\$1.03-3.43B	\$2.24-7.46B	4,700-15,700 jobs
<b>Total<sup>56</sup></b>	<b>\$3.59-5.77B</b>	<b>\$7.32-11.29B</b>	<b>\$4.09-9.77B</b>	<b>19,200-33,800 jobs</b>

*Summary of Kansas AAM Operational Use Cases Economic Impact Through 2050*

This study estimates that, under conservative assumptions, by 2050 AAM could generate \$3.6 billion in GDP, \$7.3 billion in gross output, \$4.1 billion in personal income, and over 19,000 FTE jobs in Kansas. Under optimistic assumptions, results show that AAM could generate \$5.8 billion in GDP, \$11.3 billion in gross output, \$9.8 billion in personal income, and almost 34,000 jobs through the four operational use cases. The MARC/Mokan, South Central Kansas, and Great Plains regions are expected to see the greatest impact, accounting for 70–80 percent of statewide gains. A summary of economic impact by region from the baseline data is provided across all use cases, indicating where AAM operations may have the most impact in the state.



*Distribution of AAM Economic Impact to Kansas by Region*

The next several sections will describe the market analyses conducted for the individual AAM operational use cases, as well as their specific impact study results.

## AERIAL APPLICATION

Agriculture is Kansas’s largest economic driver. As of 2022, over 85 percent of the state’s land is farmland, generating more than \$23.9 billion in agricultural product sales.<sup>57</sup> Aerial application supports strong crop production by quickly and efficiently applying fertilizers, pesticides, and herbicides across large, varied terrains. AAM is expected to enhance these services by enabling autonomous and remotely piloted spraying that is precise, cost-effective, safe, and sustainable for Kansas farmers and service providers.

## Analysis Approach and Assumptions

The market analysis of AAM aerial application for Kansas was performed following a framework commonly used to assess the economic value of traditional aerial application.<sup>58</sup> The analysis focused on two components: 1) cost savings associated with using AAM aircraft for spraying missions versus traditional, non-AAM systems, and 2) farming revenue gains associated with increased crop yields as a result of overall growth in aerial application usage led by AAM.

First, an analysis of historical aerial application activities in Kansas was performed using flight data from 2023.<sup>59</sup> This data was combined with cropland data from the USDA National Agricultural Statistics Service to quantify baseline aerial application usage levels, expressed in acreage and percentage of crop areas treated with aerial application, by county and by crop type. These results were enhanced with a separate analysis that identified low altitude radar coverage gaps in the state.<sup>60</sup> Specifically, areas in Kansas with poor or non-existent low altitude radar coverage are likely to have more undetected aerial application flights in the dataset, so their estimated baseline aerial application usage levels were calibrated to account for the data gap. Overall, the analysis estimated 53 percent of the cultivated cropland in Kansas, or 11.6 million acres, utilized aerial application in 2023. An additional 10.2 million acres of cultivated cropland were determined to be treated by traditional spraying or left untreated that could significantly increase the overall expected benefit of AAM agricultural adoption as operations normalize.

The baseline demand scenario includes traditional, piloted spray aircraft (e.g., Air Tractor 502, Robinson R44) as well as small spray drones (e.g., Hyllo AG-230) which are being used today. The baseline scenario assumed traditional spray aircraft will continue to operate most of the aerial application missions, with small spray drones gaining some popularity but eventually topping out due to their limitations and based on trends reported by the USDA economic research service.<sup>61</sup>

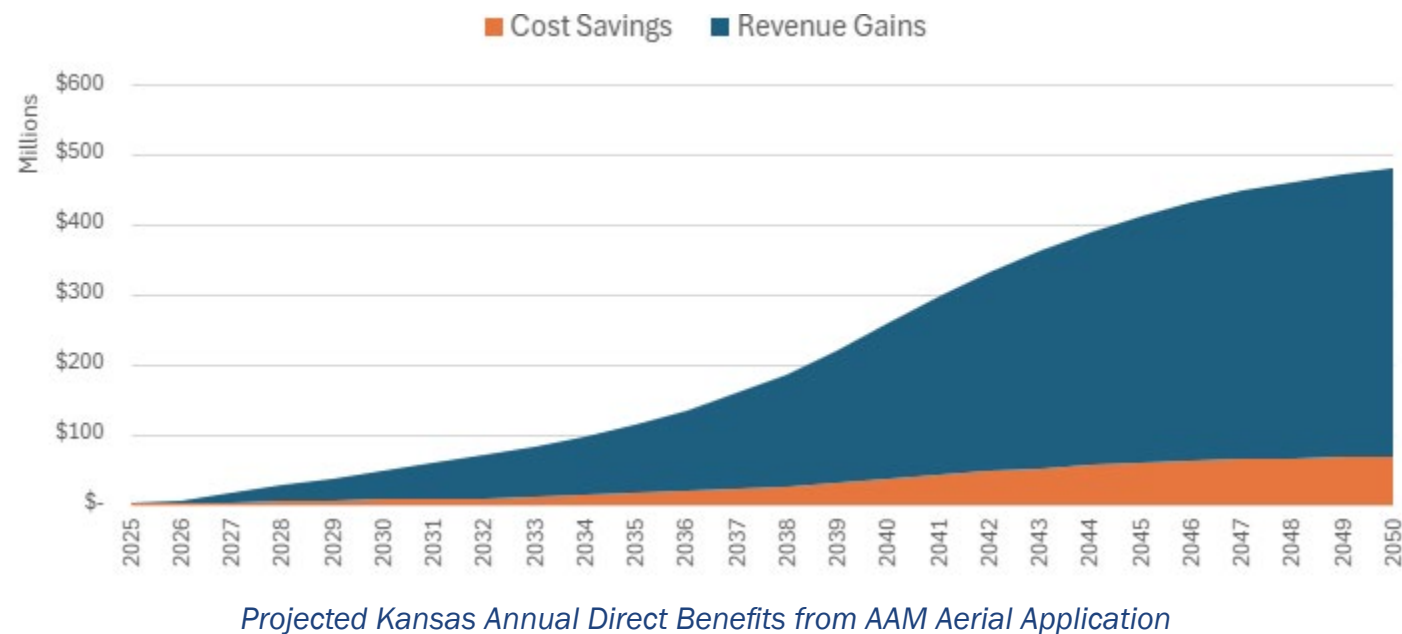
The AAM demand scenario assumed autonomous and remotely piloted AAM aircraft (e.g., Pyka Pelican Spray, Rotor R550 Sprayhawk) will perform an increasing number of aerial application missions over time. AAM adoption from 2023 to 2050 follows an S-curve: slow uptake beginning in 2025, rapid growth by 2030, and maturity after 2040. This type of adoption is typical for emerging technologies, reflecting stages from innovators to laggards. The scenario also anticipates wider AAM use across crop areas due to its speed, automation, access to rough terrain, and lower crop damage compared to ground rigs.

Next, the direct operating costs associated with the baseline (no AAM) demand scenario and the AAM demand scenario were estimated to establish a baseline cost model. For the model, parameters such as direct operating costs per hour, sprayed acres per hour and others for various aerial application aircraft systems (both traditional and AAM) were obtained from Kansas aerial applicators and industry sources for both scenarios.<sup>62</sup> These values, combined with projected AAM adoption rates, were used to calculate cost differences at the county level and then aggregated into the six REMI regions. Potential farming revenue gains were also evaluated from expected increases in crop yields due to increasing AAM aerial application usage and historical crop yields for principal crops in Kansas from USDA reports<sup>63</sup> and other industry reports. Historical crop yield data for 16 crop types, each with at least 5,000 acres of cropland in Kansas was obtained. Together, these crops represent over 99 percent of the state’s total cropland.

The historical average crop yields were further split into expected yields with and without aerial application, where crop yields with aerial application were assumed to be ten percent higher than yields without aerial application, supported by studies indicating this is a conservative estimate.<sup>64,65</sup> AAM is assumed to be able to further increase crop yields due to more precise aerial applications and reduced overspray. Estimated crop yields from both scenarios were used to compute the expected additional crop production enabled by AAM aerial application, by county and by crop type. Lastly, the amount of additional crop production was translated into potential revenue gains using crop-specific prices used by USDA forecast models.

**Projected AAM Direct Impacts**

AAM is expected to boost Kansas agriculture productivity and revenue through lower operating costs and higher crop yields. Annual benefits are projected to surpass \$47 million by 2030 and exceed \$480 million by 2050 (*Projected Kansas Annual Direct Benefits from AAM Aerial Application*).



**Kansas Statewide Economic Impacts of AAM Aerial Application**

The modeled scenario considered both enhanced revenues from higher crop yields and cost savings from AAM aerial application operations as key inputs for analyzing the induced economic impacts to Kansas. The range of estimates reflect conservative and optimistic assumptions about AAM adoption rate and crop yield impact, and results are shown as 2025-2050 annual impact to Kansas GDP (*AAM Aerial Application Annual Impact on GDP*), gross output (*AAM Aerial Application Annual Impact on Gross Output*), personal income (*AAM Aerial Application Annual Impact on Personal Income*), and employment (*AAM Aerial Application Annual Impact on Employment*). These impacts reflect annual, incremental benefits (such as additional jobs created) under the AAM scenario. Benefits are distributed statewide, with the highest concentration in the Great Plains region. This aligns with Kansas’s crop production, consumption, and export patterns, particularly for corn, soybeans, grain, wheat, and related sectors like livestock and biofuels. For example, Kansas is a net corn exporter, producing 650–800 million bushels annually, with a five-year average of 726 million bushels.<sup>66</sup> Many of the shipments to other regions in Kansas and other states (Arkansas, Colorado, Texas, Missouri and Oklahoma) come from counties located in the Great Plains, Northwest, and Northeast parts of Kansas.

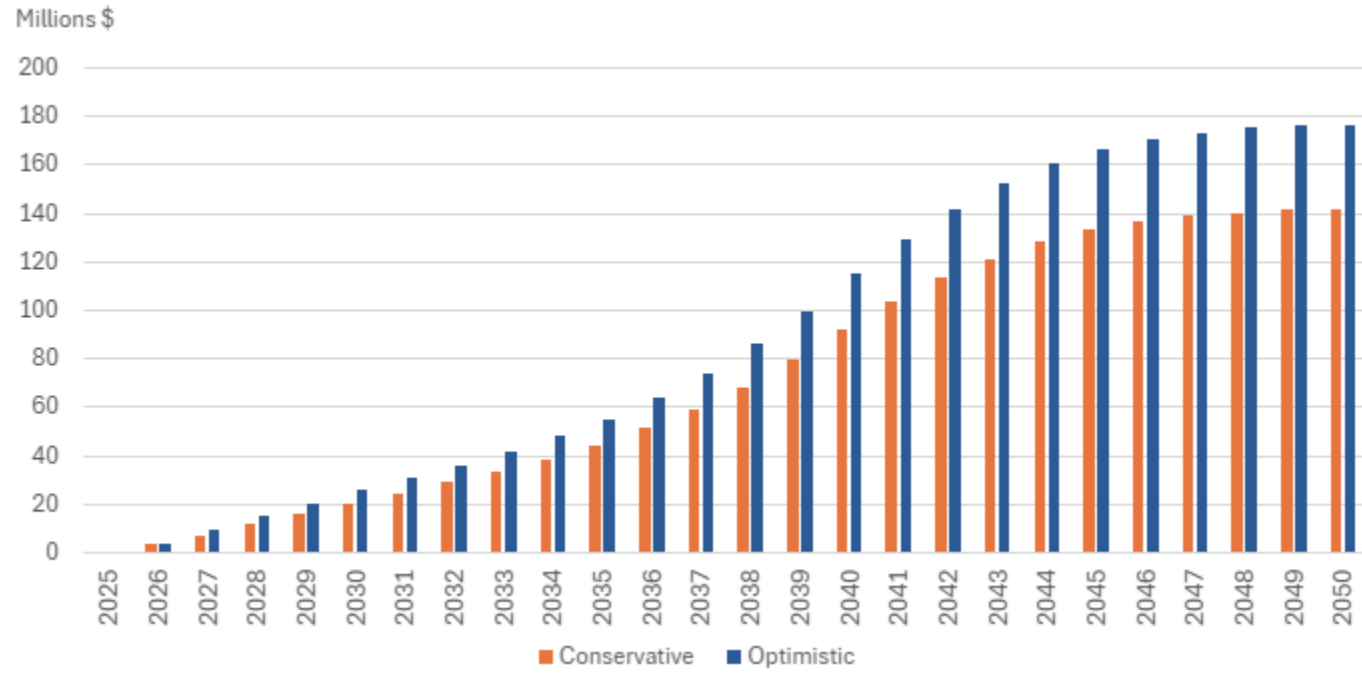
As shown in *Cumulative Statewide and Total U.S. Effect of AAM Aerial Applications (In 2024)*, estimates of AAM aerial application’s impact in Kansas over the 26-year duration include cumulative GDP impact of \$1.87 billion to \$2.34 billion, gross output impact of \$4.07 billion to \$5.09 billion, personal income gain of \$708 million to \$885 million, and employment impact of 5,500 to 6,900 jobs created in the farming-related sectors statewide.

Due to Kansas’s unique nature of agricultural production exports to other states in the U.S. and rest of the world (top 10 according to USDA), a seventh region called “rest of U.S.” was included for this impact assessment. Impact considered with the rest of U.S. amounts to cumulative GDP impact of \$3.97 billion to \$4.96 billion, gross output impact of \$7.75 billion to \$9.69 billion, personal income gain of \$2.29 billion to \$2.86 billion, and employment impact of 11,800 to 14,700 jobs created.

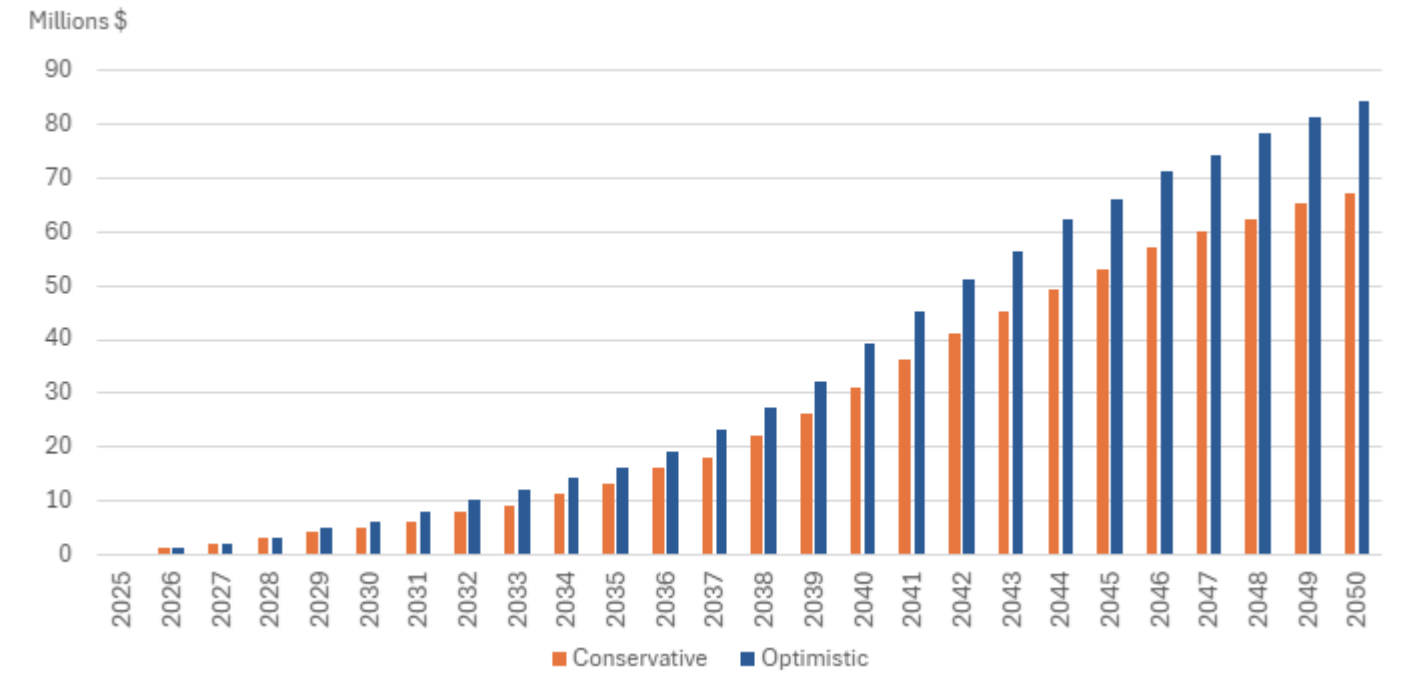
Impact Category (Including Direct, Indirect, and Induced Impact)	Statewide Cumulative Impact (2025-2050)	Cumulative Impact With Rest of US (2025-2050)	Benchmark Contribution of Cumulative Impact to Kansas (without Rest of U.S.)
GDP	\$1.87-2.34B	\$3.97-4.96B	0.5-0.6% of 2024 state GDP
Gross Output	\$4.07 to 5.09B	\$7.75-9.6B	7-8% of 2024 Agricultural Output
Personal Income	\$708-885M	\$2.29-2.86B	0.21-0.26% of 2024 Personal Income
Employment	5,500-6,900 jobs	11,800-14,700 jobs	0.21-0.28% of 2024 Total Employment, 3.8 -4.8% of 2024 Agriculture Employment

*Cumulative Statewide and Total U.S. Effect of AAM Aerial Applications (In 2024)*

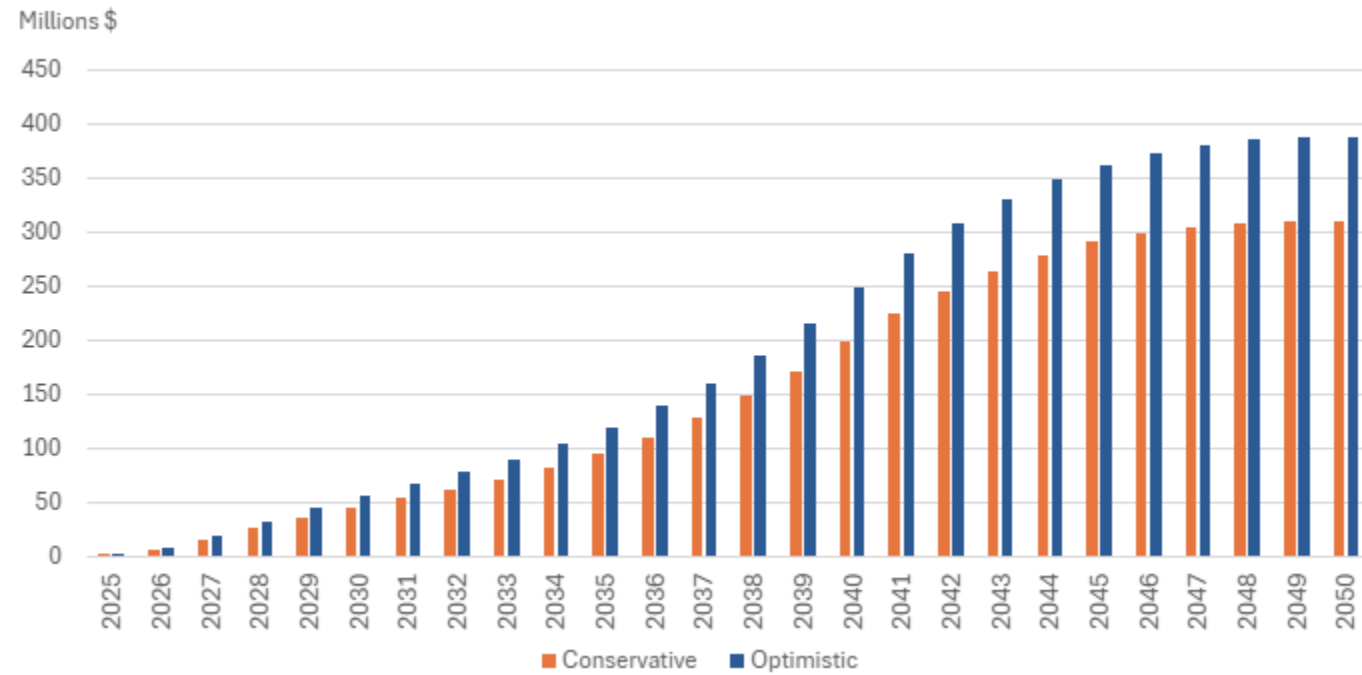
**AAM Aerial Application Annual Impact on GDP**



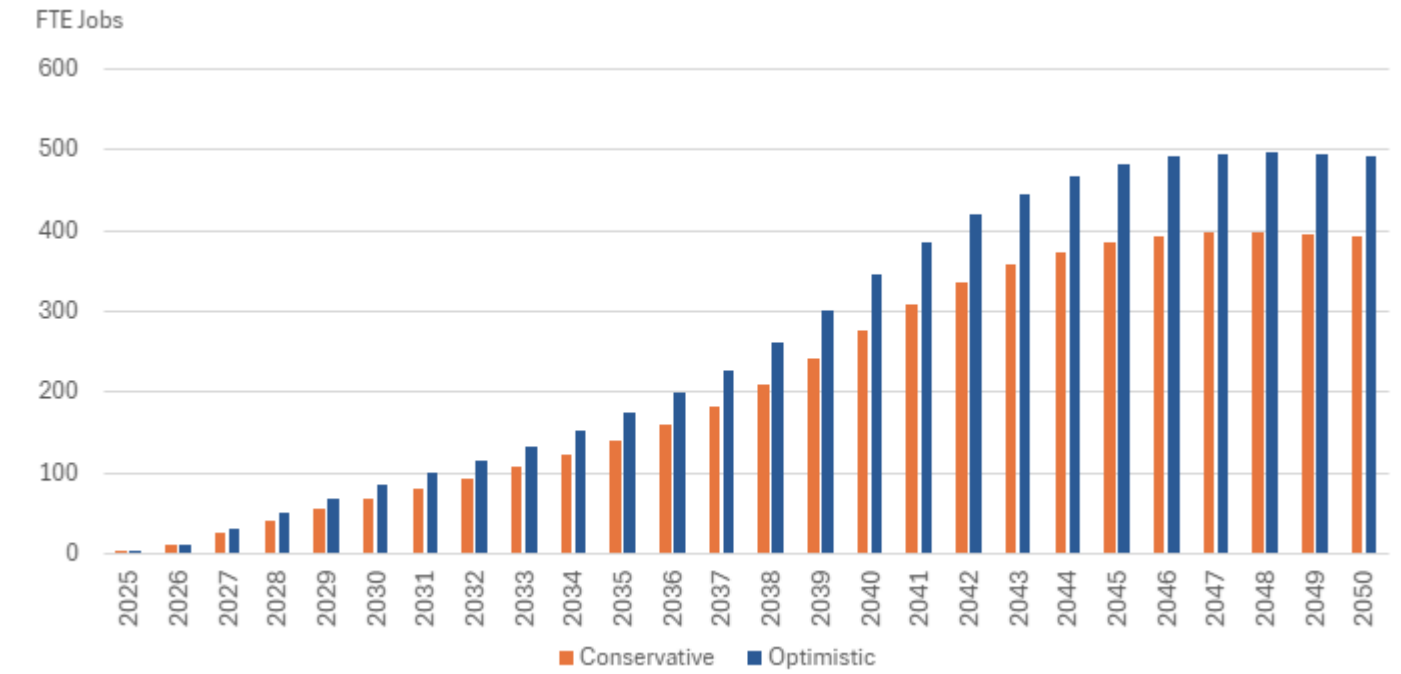
**AAM Aerial Application Annual Impact on Personal Income**



**AAM Aerial Application Annual Impact on Gross Output**



**AAM Aerial Application Annual Impact on Employment**



## AIR MEDICAL TRANSPORT

Air medical transport provides an essential service using helicopters or fixed-wing aircraft to rapidly transport patients, medical staff, and supplies to and from hospitals. These services are especially vital in rural areas of Kansas, where patient access to higher levels of medical care tends to be more limited due to long distances between facilities. Air medical transport typically includes emergency scene responses to emergencies or 9-1-1 calls, and *interfacility transport* for transferring patients (usually triaged in stable condition) and medical providers between hospitals.

**AAM can enhance Kansas public safety by avoiding ground traffic and reducing transport times.<sup>67</sup>**

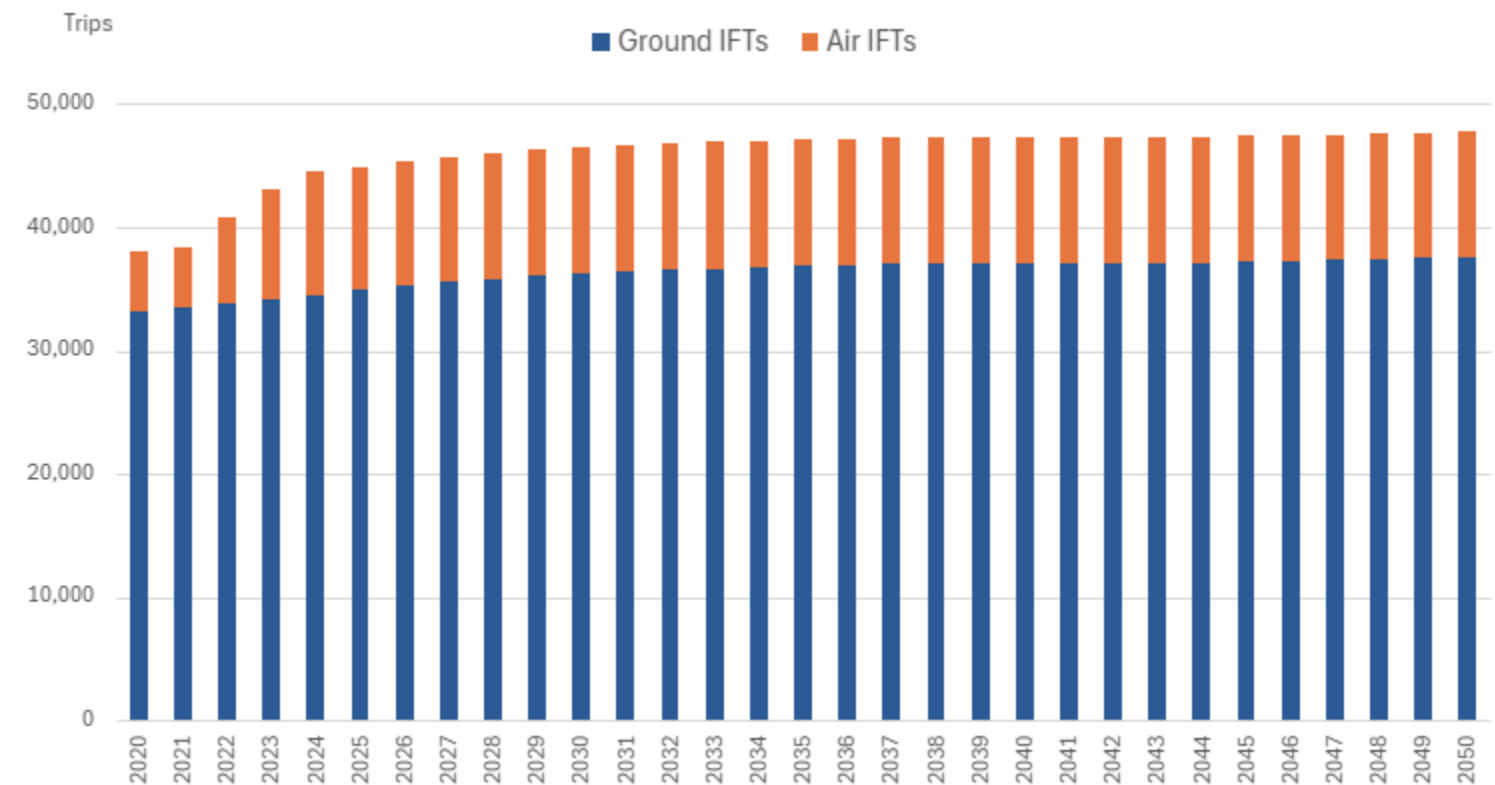
### Analysis Approach and Assumptions

Studies have found that the range and hovering limitations of AAM aircraft relative to helicopters make AAM aircraft more suitable for interfacility transport missions based on patient needs and overall feasibility.<sup>68 69</sup> In Kansas, interfacility transport is not statutorily required of ambulance services, and transport by private commercial emergency medical services (EMS) is common. For these reasons, this analysis focused on the demand of interfacility transports (IFTs) in Kansas and the efficiency gains AAM could provide given similar mission profiles and performance requirements.

The first step of the analysis was to understand the baseline level of IFTs in Kansas. Many factors determine the use of air versus ground IFTs. Data points were obtained from a study published by the Kansas Board of Emergency Medical Services (KBEMS) covering all IFTs (air and ground) in the state from 2020-21.<sup>70</sup> The study found that in Kansas, air IFT tends to be used more frequently for pediatric patients, stroke or respiratory-related incidents, severely ill and injured patients, and in rural areas.

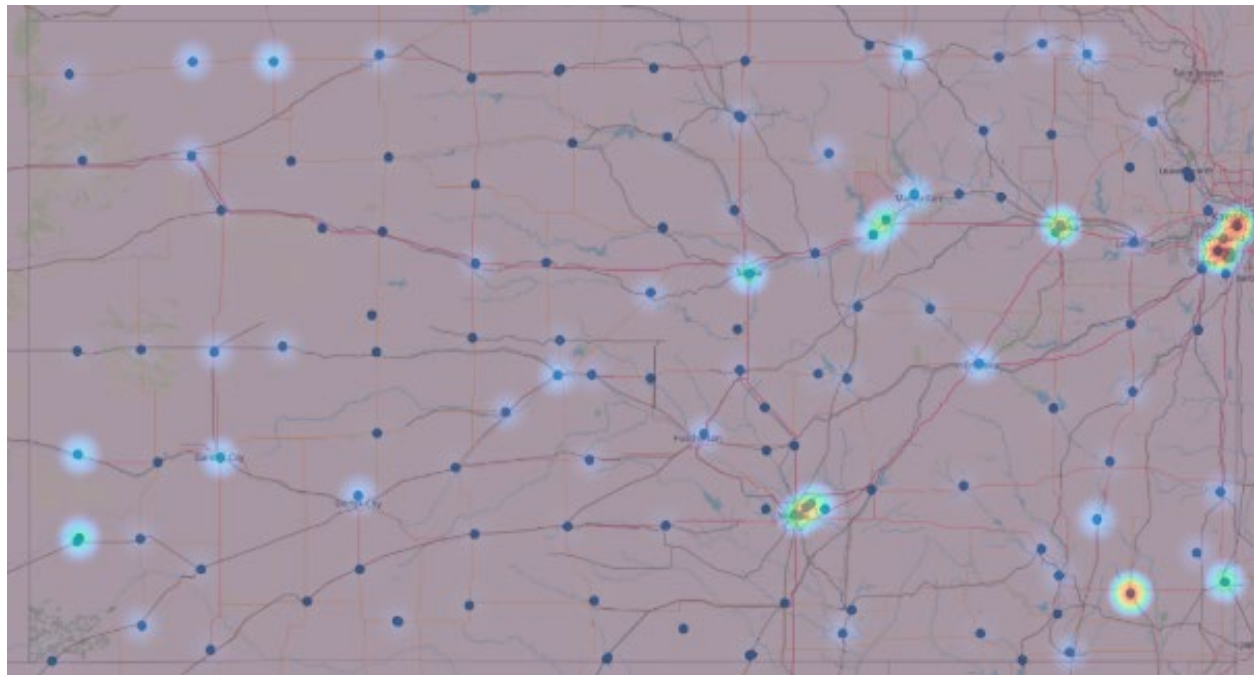
Using published data from the same KBEMS study, counts of air and ground IFTs by Kansas EMS region (each administrative region consists of a set of counties in Kansas), and by seven age groups (under 17, 18-24, 25-34, 35-44, 45-54, 55-64, and over 65), were derived. This step was crucial in determining the average incidence rates for air and ground IFTs across Kansas EMS regions and among various age groups, expressed in annual IFT flights and annual IFT car trips per thousand people of each age group. These incidence rates reflect the tendencies in some parts of Kansas to utilize more air ambulances versus ground ambulances. For instance, the Southwest EMS region accounted for 30.8 percent of all air IFTs but only 3.5 percent of all ground IFTs within Kansas over the same 2020-21 period.

Next, the analysis applied county-specific population forecasts out to 2050 for the seven age groups listed above, for all 105 counties in Kansas. These population forecasts, combined with the derived IFT incidence rates, led to the baseline (no AAM) forecasts of air and ground IFTs by county. *Historical and Projected Kansas Interfacility Transport Operations, 2020-2050* shows the aggregate Kansas statewide IFT demand projection from 2020 to 2050. The initial increase in air IFT trips in 2022 and 2023 reflects the tapering impact of COVID-19 pandemic on IFT demand. According to the Association of Air Medical Services, measures such as stay-at-home orders and social distancing led to a nearly 50 percent decline in patient transport volume during the peak of the COVID-19 pandemic (2020-2021).<sup>71</sup> From 2024 onwards, the projected air IFT demand, driven by population and demographic makeup among the Kansas EMS regions, remains relatively flat as no major population shifts are expected.



*Historical and Projected Kansas Interfacility Transport Operations, 2020-2050*

To assess AAM's suitability for IFT missions, this study analyzed over 3,000 historical IFT flight tracks in Kansas from 2023 and 2024. County-level metrics included average and median flight duration and distance, as well as the proportion of flights under or over 60 minutes. These metrics were used to assess suitability of missions given AAM performance limits. *Heatmap of CY2023 Air Ambulance Activities in Kansas* shows the sample of IFT flights from 2023.



Heatmap of CY2023 Air Ambulance Activities in Kansas

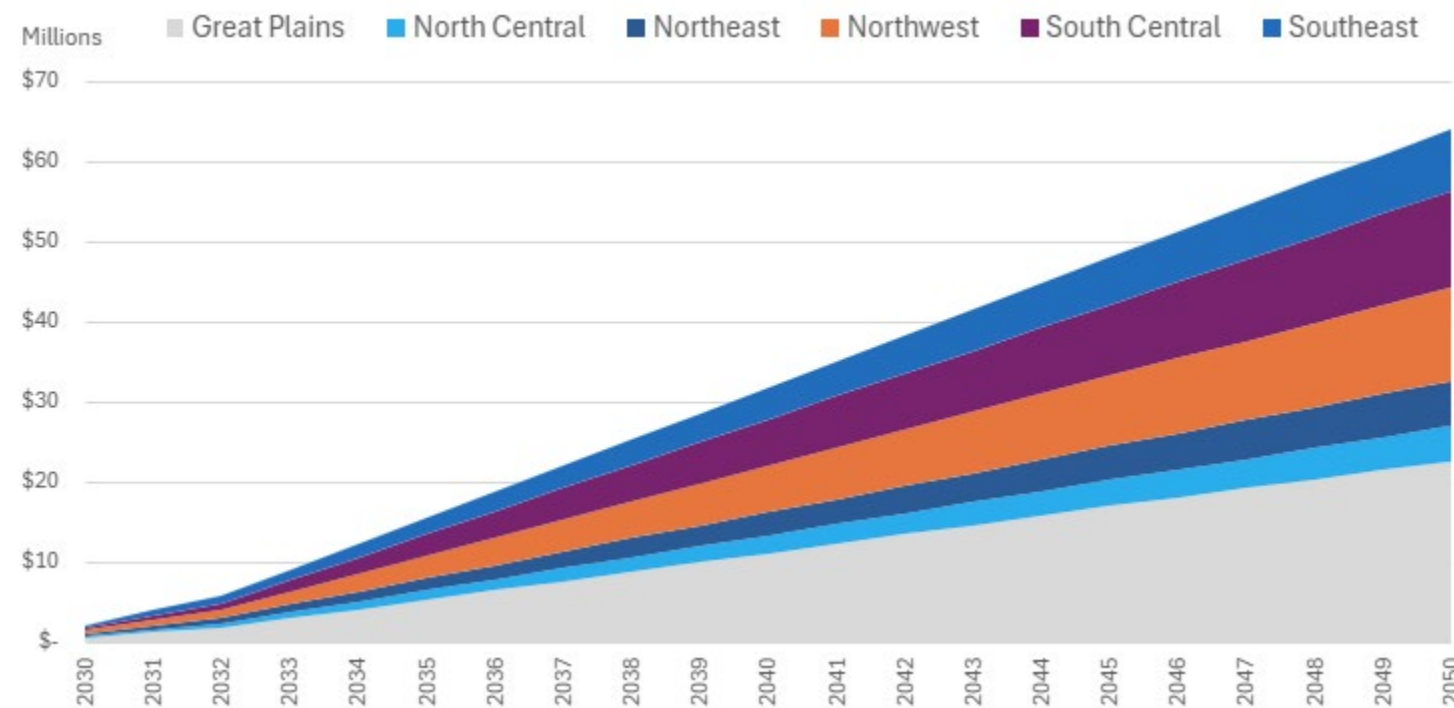
For the AAM scenario, representative aircraft types were selected to account for performance and operating cost. The first is an all-electric vertical takeoff and landing (eVTOL) aircraft, BETA ALIA A250. In November 2024, Metro Aviation, a large U.S.-based traditional air medical operator, placed a deposit-backed order for up to 20 BETA ALIA A250s and plans to integrate them into its existing network of air medical operations. Metro Aviation expects BETA ALIA A250 to bring “high reliability, low cost... [and] offer increased mobility and access to rural and urban geographies.”<sup>72</sup> The other representative AAM aircraft include BETA ALIA CX300, an all-electric conventional takeoff and landing (eCTOL) aircraft, and Electra EL9, a hybrid-electric short takeoff and landing (eSTOL) aircraft. The analysis assumed that, starting in 2030, eVTOL aircraft like BETA ALIA A250 would be considered a candidate to operate rotorcraft IFT flights that are 60 minutes or less, while the eCTOL/eSTOL aircraft types like BETA ALIA CX300 and Electra EL9 would be considered candidates to operate fixed-wing IFT flights given their superior ranges.

Based on these representative AAM aircraft and their expected entry-into-service timeframes (for example, Electra EL9 currently has 2029 as the target for entry-into-service<sup>73</sup>), along with the Kansas county-level historical IFT mission profiles and demand projections, the number of feasible AAM IFT missions in Kansas was estimated.

### Projected AAM Direct Impacts for Air Medical Interfacility Transports

Next, the direct operating costs associated with the baseline (no AAM) IFT demand scenario and the AAM IFT demand scenario were evaluated. For the cost model, parameters such as energy cost per flight hour and maintenance cost were obtained from industry sources, public information, and relevant air medical services studies prepared for the Association of Air Medical Services.<sup>74</sup>

For 2030, the direct benefit to the air medical transport operators in Kansas is projected to be around \$2 million per year. As eCTOL/eSTOL aircraft carry out more fixed-wing IFT missions, direct benefit increases to around \$3.2 million annually. *Projected AAM Interfacility Transport Cost Savings in Kansas by REMI Region* shows the estimated cumulative savings for 2030-50. By 2050, AAM is estimated to generate cumulative savings of over \$64 million for air medical IFT missions.



Projected AAM Interfacility Transport Cost Savings in Kansas by REMI Region

### Kansas Statewide Economic Impacts of AAM Air Medical Interfacility Transports

Estimated direct cost savings over 2030-50 were considered as a positive shock, to ambulatory health services sector in Kansas, which can induce economic benefits by potentially increasing demand and price reductions. The estimated ranges for cumulative 2030-50 statewide GDP, gross output, personal income, and employment impacts from induced benefits are shown in *Statewide Cumulative 2030-2050 Impacts-AAM Interfacility Transport Operations*.

Impact Category	Statewide Cumulative Impact (2030-2050)	Benchmark Contribution of Cumulative Impact to Kansas
GDP	\$109-131M	0.046-0.056% of 2024 State GDP
Gross Output	\$171-206M	-
Personal Income	\$130-156M	0.64-0.077% of 2024 Statewide Personal Income
Employment	800-1,000 jobs	0.054-0.067% of 2024 Statewide Employment

Statewide Cumulative 2030-2050 Impacts- AAM Interfacility Transport Operations

### Other Benefits: The Potential for AAM to Enhance Post-Crash Care in Kansas

This study also explored the potential for AAM to enhance post-crash care, which aligns with Kansas’s Drive to Zero initiative that aims to eliminate fatal and serious injury crashes on all public roads in Kansas. The objective for post-crash care, as defined by the U.S. DOT, is to “increase the survivability of serious crashes through expedient access to emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practices.”<sup>75</sup> The speed and accessibility advantages of AAM makes it a potential asset for agencies working toward that objective.

According to the U.S. DOT, 40 percent of the people who died in traffic crashes were alive when first responders arrived on scene.<sup>76</sup> This means it is crucial to minimize EMS response times to ensure medical intervention occurs within a critical time window – the “golden hour” – to significantly improve a victim’s chances of survival. However, this is very challenging for many rural areas where response times frequently exceed 60 minutes.

This study analyzed the 2023 Fatality Analysis Reporting Systems (FARS) data<sup>77</sup> from U.S. DOT National Highway Traffic Safety Administration, focusing on fatal traffic crashes in Kansas. Specifically, for each crash, the analysis measured:

1. Time from EMS notification to arrival at the crash scene, and
2. Time from EMS arrival to the hospital

These two times represent EMS response time metrics that AAM could improve. A third time interval, measured from crash occurrence to EMS notification, was not included as it is external to AAM transport.

The 2023 FARS data showed that in Kansas, the average time from EMS notification to arrival at the crash scene was 6 minutes for urban areas and 12 minutes for rural areas.<sup>78</sup> The average time from EMS arrival to the hospital was 28.3 minutes for urban areas and 42 minutes for rural areas. This means the time between EMS arrival at the crash scene and victim’s arrival to the hospital was on average 20 minutes higher for rural areas than urban areas. The significantly higher EMS response time for rural areas has likely contributed to higher fatalities as a share of the number of people involved in the crashes found in the data.

The analysis also found that several counties in Kansas had very high EMS response times on multiple occasions (i.e., they were not one-time anomalies), as shown in *Average EMS Response Times to Fatal Crashes Found in 2023 FARS Data for Select Kansas Counties*. All these events, located in Southeast Kansas, involved very high times from EMS arrival to the hospital. This may indicate the region’s lack of rapid access to specialized hospitals or trauma centers often required to treat victims of serious crashes that AAM may be able to address.

Kansas County	Average EMS Response Times in 2023 FARS Data	
	Time from EMS notification to arrival at the crash scene (minutes)	Time from EMS arrival to the hospital (minutes)
Linn	17.5	108
Woodson	7	123
Chautauqua	11.5	117
Crawford	10.7	110.5
Marion	7	91

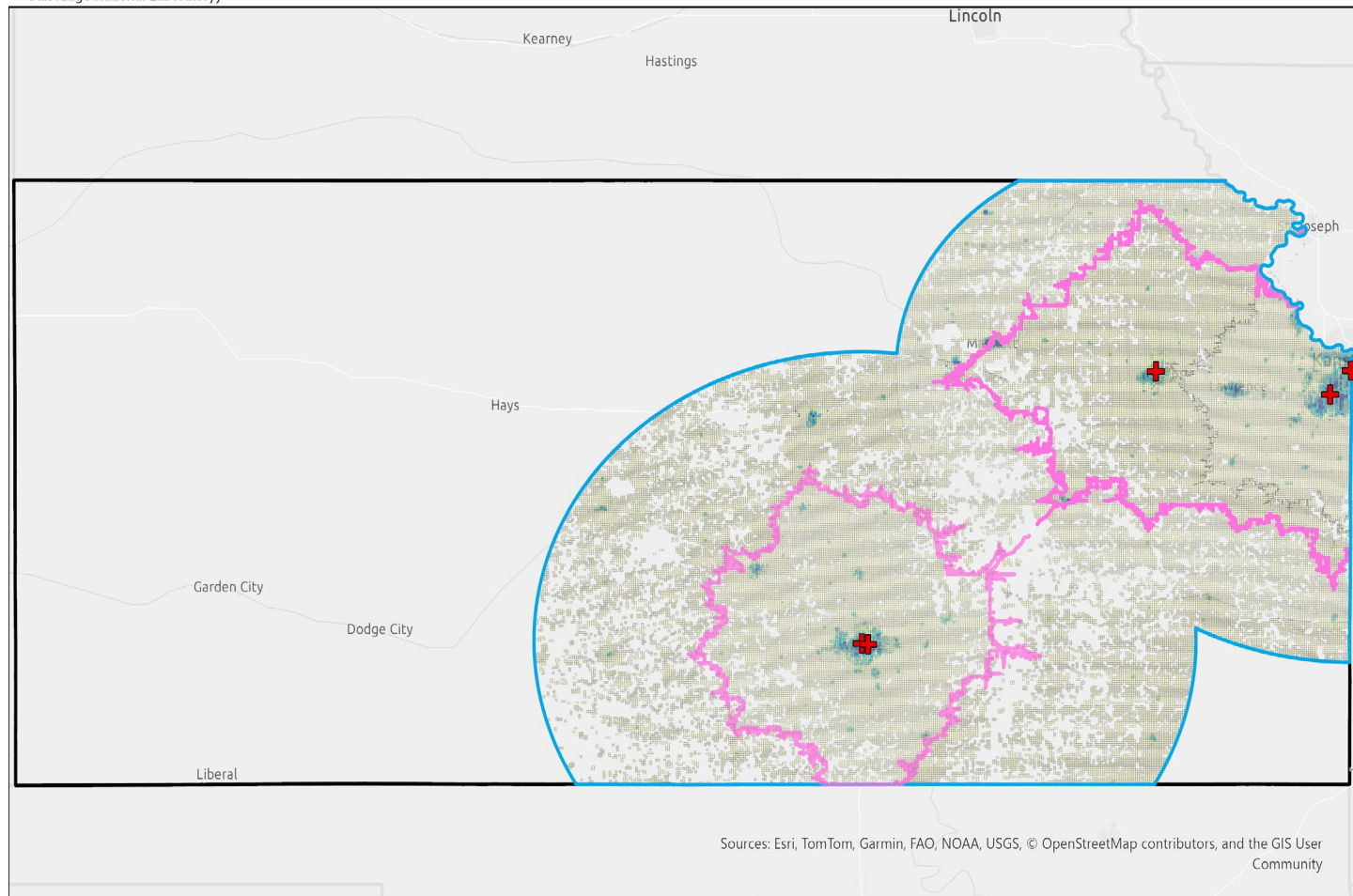
Average EMS Response Times to Fatal Crashes Found in 2023 FARS Data for Select Kansas Counties

A strategically placed AAM air ambulance base in Southeast Kansas could significantly reduce the transport time from scenes of serious crashes to Level 1 (L1) and Level 2 (L2) trauma centers in Wichita, Topeka, Kansas City, or Overland Park, thereby improving post-crash care patient outcomes. This study conducted an air ambulance vertiport feasibility analysis, described in Appendix 1, which identified several locations in Southeast Kansas as having high feasibility scores based on their proximity to pre-existing infrastructures that favor vertiport siting and EMS missions. For example, Chanute Martin Johnson Airport (CNU) is identified as a high feasibility AAM vertiport site and, according to the Emergency Transport Healthcare Operations and Safety database,<sup>79</sup> the airport currently has an air medical transport service with only one helicopter. AAM aircraft could be deployed at CNU to provide additional EMS support and improve response times for Linn, Woodson, Chautauqua, and Crawford counties included in *Average EMS Response Times to Fatal Crashes Found in 2023 FARS Data for Select Kansas Counties*.

In addition to EMS response to serious or fatal crashes, AAM will enhance the reach of trauma centers in the state by enabling more Kansans to be treated within the “golden hour” for severe, life-threatening injuries. A geospatial analysis of trauma centers in Kansas, population distribution, and drive times (*Population Outside of 60-minute Drive and Within AAM Range to L1 and L2 Trauma Centers in Kansas*) found that 286,000 additional Kansans could gain access to L1 or L2 trauma centers within an hour with access to AAM using limited infrastructure development. Hays Regional Airport (HYS), identified as a high feasibility AAM vertiport site, could be used to support expanded AAM EMS missions in North Central and Northwestern Kansas with additional infrastructure development. Ultimately, this expanded service has the potential to reduce the transit time for people that need rapid access to specialty hospitals or trauma centers in Topeka, Wichita, or other parts of the state. This represents a significant improvement to the quality of life for Kansans and potentially many more lives saved.

Total population within 60 minute drive of Level 1 Trauma Center: 398,354  
 Total population outside 60 minute drive of Level 1 Trauma Center but within 100 mile flight range: 119,166  
 Total population within 60 minute drive of Level 2 Trauma Center: 299,906  
 Total population outside 60 minute drive of Level 2 Trauma Center but within 100 mile flight range: 183,671  
 Total population within 60 minute drive of Level 1 or 2 Trauma Center: 470,534  
 Total population outside 60 minute drive of Level 1 or 2 Trauma Center but within 100 mile flight range: 285,852  
 (Population data via Landscan Global 2020, Oak Ridge National Laboratory)

**Population in 100 mile flight range vs. 60 min driving range from Level 1 and 2 Trauma Centers**



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

*Population Outside of 60-minute Drive and Within AAM Range to L1 and L2 Trauma Centers in Kansas*

## CARGO TRANSPORT

Cargo transport is a key pillar supporting Kansas’s economy due to the state’s central location in the U.S., its strong agricultural and manufacturing industries, and its significant role in the national and global supply chain. The advent of AAM has the potential to transform cargo transport by boosting supply chain efficiency, improving accessibility, and promoting sustainability.

### Analysis Approach and Assumptions

The AAM cargo transport market analysis evaluated the potential benefits of AAM adoption for two types of cargo transport in Kansas:

- 1. Middle-Mile Delivery**, referring to cargo transport between major distribution centers and fulfillment centers
- 2. Air Cargo Feeder Operations** between cargo hub airports and smaller airports

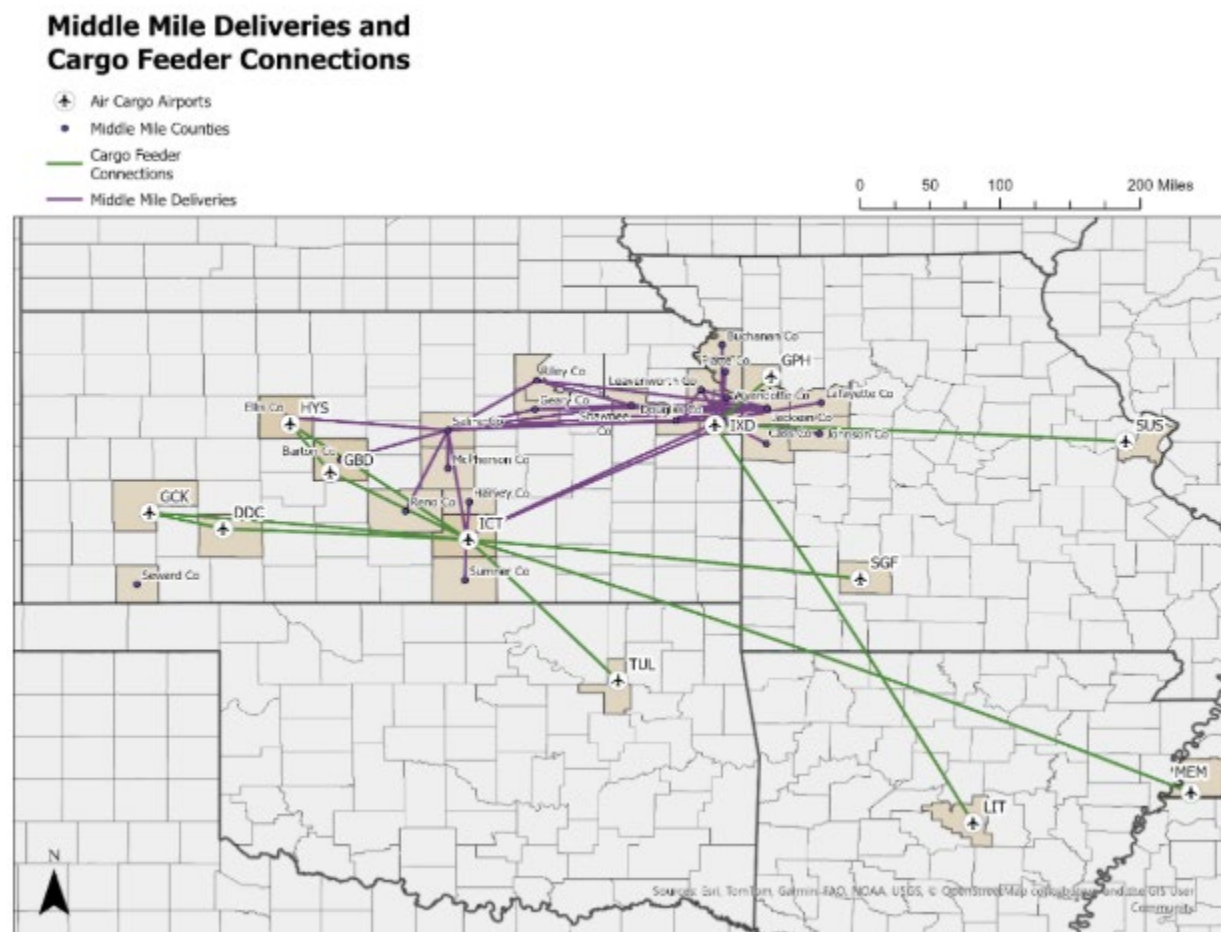
Two representative AAM aircraft types were chosen for the purpose of the cargo analysis: BETA ALIA A250 eVTOL and Cessna 208B Caravan (retrofitted with automated flight control systems). The BETA ALIA A250 has a capacity of 1,400 pounds of cargo and an operational range of 250 miles.<sup>80</sup> The Cessna 208B Caravan has a capacity of around 3,500 pounds of cargo and an operational range over 750 miles. Both aircraft are expected to transition from piloted to remotely piloted or autonomous operations over time.

Demand for AAM cargo transport is likely to also follow an S-shaped curve starting with operational testing/evaluation and lower level of AAM adoption initially from 2028 to 2030. With successful launch operations, a period of rapid growth in commercial piloted AAM cargo transport could occur in the 2031-2040 timeframe, during which gradual adoption of autonomous flight systems is also expected. As the AAM market continues to mature, after 2040 there could be wide adoption of autonomous or highly automated AAM aircraft for cargo transport. The AAM scenario also assumed that potential constraints such as airspace capacity, spectrum availability, and regulatory constraints will be mitigated along those timeframes.

Using data from the U.S. DOT’s Freight Analysis Framework (FAF) version 5.6, the analysis began by identifying commodities with the highest value-to-weight ratios: electronics, pharmaceuticals, precision instruments, transport equipment, textiles and leather. FAF’s latest baseline 2017 annual transport volumes for these high-value commodities were estimated for the three FAF-designated Kansas regions initially and then allocated to the county level using a disaggregation method driven by county-specific demographic and socioeconomic data. Following this, forecasts of freight demand for 2028, 2035, and 2050 were derived using FAF’s baseline economic growth projections for both cargo-transport types:

**Middle-Mile Delivery:** the analysis focused on inter-county and intra-county trips of less than 250 miles (based on the expected range of BETA ALIA A250) as well as out-of-state counties within ~115 miles from select Kansas counties. Only counties with notable cargo distribution centers or fulfillment centers, according to the Kansas Department of Commerce and MITRE-curated data, were included as origin-destination (OD) pairs in the study.<sup>81</sup> The analysis considered 25 percent of the high-value commodities as time-sensitive express freight that necessitate same-day transport (next flight or truck out). These shipments represented the daily AAM cargo transport demand, measured in pounds of cargo by OD pair.

**Air Cargo Feeder Operations:** data was sourced from the Bureau of Transportation Statistics T-100 Domestic Segment dataset<sup>82</sup> and the FAA Traffic Flow Management System. While the combined dataset summarizes total air cargo volumes, it lacks detail on specific commodities and future trends. To fill this gap, commodity-level estimates were developed using historical data and FAF forecasts. These projections highlight AAM's potential role in air cargo logistics, driven by shipping demand and carrier business models. The analysis calculated air cargo tonnage between OD airport pairs in the data and applied commodity distribution factors to estimate commodity-specific air cargo demand. *Potential Kansas AAM Middle-Mile Delivery and Air Cargo Feeder Network* shows the potential locations and routes evaluated for AAM cargo transport in Kansas for middle-mile delivery and air cargo feeder operations.

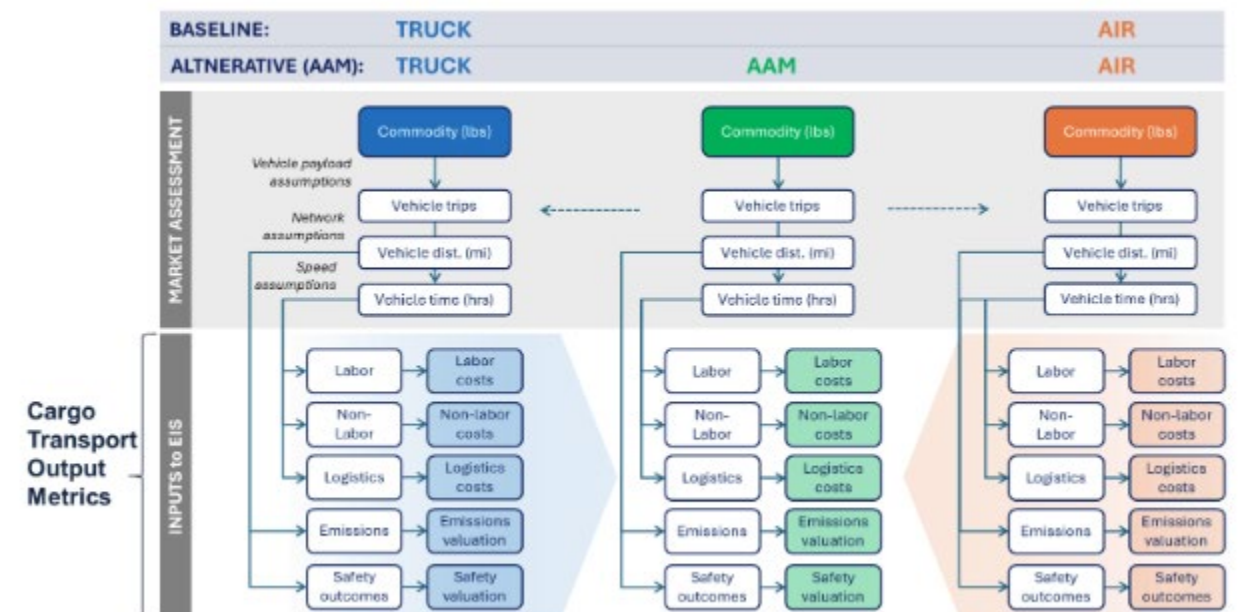


Potential Kansas AAM Middle-Mile Delivery and Air Cargo Feeder Network

The impact of AAM cargo transport was estimated first via identifying locations and routes for which utilization of AAM aircraft would likely result in operational cost savings, factoring in value of time and value of reliability improvements. This step involved allocating a mix of truck and AAM trips (for middle-mile delivery routes) or a mix of legacy cargo aircraft and AAM trips (for cargo feeder airport pairs) to serve the projected freight demand of high-value commodities.

The analysis also considered the potential number of AAM aircraft and block hours available for cargo transport throughout the timeframes in the AAM scenario. Currently, BETA Technologies has a backlog of hundreds of aircraft from customers including UPS, Bristow Group, LCI, and other cargo delivery providers.<sup>83 84 85</sup> Other AAM aircraft manufacturers, including Pipistrel and Elroy Air, also have multiple orders for their AAM cargo aircraft.<sup>86 87</sup> For this analysis, given the broad footprint of the interested AAM operators and with many other U.S. states also planning for AAM, it was assumed conservatively that 5 percent of the projected cargo AAM aircraft deliveries in the U.S. will be operated in Kansas, and each aircraft has eight to ten block hours available daily for cargo transport. As additional AAM aircraft deliveries lead to more available block hours, more cargo transport trips can occur with AAM. In each year, the limited number of available block hours were prioritized on routes with the greater expected cost savings.

Comparisons of transport times and costs were performed for the baseline (no AAM) and the alternative (with AAM) scenarios, as shown in *Approach for Estimating AAM Cargo Applicable Transport Savings*. AAM cargo transport costs were estimated using unit operating cost factors obtained from prior research<sup>88</sup> and cost parameters for truck and air cargo modes were derived from industry reports and historical data. In total, the market analysis captured AAM cargo transport benefits from operating cost savings (labor, non-labor, and logistics costs that account for VOT and VOR), emissions reduction, and improved safety outcomes (i.e., reduced trucking accidents and their impacts).



Approach for Estimating AAM Cargo Applicable Transport Savings

To estimate AAM’s economic impact, key cost changes—like labor, fuel, emissions, logistics, and safety—were used to create region- and sector-specific inputs for the REMI model.<sup>89 90 91</sup>

These cost changes were matched to relevant industries using a mapping between freight categories and NAICS sectors. The analysis focused on time-sensitive express cargo, allocated cost savings based on local industry size, and distributed impacts proportionally by sector output. For trips crossing state lines, benefits were split equally between Kansas and the other regions involved.

### Projected AAM Direct Impacts

This analysis finds that use of AAM for middle-mile deliveries along with trucks (versus using trucks alone) could lead to operating cost savings of \$4.7 to \$5.5 million per year in the 2028-2030 timeframe. The annual operating cost savings are projected to grow to \$7.8 million by 2040 and \$10.2 million by 2050. In addition, use of AAM on cargo feeder routes along with legacy aircraft (versus using legacy aircraft alone) could lead to further operating cost savings between \$2.7 to \$3.1 million per year by 2050. Overall, AAM cargo transport is expected to provide over \$10 million per year in direct operating cost savings for shippers in Kansas by 2040 and over \$13 million in annual savings by 2050.

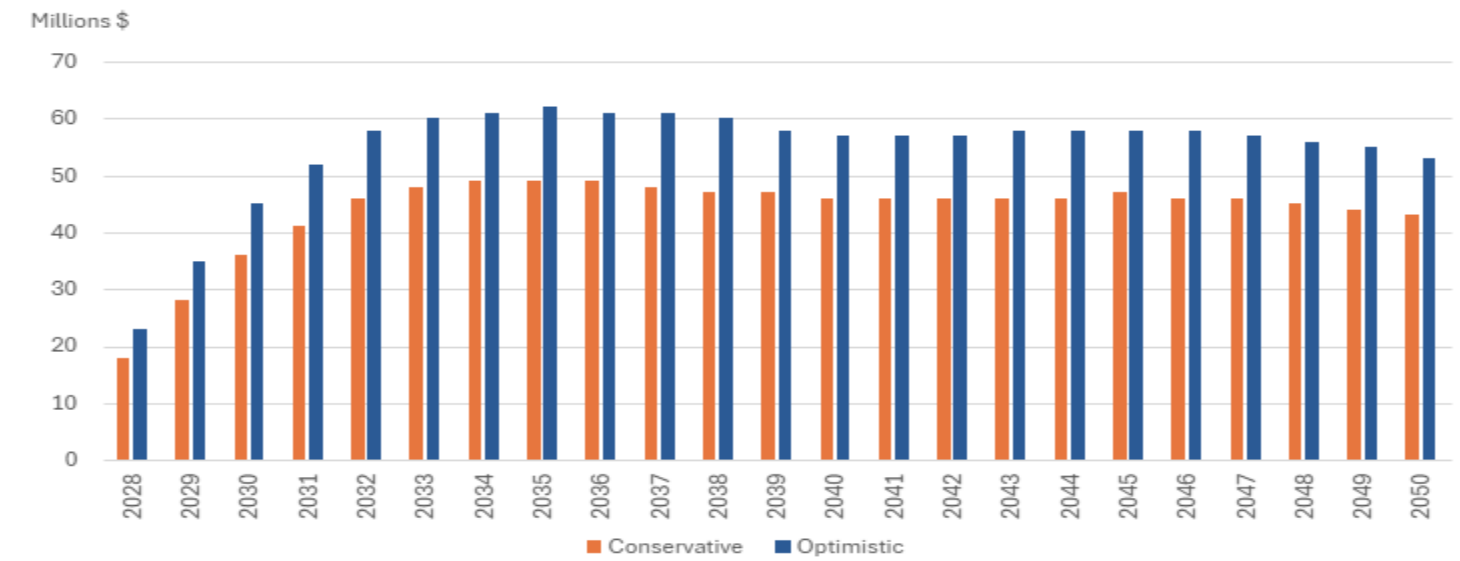
These results are conservative, reflecting only transport demand for select high-value commodities on existing routes and near current distribution or fulfillment centers. Beyond cost savings, AAM can improve cargo access in rural and tribal areas by offering faster, more direct delivery where ground transport is limited or costly. Communities like the Prairie Band Potawatomi Nation and the Kickapoo Tribe could benefit from quicker access to essential goods, supporting economic development and job opportunities.

### Kansas Statewide Economic Impacts of AAM Cargo Transport

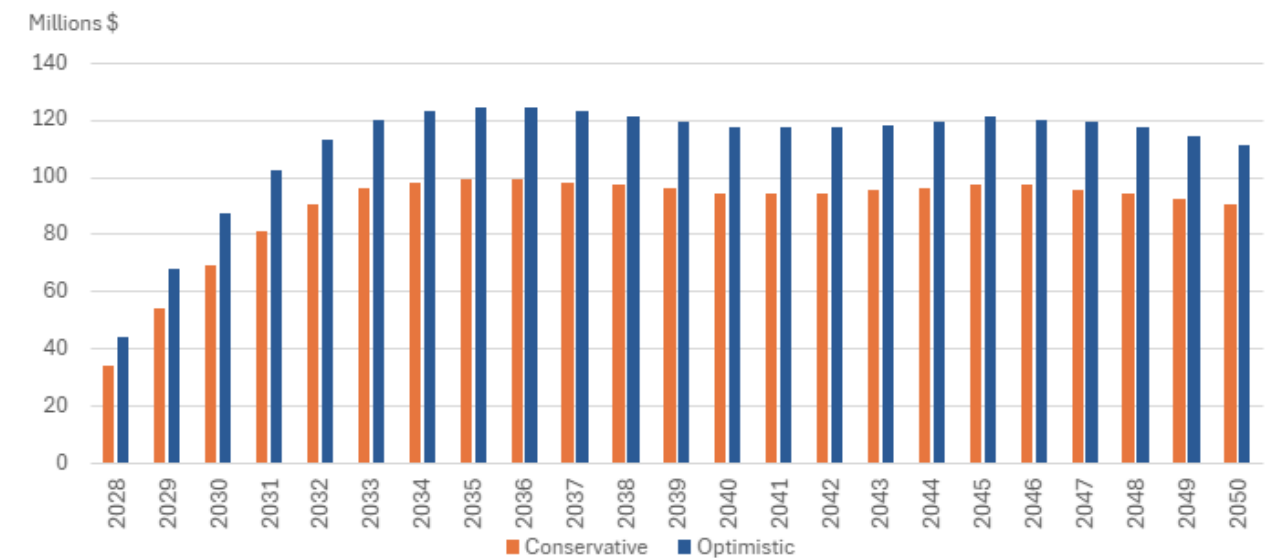
The estimated ranges for cumulative 2028-2050 Kansas statewide GDP, gross output, personal income, and employment impacts from AAM cargo transport induced benefits are summarized in Kansas Statewide Distribution of Economic Impacts (In 2024\$). Annual economic impacts are shown in AAM Cargo Transport Annual GDP Impact; AAM Cargo Transport Annual Gross Output Impact; AAM Cargo Transport Annual Personal Income Impact; and the AAM Cargo Transport Annual Employment Impact figures. Most of the impacts are concentrated in the MARC/Mokan and South Central Kansas regions. The ranges capture conservative and optimistic assumptions about AAM adoption rate and cost savings for the commodities transported. In addition, assumptions related to increased autonomy of cargo transport in later forecast years led to slightly reduced annual employment and other economic impacts.

Impact Category	Statewide Cumulative Impact (2028-2050)	Benchmark Contribution of Cumulative Impact to Kansas
GDP	\$1.-1.26B	0.43-0.54% of 2024 State GDP
Gross Output	\$2.05-2.56B	-
Personal Income	\$1.01-1.27B	0.5-0.63% of 2024 Statewide Personal Income
Employment	8,200 to 10,200 jobs	0.55-0.68% of 2024 Statewide Employment

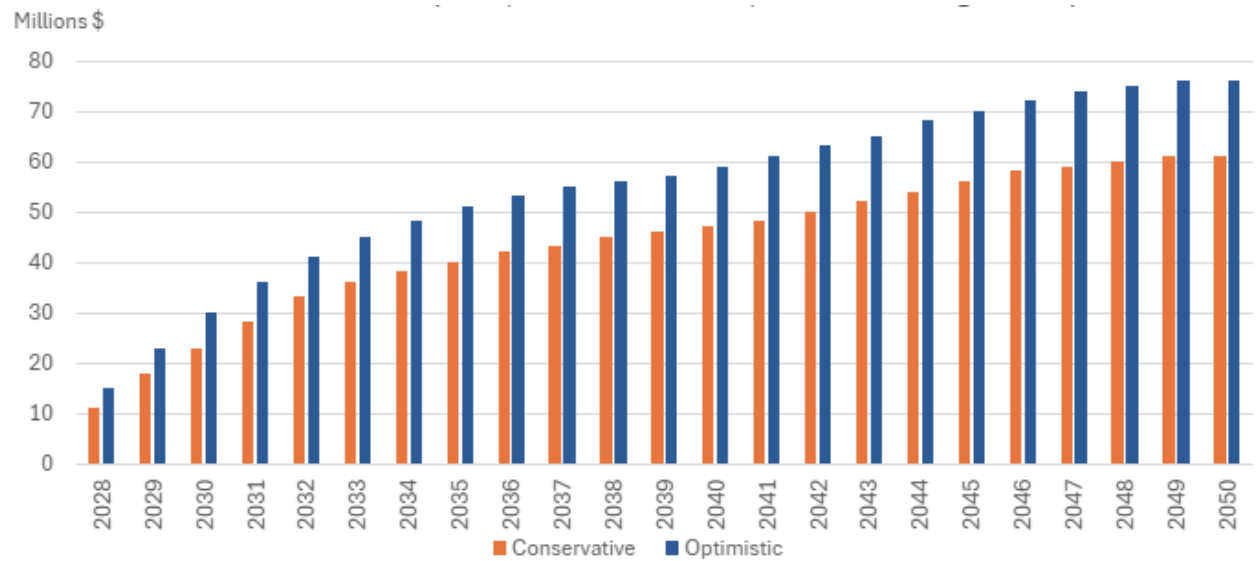
Kansas Statewide Distribution of Economic Impacts (In 2024\$)



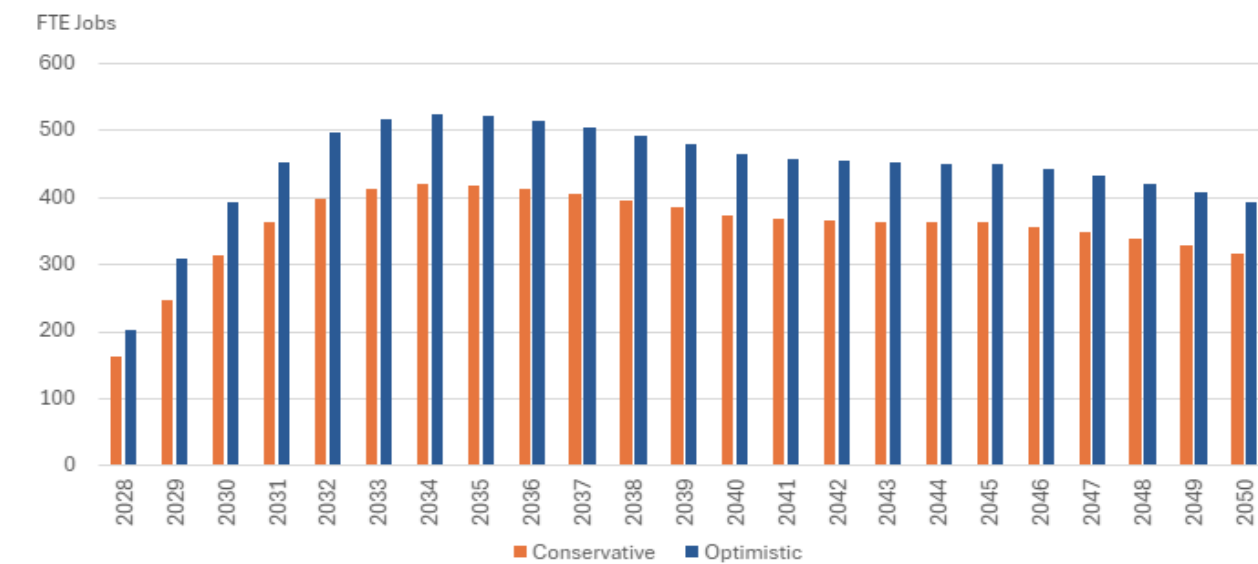
AAM Cargo Transport Annual GDP Impact



AAM Cargo Transport Annual Gross Output Impact



AAM Cargo Transport Annual Personal Income Impact



AAM Cargo Transport Annual Employment Impact

## PASSENGER TRANSPORT

Kansas is well-positioned to leverage AAM for regional air mobility (RAM) passenger transport due to its vast areas, large existing airport system, and large rural population. AAM will provide Kansans with better access to services, jobs, and economic opportunities by improving mobility and connectivity between communities in rural and urban areas.

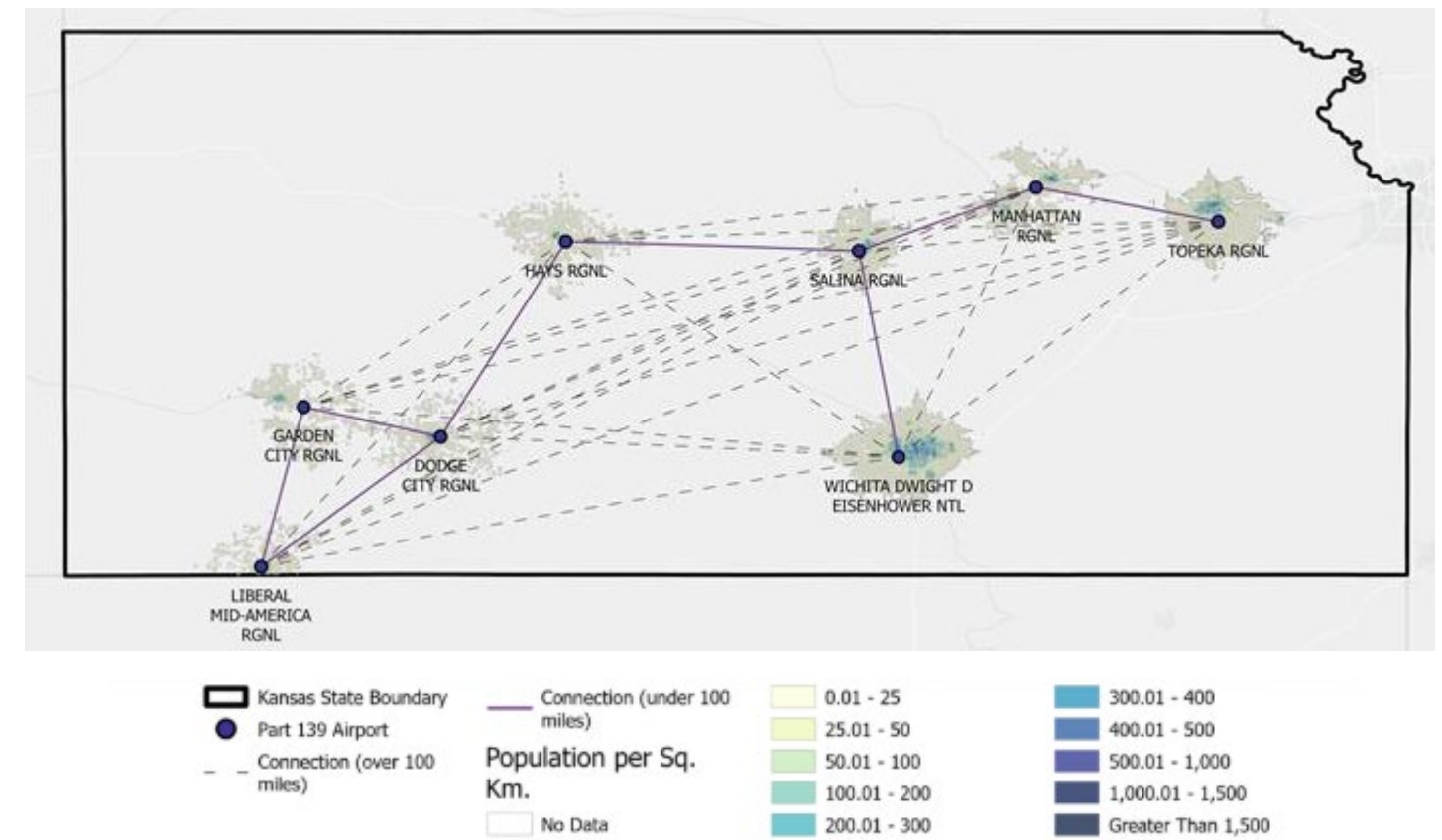
In addition, a RAM passenger transport network in Kansas is expected to enhance regional connectivity with neighboring states. For example, RAM passenger transport in Kansas could be extended as airport shuttles to Kansas City International Airport (MCI) from both New Century Air Center (IXD) and Charles B. Wheeler Downtown (MKC), enabling passenger mobility far beyond Kansas.

## Analysis Approach and Assumptions

The analysis assumed initial operations will leverage a network with the eight airports in Kansas currently holding Part 139 airport operating certificates:

- Wichita Dwight D. Eisenhower National Airport (ICT)
- Topeka Regional Airport (FOE)
- Manhattan Regional Airport (MHK)
- Garden City Regional Airport (GCK)
- Dodge City Regional Airport (DDC)
- Hays Regional Airport (HYS)
- Salina Regional Airport (SLN)
- Liberal Mid-America Regional Airport (LBL)

These airports already have scheduled and unscheduled air carrier operations and are best equipped for the rollout of AAM passenger services. Based on current plans and projections from AAM OEMs and operators, the timeframe for initial AAM passenger transport was assumed to be after 2030. It was also assumed initial services would include non-stop segments up to 100 miles. This initial network (*Potential Initial AAM Passenger Transport Network in Kansas*) will be accessible to over 224,000 residents (eight percent of the total population in Kansas) within a 30-minute drive.

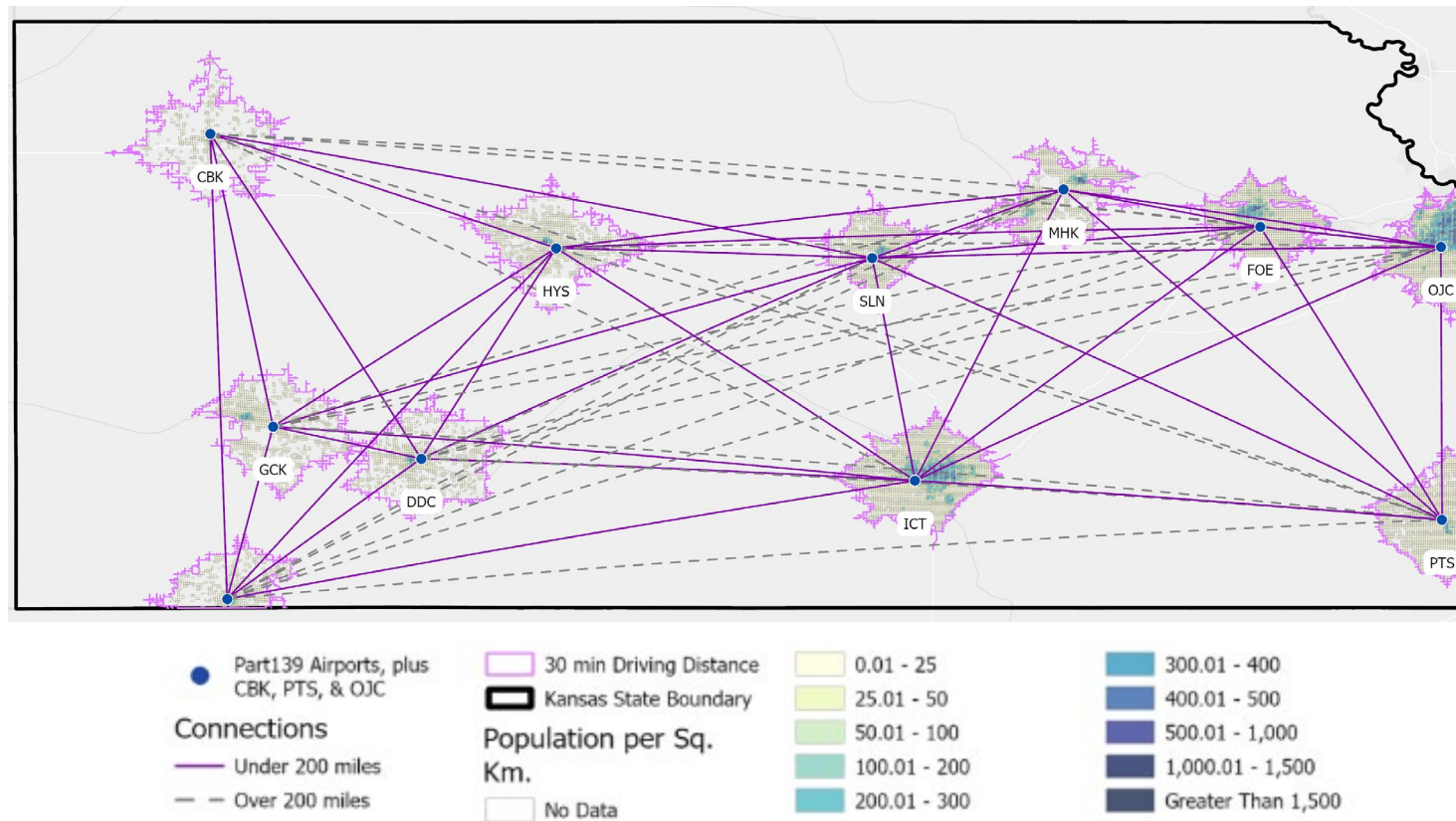


Potential Initial AAM Passenger Transport Network in Kansas

An expanded network, shown in Potential Expanded AAM Passenger Transport Network in Kansas, adds three additional airports:

- Johnson County Executive Airport (OJC)<sup>92</sup>
- Colby Municipal Airport (CBK)
- Atkinson Municipal Airport (PTS)

This expanded network reflects a longer-term, post-2035 scenario with higher AAM market maturity and adoption. This scenario assumed the three additional airports will have obtained necessary infrastructure upgrades and certification, and the expanded services will include non-stop segments up to 200 miles. This expanded network will be accessible to over 380,000 residents (13 percent of the total population in Kansas) within a 30-minute drive.



Potential Expanded AAM Passenger Transport Network in Kansas

Three types of representative AAM aircraft were considered for this analysis:

1. **BETA CX300**, an eCTOL with seating capacity for four passengers plus the pilot, operational range of approximately 336 nautical miles, and a cruising speed of around 155 miles per hour (mph).
2. **Archer Midnight**, an eVTOL with seating capacity for four passengers plus the pilot, operational range of approximately 100 nautical miles and a cruising speed of 150 mph.
3. **Electra EL9**, an eSTOL with seating capacity for nine passengers, an operational range exceeding 1,000 nautical miles, and a cruising speed of approximately 200 mph.

AAM aircraft and occupancy assumptions vary based on trip distance. For trips up to 100 nautical miles, the average occupancy was assumed to be 2.4 passengers per trip (i.e., 60 percent average load on four-seater aircraft). For trips between 100 and 200 nautical miles, the average occupancy was assumed to be 5.4 passengers per trip (i.e., 60 percent average load on nine-seater aircraft).

Baseline demand was established using the 2022 interzonal travel demand data from the Federal Highway Administration Next-Generation National Household Travel Survey (NextGen NHTS) dataset for Kansas.<sup>93</sup> This dataset provides annual vehicle trips between NextGen NHTS-defined zones, offering a high-level view of interregional vehicle travel across Kansas. These trip flows served as the foundation for understanding passenger movement patterns and the potential for AAM passenger transport.

For the analysis, Kansas's population was segmented into low, medium, and high-income groups using data from the American Community Survey B19001 data series.<sup>94</sup> Income shares for each census block group were computed to represent the socioeconomic makeup of regions. This segmentation allowed the analysis to account for the diverse economic profiles of Kansas residents which influence travel preferences and mode choice.

To spatially distribute trip flows, each census block group was mapped to a NextGen NHTS travel zone. Airport catchment areas, determined by a 30-minute driving radius, were overlaid onto these travel zones to calculate allocation factors. These factors represented the share of a zone's population located within each airport catchment area and were utilized to assign trip flows between NextGen zone pairs to corresponding airport pairs.

Next, transport mode choice modeling was applied using an existing multinomial logit (MNL) model designed to estimate the distribution of trips across passenger car, taxi/rideshare, public transit, and AAM. The utility function for each mode was defined based on in-vehicle travel time, out-of-vehicle travel time, trip cost, and a mode-specific intercept. Coefficients for these variables were derived from the MNL model and calibrated to reflect assumed regional travel characteristics (i.e., preference on passenger car and AAM for long-distance travel), allowing for the estimates of mode choice probabilities.

Trip volumes were first projected from 2022 (base year for the NextGen NHTS data) through 2050 using a one percent annual growth rate to build a baseline (no AAM) scenario. For the AAM scenario, initial demand was estimated using results of the mode choice model, then AAM trip volumes were forecasted based on anticipated adoption and expansion of AAM services. In lieu of airport capacity modeling and air traffic analysis outside the scope of this analysis, trip volumes were limited to a maximum of 25 trips per day for each OD pair.

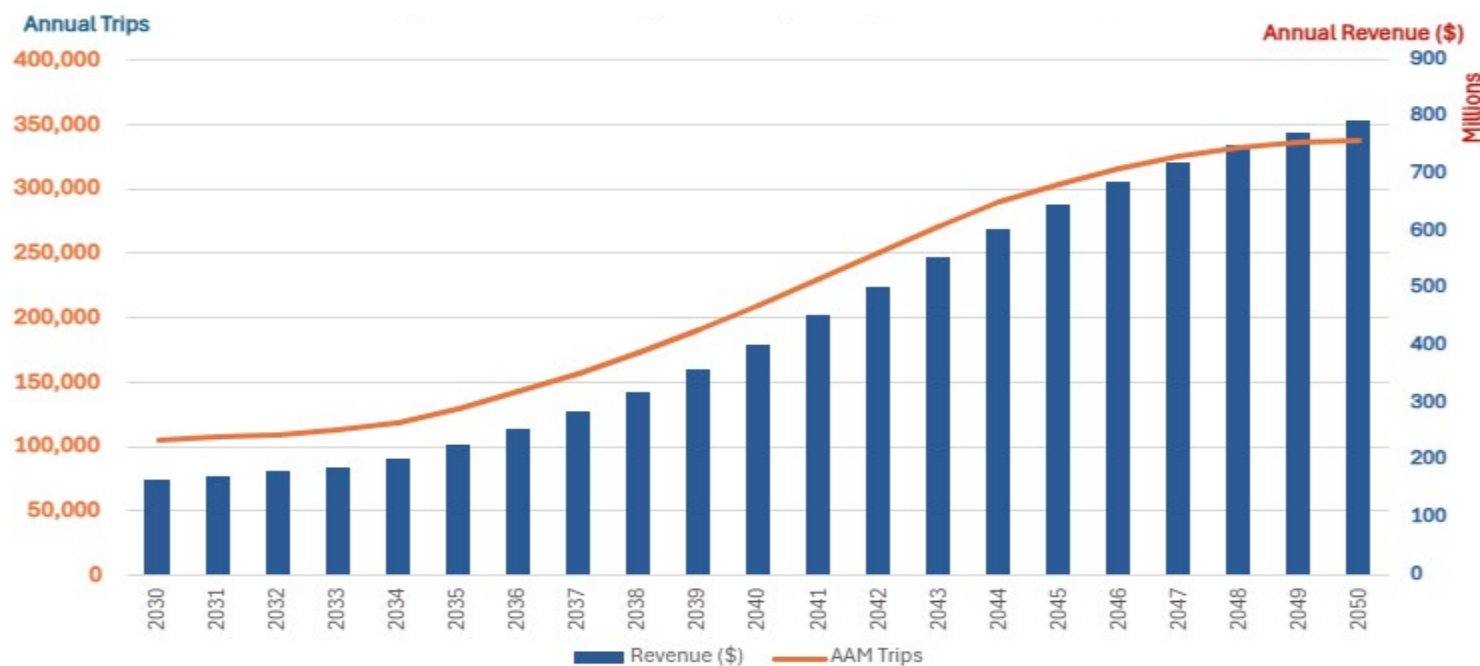
Based on the projected AAM trip volumes, potential revenues were estimated using the formula:

$$\text{Revenue (\$)} = \text{Trips} * \text{Occupancy (passengers per trip)} * \text{Distance (miles)} * \text{Fare (\$ per seat mile)}$$

The fares used in the revenue calculations are based on ranges reported in OEMs<sup>95</sup> and decrease over time, reflecting economies of scale and growing maturity in AAM passenger transport.

### Projected AAM Direct Impacts

*Kansas AAM Regional Passenger Trip and Revenue Projections* illustrates the projected growth in AAM passenger trips and associated revenues for Kansas from 2030 to 2050. For the initial years (i.e., 2030-2034 timeframe), AAM trips and revenues are expected to remain modest due to the initial service rollout and low adoption. The expanded network – with the inclusion of Johnson County Executive Airport serving the populous Kansas City area, more OD pairs (up to 200 miles) and higher AAM adoption – is expected to lead to substantially higher AAM passenger trips and revenues after 2035. Although the annual number of AAM trips is projected to increase over time, revenues are expected to grow at a slower pace due to a simultaneous decline in average fares. Furthermore, the tapering growth in AAM trips portrays a maturing market by 2050. By 2050, the projected number of AAM passenger trips could reach 339,000 per year among 70 different OD pairs in the expanded Kansas AAM passenger transport network. The number of AAM trips would represent about 0.55 percent of 61.5 million car trips projected for the same OD pairs.



*Kansas AAM Regional Passenger Trip and Revenue Projections*

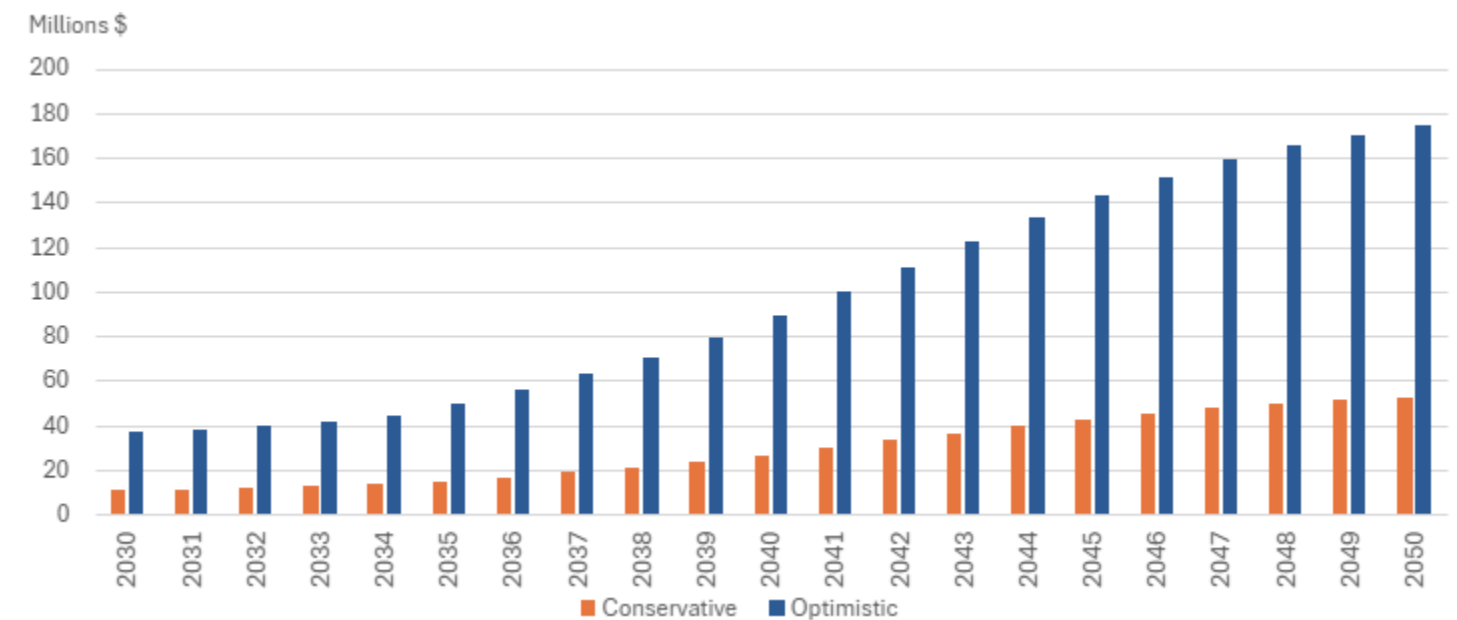
### Kansas Statewide Economic Impacts of AAM Passenger Transport

Direct economic impacts of AAM passenger transport were estimated for both optimistic and conservative scenarios. The conservative case accounts for slower adoption and economic leakages to other regional sectors outside the state. As shown in *Statewide Cumulative Impact - Passenger Air Mobility*, cumulative GDP impact ranges from \$611 million to \$2.04 billion statewide, gross output impact ranges from \$1.03 billion to \$3.43 billion, personal income impact ranges from \$2.24 billion to \$7.46 billion, and employment impact ranges from 4,700 to 15,700 jobs created.

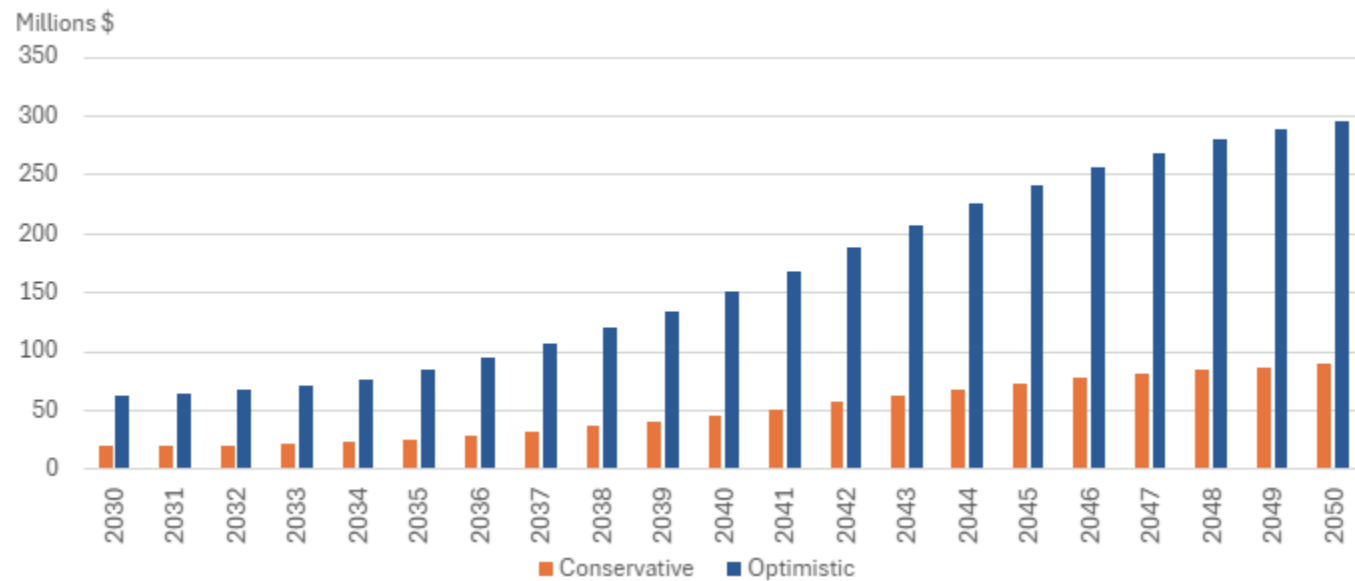
Impact Category	Statewide Cumulative Impact (2030-2050)	Benchmark Contribution of Cumulative Impact to Kansas
GDP	\$611M-2.04B	0.26-0.87% of 2024 State GDP
Gross Output	\$1.03-3.43B	-
Personal Income	\$2.24-7.46B	1.11-3.69% of 2024 Statewide Personal Income
Employment	4,700-15,700 jobs	0.31-1.05% of 2024 Statewide Employment

*Statewide Cumulative Impact - Passenger Air Mobility*

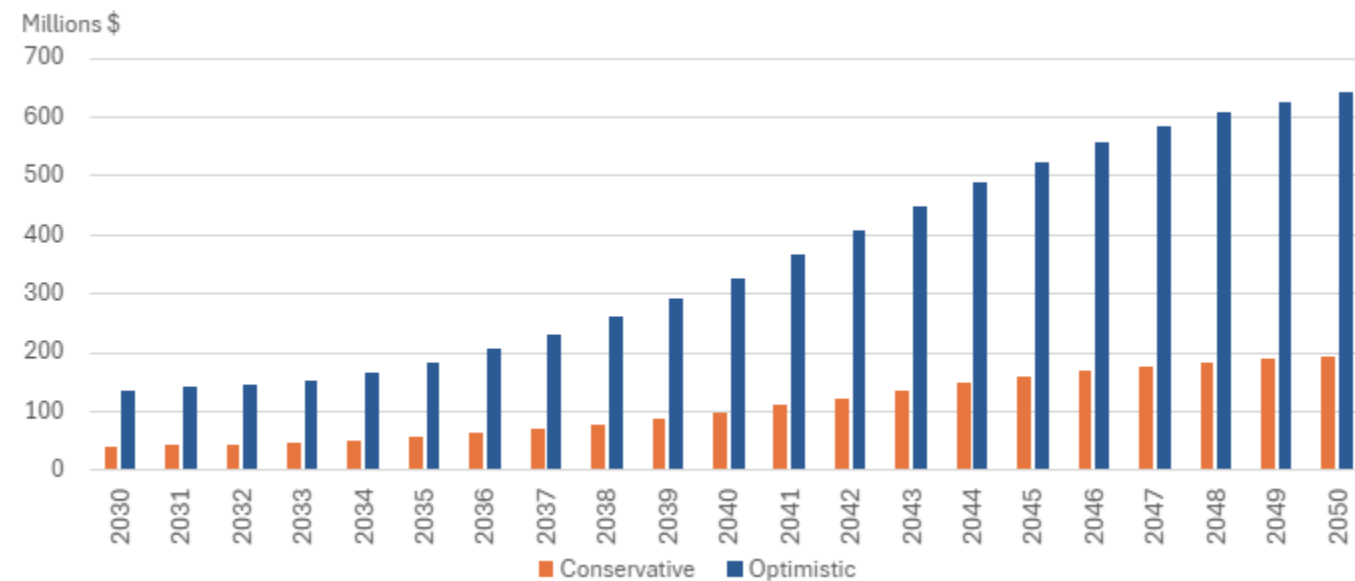
*AAM Passenger Transport 2030-2050 Annual GDP Impact; AAM Passenger Transport 2030-2050 Annual Gross Output Impact; AAM Passenger Transport 2030-2050 Annual Personal Income Impact; and AAM Passenger Transport 2030-2050 Annual Employment Impact* show the annual economic impact for GDP, gross output, personal income, and employment, respectively, between 2030-2050. The economic impacts from AAM passenger transport were found to be more concentrated in the MARC/ Mokan and South Central Kansas regions.



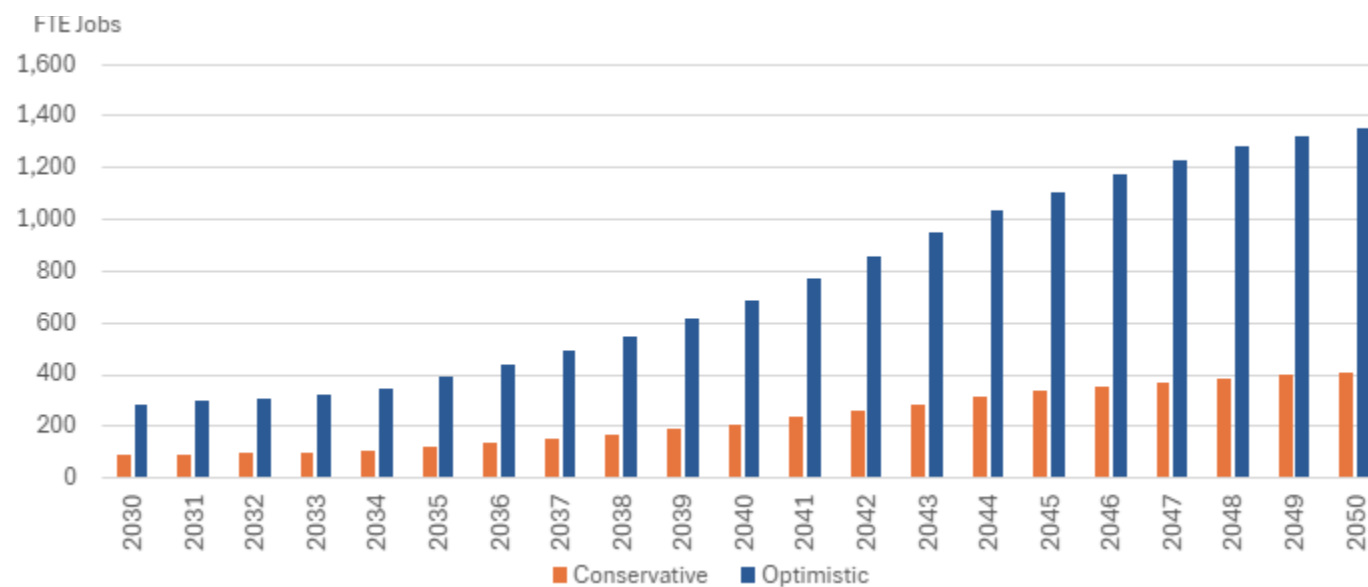
*AAM Passenger Transport 2030-2050 Annual GDP Impact*



AAM Passenger Transport 2030-2050 Annual Gross Output Impact



AAM Passenger Transport 2030-2050 Annual Personal Income Impact



AAM Passenger Transport 2030-2050 Annual Employment Impact

# ENABLING KANSAS POTENTIAL

The economic impact study and market analysis reveal AAM's transformative potential for Kansas, projecting significant statewide economic growth and job creation. To capitalize on these opportunities, Kansas must position itself to capture a larger share of the U.S. AAM market and production. Such actions will enable the state to capture medium and high global demand scenarios, and ultimately position the state to realize maximum potential benefit from use case applications.

Key roadmap activities and state priorities outlined in the Kansas AAM Strategic Framework in Part 4 enable the state to become a national leader in AAM, driving economic growth, enhancing mobility, and improving residents' quality of life. With proactive planning and strategic investments, Kansas can secure long-term economic resilience and global competitiveness in the emerging AAM market.





URBAN AND REGIONAL AIR MOBILITY

# PART FOUR

## KANSAS AAM ROADMAP



“ Aviation has been part of our state’s identity for over a century. This roadmap will help Kansas leverage emerging aviation technology to solve challenging transportation gaps, while bolstering economic and workforce opportunities for future generations. ”

Ray Seif, Director,  
Kansas Department of Transportation

### ROADMAP OVERVIEW

The Kansas AAM roadmap is designed to provide an actionable strategy by organizing Objectives and Activities under each State Priority. The roadmap aligns with both state and national AAM strategies through defined Workstreams, with underlying priorities and activities evolving through phases (Part 2).

The roadmap can be viewed through either a Workstream or Objective perspective, enabling stakeholders to execute tasks aligned with state strategy. This framework is intended to evolve with each strategic phase, with regular updates to reflect progress and guide AAM efforts for Kansas.



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- Roadmap Activity Example

### PRIORITY: ENABLING AAM OPERATIONS

- Objective 1: Establish Operational Evaluations and Testing System
- Objective 2: Empowered Kansas Use Cases
- Objective 3: Aligned Kansas Strategy
- Objective 4: Efficient and Effective Governance

### PRIORITY: ENSURING AAM INFRASTRUCTURE AND SERVICES READINESS

- Objective 1: Mature Vertiports and Supporting Infrastructure
- Objective 2: Enhanced Infrastructure and Services
- Objective 3: Established Service Providers

### PRIORITY: CONNECTING AAM STAKEHOLDERS

- Objective 1: Convened Communities
- Objective 2: Connected Industry
- Objective 3: Enabled Airports

### PRIORITY: AAM ECONOMIC AND WORKFORCE DEVELOPMENT

- Objective 1: Demonstrated AAM Job Growth
- Objective 2: Prepared AAM Workforce
- Objective 3: Cultivated AAM Interest

## KEY DEFINITIONS FOR THE STRATEGY FRAMEWORK ELEMENTS:



**PRIORITIES** are strategic focus areas that guide the direction and allocation of resources into objectives and activities.



**OBJECTIVES** are targeted goals that align with a broader priority, providing direction for developing and implementing activities.



**ACTIVITIES** are specific actions designed to achieve an objective.



**STRATEGIC EVOLUTIONS** are time windows for completion of activities.



**ACTIVITY LEADS** are Kansas entities responsible for creating, managing, or distributing an action, updated as relevant stakeholders change.



**STAKEHOLDERS** are entities consulted or informed of activity outputs and updated as relevant stakeholders change.



**WORKSTREAMS** are work areas that align with Kansas's transportation plan, stakeholder strategies, and growth pillars to support the state's vision.

## ROADMAP ACTIVITY EXAMPLE

An example structure for the roadmap is provided below.

- **Priority:** Ensure AAM Infrastructure and Service Readiness
- **Objective:** Vertiport Development
- **Activity:** Evolve Kansas Airport Improvement Program
- **Strategic Evolution Phase:** Near Term
- **Activity Lead:** KDOT

A summary of activities by workstreams outlining overall strategic alignment is provided at the end of the roadmap. Each workstream includes multiple objectives and activities, and some activities may align with more than one workstream. Such activities are likely to have the greatest impact on advancing the state's transportation and growth goals and should be prioritized for implementation.

# ENABLING AAM

## OPERATIONS

Kansas should strategically utilize its existing UAS research, assets, and integration strategies to advance its transportation system in preparation for AAM operations. By leveraging key resources such as test sites, partnerships, regulatory approvals, and infrastructure investments, the state can establish itself as a leader in AAM testing, certification, demonstrations, and feasibility assessments. Developing a unified vision tailored to Kansas-specific use cases will enhance its ability to attract operators, manufacturers, and industry leaders. Furthermore, streamlining access to information regarding technology, capabilities, and infrastructure will facilitate the successful implementation of early AAM operations.



PRIORITY: Enabling AAM Operations	TIMELINE			Lead Stakeholder Group
	Near-Term	Mid-Term	Long-Term	
<b>OBJECTIVE 1: ESTABLISH OPERATIONAL EVALUATIONS AND TESTING SYSTEM</b>				
1-1	Activity 1: Create a Kansas AAM Innovation Portal			Government
1-2	Activity 2: Enable Flight Demonstrations			Airports
<b>OBJECTIVE 2: EMPOWER KANSAS USE CASES</b>				
2-1	Activity 1: Improve Air Medical Operations with AAM			Industry
2-2	Activity 2: Invest in Precision Agriculture Operational Enablers			Industry
2-3	Activity 3: Improve Air Cargo Operations			Industry
2-4	Activity 4: Enhance Emergency Response with AAM			Government
2-5	Activity 5: Boost Passenger Air Mobility			Airports
<b>OBJECTIVE 3: INCORPORATE AAM IN KANSAS STRATEGY</b>				
3-1	Activity 1: Integrate AAM into Transportation Plans			Government
3-2	Activity 2: Integrate AAM into Other Kansas Strategic Plans			Government
<b>OBJECTIVE 4: EFFICIENT AND EFFECTIVE GOVERNANCE</b>				
4-1	Activity 1: Encourage Innovation and Investment through Policy			Government
4-2	Activity 2: Create an AAM Advisory Council			Government
4-3	Activity 3: Establish Formal State AAM Leader			Government

Enabling AAM Operations Activities

## OBJECTIVE 1: ESTABLISH OPERATIONAL EVALUATIONS AND TESTING SYSTEM

Kansas can advance AAM technologies by leveraging FAA-approved test sites and securing access to flight test ranges statewide. A unified approach should prioritize authority for crewed and unmanned eVTOL aircraft and large unmanned systems. With expertise in controlled flight testing, safety assessments, and operational procedures, Kansas is well-positioned to address key integration challenges, including certification, BVLOS operations, autonomy, and digital infrastructure. High-profile flight demonstrations can showcase AAM's potential, attracting public interest, industry investment, and solidifying Kansas's leadership in AAM innovation.



### Activity 1: Create a Kansas AAM Innovation Portal

*Create a centralized resource that catalogs testing sites, their information, and capabilities.*

Kansas offers a wide range of advanced facilities for AAM aircraft testing and certification. This effort focuses on cataloging all available capabilities, connecting providers, and simplifying access for aircraft developers and digital service providers to plan their testing and certification processes within the state. To support this, test site information, accessibility, and contacts should be centralized and made available through a public-facing portal or website.

Kansas hosts several FAA-approved UAS test sites with varying authorizations for BVLOS operations. Sites like K-State Salina Applied Aviation Research Center focus on small UAS, while others, such as the Kelly Hills UAS Test Site, support larger UAS for applications like precision agriculture. As UAS technology advances, Kansas will need to expand test site capabilities or establish new ones with additional resources, assets, and infrastructure.

Currently, test sites operate under a fragmented system of waivers and authorizations, each with unique restrictions and provisions, and there is no centralized resource for vendors or manufacturers to access information about Kansas's capabilities, infrastructure, or assets. This activity aims to create a comprehensive inventory of test sites, connect providers, and streamline access for UAS operators to match their testing needs with the most suitable Kansas test site. Efforts should focus on improving accessibility, sharing capabilities, and enhancing collaboration to support AAM certification, airworthiness, and operations.



### Activity 2: Enable Flight Demonstrations

*Support planning and infrastructure for AAM flight demonstrations.*

Flight demonstrations allow aircraft manufacturers, industry stakeholders, policymakers, and the public to see the capabilities of piloted eVTOL aircraft and large UAS in a controlled environment. These demonstrations not only engage the public but also provide valuable data for developers and regulators on performance, safety, airspace integration, and community impact. Kansas should collaborate with stakeholders to support and invest in targeted OEM demonstration opportunities, ensuring their success.

## OBJECTIVE 2: EMPOWERED KANSAS USE CASES

Adopting AAM in Kansas requires identifying how these technologies can address state-specific challenges and opportunities while supporting industry business cases. By collaborating with Kansas stakeholders like airport authorities, logistics operators, and air ambulance services, the State can develop strategies to integrate AAM into key sectors, ensuring solutions meet state needs, drive innovation, improve connectivity, and enhance community quality of life.



### Activity 1: Improve Air Medical Operations with AAM

*Develop a strategy to deploy AAM technology for medical transport.*

Kansas can use AAM aircraft to enhance EMS response and inter-hospital transfers via air taxis. Collaborating with air ambulance providers and initiatives like Drive to Zero, the state can assess the feasibility and benefits of AAM for air ambulance services. Grants such as Safe Streets and Roads for All could fund air ambulance demonstrations with OEM AAM operators. Kansas should also engage providers and OEMs to align AAM implementation with Key Performance Indicators in the Long-Range Transportation Plan. This includes rethinking infrastructure, such as vertiports and hospital helipads, to expand AAM operations.



### Activity 2: Invest in Precision Agriculture

*Position Kansas as a national leader in advancing large UAS for precision farming.*

Kansas should collaborate with agricultural operators to expand technology and approvals for precision agriculture, making solutions more accessible statewide. Precision agriculture requires larger aircraft and unique flight patterns over large areas at low altitudes, with infrastructure needs distinct from traditional AAM operations. This activity will assess infrastructure requirements, develop best practices for operational approval, and share findings with farmers. Collaborations with the Kansas Agriculture Aviation Association, the Department of Agriculture, and organizations like the Kansas Farm Bureau can inform farmers about test site studies, regulatory approvals, and investment costs for deploying autonomous spraying capabilities.



### Activity 3: Improve Air Cargo Operations

*Develop a strategy to enhance cargo distribution operations with AAM.*

Convene logistics operators, AAM cargo manufacturers, airport authorities, and supply chain experts to validate business opportunities in cargo transportation areas, including middle-mile cargo operations. Market analysis can identify early adopter markets and inform carrier decisions to invest in AAM cargo distribution within the state.



### Activity 4: Enhance Emergency Management with AAM

*Develop a strategy to integrate AAM operations into Kansas emergency management services.*

The Kansas Department of Emergency Management oversees emergency response through county-level first responders, including police, sheriffs, firefighters, EMS, and rescue services. While small UAS are already in use, larger and more advanced AAM technologies remain unplanned. Currently, the Kansas Highway Patrol is one of the few agencies providing crewed aircraft for emergencies. As AAM becomes more accessible, emergency service providers can adopt these technologies to improve response and outcomes. This activity focuses on studying use cases, identifying integration opportunities, and creating state-level implementation plans for AAM in emergency services.



### Activity 5: Boost Passenger Air Mobility

*Develop a strategy to improve passenger access to air mobility.*

Engage Kansas businesses, local leaders, AAM manufacturers, and vertiport developers to validate passenger market needs in key transportation areas. Market analysis can assess impacts and benefits of AAM passenger transportation and identify strategies to facilitate an early adoption at airports such as CBK, GCK, LBL, DDC, HYS, SLN, ICT (and surrounding airports), MHK, FOE, OJC, and PTS.

## OBJECTIVE 3: ALIGNED KANSAS STRATEGY

In the coming years, Kansas should align government and industry efforts to integrate AAM into the state's transportation system, capturing economic and social benefits. Updates to state plans should ensure a unified transportation strategy and address gaps in related sectors. These planning efforts will position Kansas for successful long-term AAM integration as technology advances.



### Activity 1: Integrate AAM into Transportation Plans

*Include AAM in long-term transportation plans and strategies at state, regional, and local levels.*

Kansas transportation plans, such as the Long-Range Transportation Plan, Airport System Plan, and KDOT Multi-Modal Transportation Plan, outline the state's vision and the roles of government and industry. These plans should be updated to include AAM activity and its infrastructure needs. Regional and metropolitan organizations should also consider AAM's impact on multi-modal transportation. Examples include the Mid-American Regional Council, and their Connected KC 2050 Plan and Regional Aviation System Plan, or the Flints Hills MPO and their Electric Vehicle Readiness Plan. Lead stakeholders should support these planners to ensure alignment with the state's overall AAM integration strategy.



## Activity 2: Integrate AAM into Other Kansas Strategic Plans

*Integrating AAM Across Kansas Strategic Plans: Aligning Key Workstreams, Priorities, and Objectives*

Other plans should include AAM where relevant, focusing on key workstreams, priorities, and objectives from the roadmap. A formal process should identify applicable plans, including those in AAM-related sectors such as:

- The Kansas Agricultural Growth Strategy
- Kansas Broadband Expansion and Digital Infrastructure Plans (Digital Equity Strategic Plan)
- Kansas Workforce Development Plan
- Kansas Response Plan
- Kansas Foresight & Building a Future Plan
- Kansas Office of Information Technology Services Cybersecurity Plan
- Kansas Drive to Zero Plan

These documents often cover aviation and aerospace activities but don't account for the transportation shift AAM is expected to bring or address AAM in detail.

## OBJECTIVE 4: EFFICIENT AND EFFECTIVE GOVERNANCE

State and local government coordination is key to aligning policies and goals. Agencies should collaborate on shared objectives and strategically allocate resources to maximize impact.



## Activity 1: Encourage Innovation and Investment through Policy

*Incentivize innovation through policy aligned with the priorities in the AAM roadmap.*

Several states are beginning to plan for AAM and introducing legislation to enable AAM activities. States like Ohio, North Dakota, Texas, Florida, Oklahoma, and Utah are taking proactive measures, such as forming AAM divisions, advisory committees, and public-private partnerships, while others like North Carolina and California are focusing on funding research initiatives. Key actions include vertiport development, cybersecurity, and integrating AAM into transportation frameworks. The Association for Uncrewed Vehicle Systems International (AUVSI)'s model legislation<sup>96</sup> emphasizes workforce development, infrastructure expansion, and community outreach, while the FAA has updated vertiport standards.

Kansas should prioritize policies that directly support investment in AAM technologies, infrastructure, and services, with a focus on existing Kansas companies. Key areas include research and development, aircraft design, electric or hydrogen-powered systems, sustainable aviation fuel, hydrogen and battery production, and enabling services. Kansas can leverage AUVSI recommendations to craft specific state legislation and maintain participation in the AAM multi-state collaborative to stay informed on successful policies and strategies from other states.



## Activity 2: Create an AAM Advisory Council

*Establish a formal steering group to unite state and private partners for effective AAM progress.*

Kansas should form an AAM Advisory Council or governor-appointed task force to guide legislative policy and planning. This group would deliver recommendations to the governor, using roadmap activities to create a Kansas AAM Implementation Plan. The plan should define working groups, stakeholder roles, policy considerations, and responsibilities in a formal charter. The council should also address preemption of local ordinances for AAM infrastructure, aircraft ownership, and aerial operations, ensuring alignment with national aviation guidance.



### Activity 3: Establish Formal State AAM Leader

*Create a dedicated leadership role or office to oversee AAM development.*

Kansas should establish a formal AAM leadership position or office, ideally reporting to the Secretary of Transportation or empowered via legislation, to oversee development activities and provide technical support for infrastructure deployment. Other states have created similar roles, such as AAM Directors within state DOTs or dedicated offices under the governor. A streamlined leadership structure will ensure focused expertise and coordination for AAM progress in Kansas.

## ENSURING AAM

### INFRASTRUCTURE AND SERVICES READINESS

To integrate AAM into multimodal transportation across Kansas, stakeholders must support the development of infrastructure and services such as vertiports, surveillance, communications, weather systems, traffic management, and data services. Kansas should adopt or establish best practices and standards to ensure safety, security, and efficiency in infrastructure and service development. This may include concepts like Minimum Service Level Targets for digital and physical infrastructure, developed with input from Kansas.<sup>97</sup> Investments in shared capabilities, such as power supply, communications, and fire response, should be coordinated across sectors.

AAM will provide airports with opportunities to support new missions while introducing unique requirements. eVTOL and sTOL aircraft will need vertical takeoff and landing surfaces, safety areas, navigation systems, lighting, and weather monitoring equipment. Airports must also address considerations such as noise and visual pollution, eVTOL downwash and outwash hazards, and fire suppression and risk management for advanced aircraft batteries.



PRIORITY: AAM Infrastructure and Services Readiness	TIMELINE			Lead Stakeholder Group
	(Near-Term)	(Mid-Term)	(Long-Term)	

**OBJECTIVE 1: MATURE VERTIPOINTS AND SUPPORTING INFRASTRUCTURE**

<b>1-1</b>	Activity 1: Define Best Practices for AAM Infrastructure				Government
<b>1-2</b>	Activity 2: Assess Financial Assistance Programs				Government
<b>1-3</b>	Activity 3: Perform Initial Feasibility Studies				Airports

**OBJECTIVE 2: ENHANCED INFRASTRUCTURE AND SERVICES**

<b>2-1</b>	Activity 1: Identify Surveillance Requirements and Gaps				Educational Institutions
<b>2-2</b>	Activity 2: Identify Weather Data Requirements and Gaps				Educational Institutions
<b>2-3</b>	Activity 3: Identify Communications Requirements and Gaps				Educational Institutions
<b>2-4</b>	Activity 4: Explore Investment and Integration Approaches				Government

**OBJECTIVE 3: ESTABLISHED SERVICE PROVIDERS**

<b>3-1</b>	Activity 1: Plan Service Provision Networks				Government
<b>3-2</b>	Activity 2: Establish On-Boarding Process				Government
<b>3-3</b>	Activity 3: Initiate Cooperative Operating Practice Development				Government

*AAM Infrastructure and Service Readiness Activities*

**OBJECTIVE 1: MATURE VERTIPOINTS AND SUPPORTING INFRASTRUCTURE**

Over the next several years, Kansas communities and airports will plan vertiports to support VTOL AAM activity, guided by feasibility studies and best practices. Integration with neighborhoods, airports, and transportation modes will follow national and state standards. Existing funding programs must adapt to support AAM innovation.



**Activity 1: Define Best Practices for AAM Infrastructure**

*Develop and share best practices for vertiport planning, design, and integration.*

The state of Kansas can help its airports and communities prepare for vertiport development by increasing involvement in select aerospace organizations and providing guidance as it is developed. Specific stakeholders in the state, such as airports and KDOT should consider joining the efforts above and opening a dialogue with vertiport developers to better understand Kansas specific challenges associated with local and regional policy.

Kansas should collaborate with these groups, adapt national guidance, and capture lessons from early adopters like the Salina Airport Authority. Best practices should be packaged into accessible formats, such as a “roadshow,” and shared through organizations like the Kansas Airport Association.





## Activity 2: Assess Financial Assistance Opportunities

*Update the KAIP to support AAM projects and guide airports on additional funding options.*

The Kansas Airport Improvement Program (KAIP) is a funding program for preservation and enhancement of the state’s public-use airports. The program, whose annual funding was increased to \$15 million in 2024, has among its objectives the enhancement of airport and community economic development appeal. AAM-oriented projects may contribute and could be explicitly considered, perhaps with funds set aside. The KAIP administrator, KDOT, may need to refine KAIP criteria and guidelines to account for limitations of funding use related to deployment of AAM services, conversion of heliports to vertiports, green-field construction of new vertiports, electrification, and infrastructure and other areas.

The funding increase should be reviewed to ensure alignment with AAM roadmap objectives. For projects outside KAIP’s scope, airports should develop best practices for pursuing federal and state funding as the FAA clarifies NPIAS funding eligibility for AAM infrastructure. Legislative adjustments to KAIP or similar programs could accelerate AAM adoption in Kansas.

Additionally, the state should clarify guidelines for innovation, commerce, and other grant programs available to airports. Consolidating these funding options into a single access point would help communities and airports plan for vertiport and AAM-related investments more effectively.



## Activity 3: Perform Initial Feasibility Studies

*Fund and develop vertiport feasibility studies.*

Feasibility studies are a critical step for developing vertiports or major AAM infrastructure, even before identifying investors or service providers. These studies define concepts for vertiport location, usage, and assess economic, technical, and operational viability. Economic factors include demand, costs, and financing. Technical aspects cover power, communications, navigation, airspace, and routing. Operational considerations include land use, aviation activity, environmental impacts, weather, and integration with transportation and emergency response.

Kansas should promote feasibility studies throughout the planning process, offering templates or partnering with research institutions and planning organizations. Early studies are essential to attract investors and service providers, especially for specific use cases like passenger transportation. The state should also form a Department of Transportation subcommittee to evaluate electrification and digital infrastructure at potential sites. This includes analyzing electric capacity, broadband connectivity, and alternative fuel availability across the Kansas Airport System. Reports from these efforts could inform Infrastructure decision matrices for planners considering investments. Additional feasibility studies that the state should consider include:

- **Regional Air Mobility Corridors:** Assess viable locations for early operational and test corridors between major AAM innovation sites.
- **Helicopter Infrastructure Feasibility:** Evaluate existing helicopter infrastructure for potential vertiport conversion, including public-private partnerships and investment needs.
- **Airport and Airspace Compatibility:** Study individual airports’ ability to integrate AAM into air traffic, including density, patterns, airspace, and routing considerations. This would complement FAA evaluations and inform future planning.

These studies will help Kansas prepare for AAM implementation and guide infrastructure investments effectively.

## OBJECTIVE 2: ENHANCED INFRASTRUCTURE AND SERVICES

The emergence of AAM in Kansas will require infrastructure and services to support operations. The FAA has identified surveillance systems and air traffic management as critical for integrating AAM into the national airspace. Scalable traffic management systems and localized solutions are outlined in the FAA's UAS Traffic Management Concept of Operations (2020), Urban Air Mobility Concept of Operations 2.0 (2023), and AAM Implementation Plan (2023).

Ground-based Aircraft-to-Everything communication and associated surveillance links will support key use cases, including Detect and Avoid and Situational Awareness (SA). Collaboration between government and industry will be essential to strategically deploy these systems and ensure adaptability as AAM expands statewide.

New infrastructure will also provide low-altitude wind and weather sensing, data processing, and forecasting, integrated into the broader aviation weather system by certified providers. Additionally, AAM growth will introduce new communications systems connecting service providers, customers, pilots, air traffic controllers, and surveillance and weather infrastructure, developed by industry with government support.



### Activity 1: Identify Surveillance Requirements and Gaps

*Determine AAM needs, gaps and mitigations for low-altitude surveillance.*

AAM operations introduce new surveillance needs for air traffic controllers and third-party providers managing low-altitude, uncontrolled airspace. Many providers will rely on established sensors, such as Ground-Based Detect and Avoid radar, to support BVLOS flights. Surveillance systems must meet requirements for accuracy, precision, timeliness, and reliability to support increasingly complex operations. Kansas should analyze surveillance coverage gaps by assessing the safety and operational impacts of implementing ground-based Automatic Dependent Surveillance-Broadcast (ADS-B) and secondary navigation systems on state-owned infrastructure. Early AAM integration could be supported by aircraft equipped with ADS-B Out and sufficient ground stations to receive and retransmit signals. Currently, Kansas has statewide ADS-B coverage at 5,000 feet above ground level, but more than half the state lacks coverage at 500 feet. Primary radar coverage is even sparser at low altitudes, particularly in the northwest and southeast regions.

As AAM routes expand, airspace and surface coverage requirements will evolve, incorporating emerging concepts like Aircraft-to-Everything (A2X) communications into the NAS for Communications, Navigation, and Surveillance (CNS). An inventory of existing surveillance infrastructure will help identify priority gaps to address for innovation, testing, and complex operations.



### Activity 2: Identify Weather Data Requirements and Gaps

*Determine AAM needs, gaps and mitigations for weather services.*

Near-term AAM operations will require weather sensing, data processing, and forecasting for both ground infrastructure sites and operational airspace. Key meteorological factors include temperature, wind, cloud ceilings, visibility, precipitation, icing, and convective weather, similar to current aviation needs.

Aviation weather products are generated by sensors, data processing, and forecasting services from federal systems or authorized providers. However, coverage outside Terminal Area Forecast (TAF) and Meteorological Aerodrome Report (METAR) areas is limited in Kansas, especially at lower altitudes where AAM are expected to fly. The FAA is exploring ways to scale third-party provider authorization to address these gaps. Kansas should develop an inventory of existing capabilities and identify unmet needs to support AAM operations effectively.



### Activity 3: Identify Communications Requirements and Gaps

*Determine AAM needs, gaps and mitigations for communications services.*

AAM operations in Kansas will require voice and data communication between pilots, controllers, vehicles, service providers, and surveillance and weather systems. While initial missions will use traditional aviation communication frameworks, expanding operations, third-party providers, and autonomous vehicles will create new demands beyond current capabilities.

Key technical requirements like connectivity, bandwidth, latency, and security are being studied by industry, government, and academia, and in some cases may rely on state infrastructure. There is a critical need to ensure availability of spectrum for emerging AAM activity at the same time demand for spectrum grows across many sectors. Communication systems will initially expand at test sites and early use case locations through provider-user agreements, growing further with market demand.

Kansas should identify communication requirements and infrastructure gaps, focusing on supporting industry deployments and oversight. If market-driven systems fail to meet future demand, the state may need to proactively address unmet needs.



### Activity 4: Explore Investment and Integration Approaches

*Determine government and industry roles in service infrastructure development.*

Funding approaches for surveillance infrastructure include government acquisition, public-private partnerships, private investment, and incentives. Kansas should collaborate with federal agencies, industry, and surveillance users to plan the evolution of systems to meet new requirements and integrate equipment and providers. The state should define its role in supporting and funding infrastructure critical for AAM operations, including third-party services. Kansas should assess service provider capabilities, share performance data among stakeholders, and ensure interoperability across early adopters to meet statewide needs effectively.

## OBJECTIVE 3: ESTABLISHED SERVICE PROVIDERS

Central to the FAA’s concept of operations for urban air mobility and to industry’s broader vision for AAM is the provision of traffic management and data services via a federated network. In Kansas, mature AAM activity will use such networks to enable seamless onboarding of participants and vehicles with cooperative operating practices.



### Activity 1: Plan Service Provision Networks

*Develop a state approach to implement AAM service networks.*

Kansas and industry must plan to establish or expand federated networks to support airspace and landing facilities. These networks require high-assurance, always-available connectivity, which may strain the Kansas Broadband System as cybersecurity and design assurance standards increase. The state should assess airport and vertiport locations for compatibility with broadband expansion goals and evaluate existing communications infrastructure for supporting enhanced surveillance and operational services.



### Activity 2: Establish On-Boarding Process

*Standardize interoperability and secure third-party.*

AAM networks require participants, including service providers and operators, to interface through standardized APIs and protocols while meeting security and privacy standards. Kansas should define onboarding processes for validating and integrating participants, ensuring alignment with state and commercial service deployment needs.



### Activity 3: Initiate Cooperative Operating Practice Development

*Define the state’s role in AAM air traffic management federated architecture.*

The FAA concept allows for the development of traffic flow management mechanisms specific to local operating communities in recognition of their different needs. With Cooperative Operating Practices (COPs) emerging first in urban areas and adapting to other contexts. Kansas will have unique needs, such as managing agricultural traffic. Operators, service providers, and the state should develop COPs to address conflict management, equitable airspace use, and demand-capacity balancing, while assessing the state’s role in the broader air traffic management architecture.



# CONNECTING AAM

## STAKEHOLDERS

Stakeholder collaboration is essential for strategic transportation planning, ensuring diverse perspectives are integrated into decision-making. Engaging communities builds trust, addresses local priorities, and fosters transparency. Harmonizing state and local efforts ensures consistent objectives, while addressing public concerns like safety, privacy, and noise will drive AAM adoption. Public perception of AAM, including safety, privacy concerns, and noise have already been identified as driving adoption considerations both at the national level and for individual states through public perception surveys. Kansas has a role in informing and addressing Kansas citizen's overall awareness and acceptance of AAM moving forward. This collaborative approach not only enhances the adaptability and sustainability of the state's transportation system, but also ensures they are responsive to evolving demands.



PRIORITY: Connecting AAM Stakeholders	TIMELINE			Lead Stakeholder Group
	Near-Term	Mid-Term	Long-Term	
<b>OBJECTIVE 1: CONVENED COMMUNITIES</b>				
1-1	Activity 1: Engage with AAM Consumer Communities			Community Associations
1-2	Activity 2: Increase Public Awareness			Community Associations
1-3	Activity 3: Explore Cross-State and Regional Collaboration			Government
1-4	Activity 4: Engage with Local Government			Airports
1-5	Activity 5: Pursue Alternative Funding and Partnerships			Government
<b>OBJECTIVE 2: CONNECTED INDUSTRY</b>				
2-1	Activity 1: Identify Collaborative Research Opportunities			Educational Institutions
2-2	Activity 2: Convene Mission-Oriented Industry Forums			Educational Institutions
<b>OBJECTIVE 3: ENABLED AIRPORTS</b>				
3-1	Activity 1: Establish Airport Communities of Interest			Community Associations
3-2	Activity 2: Coordinate National Engagement			Airports
3-3	Activity 3: Accelerate Community Showcases			Government
3-4	Activity 4: Leverage Emerging National Funding Programs			Government

Connecting AAM Stakeholders Activities

## OBJECTIVE 1: CONVENE COMMUNITIES

Engaging stakeholder communities is essential for fostering awareness and supporting AAM integration. Key groups like first responders, agricultural professionals, local businesses, and healthcare professionals will drive initial AAM use cases. Kansas should lead efforts to engage consumer communities, adopt best practices, and assess public sentiment around early AAM concepts. Involving communities in decision-making ensures their needs are addressed and promotes transparency. Collaboration across state lines supports regional opportunities and strategic development with neighboring communities.



### Activity 1: Engage with AAM Consumer Communities

*Connect with key organizations and user groups to shape Kansas's AAM vision and use cases.*

Several organizations and communities in Kansas have a strong interest in services that AAM can improve. Their input should be gathered early to shape the state's AAM vision and use cases. Key groups include the Kansas Air Medical Transport Society, KCI Regional Air Cargo Association, Regional Air Cargo Carriers Association, Kansas Emergency Management Association, Division of Emergency Management, and Kansas Agricultural Aviation Association. Local organizations like the Greater Wichita Partnership, Wichita Manufacturers Association, and Wichita Aero Club can help with strategy, public awareness, workforce development, and community impact. State agencies should collaborate with these groups to create outreach materials and engage the AAM community.



### Activity 2: Increase Public Awareness

*Raise awareness of AAM opportunities, risks, and challenges.*

As AAM is an emerging technology, many Kansans are still unaware of its potential benefits. Public outreach is essential to introduce AAM with transparency and education. Resources like the FAA's Advisory Circular, NASA's Community Integration Playbook, and CAMI's Urban Air Policy Collaborative provide guidance for effective community engagement. Kansas planners should seek opportunities to share information about AAM in community forums and hold local outreach events with state-level officials and representatives on infrastructure requirements and economic development opportunities for community consideration.

Kansas should create educational materials for the Kansas DOT website, offering basic AAM knowledge and links to authoritative sources. A statewide perception survey can inform outreach strategies, messaging, and policy development, following examples from states like Texas and Florida. Local organizations can assist with public meetings and outreach using these materials.



### Activity 3: Explore Cross-State and Regional Collaboration

*Collaborate with nearby states to support regional AAM operations.*

AAM presents an opportunity to strengthen regional ties, specifically for cargo and middle-mile AAM use cases, with neighboring states. Aligning regional infrastructure approaches and transportation system requirements for AAM with those of its neighbors will be essential as the NAS increases dependency on performance-based services. Kansas should identify shared regional goals, establish agreements to exchange strategies and best practices, and expand market feasibility analyses to assess AAM opportunities across the four-state region and beyond. At the national level Kansas should continue contributing to the National Association of State Aviation Officials AAM Multistate Collaborative to foster cooperation.



### Activity 4: Engage with Local Government

*Engage with local government planning and economic development organizations.*

Kansas should build on its leadership in the National League of Cities (NLC) Aviation Advisory Forum by collaborating with cities, economic development associations, airport councils, and planning officials to support AAM integration. The state should advocate for and help inform an (NLC) planning toolkit to address local concerns like noise, construction, and permitting while aligning with state and federal policies using feedback from local government and communities across Kansas. Expanding the KDOT-led AAM Working Group to include public outreach and local government engagement, along with developing educational materials, will help raise awareness and support AAM adoption.



### Activity 5: Pursue Alternative Funding, and Partnerships

*Explore funding initiatives and partnerships.*

State agencies should collaborate with stakeholders to secure funding for AAM priorities, including federal, state, or local grants and partnerships. Clear guidance on state grant eligibility and limitations should be provided, with alternatives to local grant matching programs explored to reduce barriers for cities and economic development organizations. Specifically, potential alternatives to existing local grant matching programs could be addressed. Often, these grant match requirements necessitate that cities and local economic development organizations match at least five percent (or higher) to receive existing state grants. Given the costs of AAM infrastructure, dedicated state funding initiatives and alternative pathways will be essential to support community adoption and enable targeted development efforts.

## OBJECTIVE 2: CONNECTED INDUSTRY

Industry partners are the drivers of technology advancement, development and production of AAM systems, and opportunities for workforce development. Collaborating with existing Kansas industries and emerging leaders is essential for integrating AAM into multimodal transportation networks and Kansas economy.



### Activity 1: Identify Collaborative Research Opportunities

*Partner with industry to advance AAM through joint programs and public-private partnerships*

Kansas should work with industry stakeholders to address challenges in aircraft development, supporting systems, and mission management by connecting them with local research labs, testing facilities, airports, and economic initiatives. Joint programs, such as state-funded grants or partnerships with research institutions, can tackle issues like system safety, automation, human factors, and certification of alternatively fueled vehicles.



### Activity 2: Convene Mission-Oriented Industry Forums

*Establish focused working groups to address AAM.*

As AAM technology progresses, Kansas should create short- and long-term working groups to address integration and operational challenges among stakeholders. These working groups can be established by the proposed AAM advisory council and state AAM leader with associated steering objectives. Kansas should build on the success of the Kansas Emerging Aviation Technology Working Group which has already engaged over 200 stakeholders, fostering collaboration and information sharing on AAM. Forming new mission-specific sub-groups identified by the AAM advisory council to accelerate AAM implementation. For example:

- **Electrification Group**, to address energy and infrastructure needs for AAM vehicles and aircraft with input from transportation, energy, and aviation experts.
- **Cargo Transport Group**, to collaborate with shipping companies, airport managers, manufacturers, and community representatives to evaluate business opportunities, operational integration, and energy needs.
- **Air Ambulance Group**, to bring together providers, first responders, hospitals, and vertiport developers to assess feasibility and infrastructure needs.

As AAM technology evolves, Kansas should convene additional working groups to address emerging challenges, define missions and timelines, and drive statewide AAM implementation.

## OBJECTIVE 3: ENABLED AIRPORTS

Airport managers and authorities are key to integrating AAM into transportation systems, ensuring alignment with community needs, transportation goals, and public acceptance. Proactive engagement fosters innovation, accelerates deployment, and positions airports as hubs for next-generation mobility.



### Activity 1: Establish Airport Communities of Interest

*Create an online community for Kansas airport managers and sponsors.*

Online communities are efficient and convenient means of connecting and informing special interests and Kansas airport stakeholders are no exception. Kansas could leverage platforms like the American Association of Airport Executives (AAAE) Hub or Airports Council International-North America (ACI-NA) Centerlines Connect platforms to facilitate discussions on AAM at Kansas airports and to encourage Kansas airport manager engagement and discussion around AAM planning. Local stakeholders can use these forums to develop model ordinances for land use, building codes, and noise mitigation aligned with federal guidelines.



### Activity 2: Coordinate National Engagement

*Involve Kansas airport stakeholders in national level AAM activities and share insights locally.*

Many national groups are devoting time to envisioning what AAM will be across the country. Kansas airport managers should engage with national organizations like AAAE, ACI-NA, AUVSI, and the Transportation Research Board (TRB) to stay informed and contribute to AAM discussions. Participation can highlight Kansas's leadership in AAM while providing valuable insights for local forums like the Kansas Association of Airports.



### Activity 3: Accelerate Community Showcases

*Facilitate connections between airports, service providers and AAM operators.*

The emerging AAM industry is eager to introduce itself to the aviation community and general public. Examples include Joby Aviation's November 2023 exhibition flight in New York City, Beta Technologies' six-week tour of the country with its Alia CX300 in 2025, and the presence of prototypes from numerous companies at aviation showcases around the world. Kansas airports and local communities should host AAM demonstrations and events, following successful examples like the Kelly Hills Unmanned Systems Field Day. Stakeholders should also pursue tours of OEM manufacturing, testing, and training facilities to foster dialogue between airports and AAM providers. The state should act as a connector to ensure communication and awareness keep pace with AAM opportunities.



### Activity 4: Leverage Emerging National Funding Programs

*Ensure airports are positioned to capture emerging federal funds for AAM.*

KDOT should collaborate with the FAA to assess AIP and NPIAS impacts and share feasibility study data to inform eligibility criteria for AAM infrastructure funding. As Kansas feasibility studies are conducted, KDOT can provide this data to the FAA and help inform eligibility criteria. Ensure Kansas airports take advantage of federal funding opportunities for AAM investment. Federal programs like the Airport Improvement Program, the Passenger Facility Charges Program, and others are major funding sources for airport capital investments. As AAM gets underway, these programs are expected to evolve to address AAM-oriented needs. As they do, KDOT, airport managers, and sponsors should maintain an awareness of new opportunities to fund planning, electrification, vertical infrastructure, and enabling systems. In addition, as AAM affects aviation activity, they should review the roles of airports in the NPIAS and Kansas Airport System Plan.

# AAM ECONOMIC

## AND WORKFORCE DEVELOPMENT

AAM offers opportunities to create jobs, drive innovation, and strengthen the Kansas economy. Success will require collaboration and planning to attract businesses, develop a skilled workforce, and engage communities statewide. Clear objectives and activities focus on job creation, workforce training, and public awareness to support long-term growth. By uniting local businesses, educational institutions, government agencies, and regional partners, Kansas can position itself as a leader in the AAM industry.

PRIORITY: AAM Economic and Workforce Development	TIMELINE			Lead Stakeholder Group
	(Near-Term)	(Mid-Term)	(Long-Term)	
<b>OBJECTIVE 1: DEMONSTRATED AAM JOB GROWTH</b>				
<b>1-1</b>	Activity 1: Develop an AAM Business Strategy			Government
<b>1-2</b>	Activity 2: Promote Kansas as an Innovation Hub			Government
<b>1-3</b>	Activity 3: Attract & Retain AAM Business			Government
<b>OBJECTIVE 2: PREPARED AAM WORKFORCE</b>				
<b>2-1</b>	Activity 1: Adapt Workforce Capabilities & Skills			Educational Institutions
<b>2-2</b>	Activity 2: Establish AAM-Ready Training Programs			Educational Institutions
<b>OBJECTIVE 3: CULTIVATED AAM INTEREST</b>				
<b>3-1</b>	Activity 1: Inspire Future Leaders			Educational Institutions
<b>3-2</b>	Activity 2: Foster Community Outreach Opportunities			Community Associations

AAM Economic and Workforce Development Activities

## OBJECTIVE 1: DEMONSTRATED AAM JOB GROWTH

Attracting AAM companies and supporting startups is essential for economic growth and maintaining Kansas as an industry leader. Policies that encourage investment and innovation will bring high-tech jobs to local communities. Incubation and acceleration programs can help entrepreneurs succeed while driving new technologies. Defining a clear business strategy for AAM in Kansas ensures that government and businesses can work together effectively, making it easier to plan for infrastructure, set priorities, and avoid roadblocks.



### Activity 1: Develop an AAM Business Strategy

*Create a comprehensive business plan with clear goals and funding priorities.*

A statewide Kansas AAM business strategy is essential to set priorities, define roles, and establish collaboration pathways. This plan should outline targeted performance and economic goals while adapting to evolving market demands and use cases. It will also guide funding opportunities to support high-priority areas.





## Activity 2: Promote Kansas as an Innovation Hub

*Market Kansas research facilities and test sites as a unified opportunity for AAM innovation.*

Kansas hosts numerous AAM research labs, test sites, and incubation programs. To position itself as an innovation hub, the state should leverage tax credits and incentives to attract private sector investment, following examples like North Dakota's 21st Century Manufacturing Tax Credit which applies to companies using new technology or equipment to automate a primary sector manufacturing process and Innovation Loan Fund, providing no-interest loans for the research and commercialization of innovative technologies. Key actions include:

- Identifying current funding avenues and assessing eligibility of existing innovation funding and grant opportunities to encourage establishment of Innovation sites for AAM operations, maintenance, manufacturing, and training.
- Evaluating incentives for alternative propulsion companies (e.g., electrification, hydrogen, and sustainable aviation fuels (SAF)).
- Updating tax credit and business incentive materials for AAM-related sectors, including alternative fuel tax credits, aviation and aerospace tax credits, and electric cogeneration facilities credit for airports.

To encourage large AAM investment projects, Kansas could evaluate an approach similar to the Attracting Powerful Economic Expansion (APEX) program as a potential avenue to encourage large aviation investment into the Kansas economy and reestablish the state as an area for emerging aviation innovation that is open for business.<sup>98</sup>



## Activity 3: Attract & Retain AAM Business

*Promote job growth by connecting AAM companies to Kansas aviation expertise.*

Kansas can position itself as a competitive destination for AAM businesses by fostering collaboration with leading aviation organizations and updating business attraction incentives to include AAM-specific criteria. The state should create an accessible inventory of funding sources, grants, and available business spaces, including airport properties suited for AAM services and manufacturing. Key actions include:

- Assessing hangar inventory and storage availability across Kansas airports.
- Collaborating with airport stakeholders to evaluate localized storage opportunities.
- Coordinating with business development entities to identify land near airports and heliports for AAM investment.

Promoting Kansas' expertise in advanced structures, composites, electric propulsion, and autonomous systems will attract businesses and raise awareness of the state's capabilities and human capital.

## OBJECTIVE 2: PREPARED AAM WORKFORCE

With 59 percent of Kansas's active business recruitment leads in manufacturing,<sup>99</sup> rapid technological advancements in transportation manufacturing highlight the need for a skilled workforce to support AAM growth. Preparing the workforce for AAM is vital to supporting the growth of the overall aerospace industry in Kansas.

Educational centers should adapt traditional aviation programs to provide hands-on experience and technical skills for AAM technologies. Kansas should leverage university strengths to research, educate, and develop specialized AAM courses and degree programs through universities, community colleges, and technical schools. Expanding two-year and four-year degree and technical programs can position Kansas as an AAM training hub, attracting workforce development efforts nationally and globally.

These initiatives will ensure a steady pipeline of skilled workers, create new career opportunities, and establish Kansas as a leader in workforce development for next-generation aviation.



## Activity 1: Adapt Workforce Capabilities & Skills

*Leverage Kansas's aerospace expertise to evaluate MRO and operational training needs.*

With an aerospace employment concentration 33 times higher than the national average, Kansas is well-positioned for AAM implementation. The state's strengths in smart manufacturing, cutting edge aviation testing facilities, local supply chains capable of rapidly adopting electric and autonomous aircraft manufacturing, strong engineering, and large-scale manufacturing capabilities are already in place providing a foundation for AAM growth. Kansas should prioritize critical AAM growth areas where capability already exists and focus on positioning and preparing the workforce in these areas:

- Aircraft and Maintenance Training
- Maintenance Repair and Overhaul (MRO)
- Advanced and Additive Manufacturing
- Aircraft Testing and Certification
- Avionics
- Aerospace Engineering
- Automation
- Alternative Propulsive Systems and Fuels
- Defense

Kansas should establish an AAM resource portal to track workforce training programs, available jobs, and connect AAM partners with development opportunities. The South Kansas Coalition's model of public-private partnerships for aerospace manufacturing could serve as a blueprint for growing and marketing the Kansas AAM workforce.



## Activity 2: Establish AAM-Ready Training Programs

*Develop structured and hands-on curricula to position Kansas as a global training hub for AAM.*

Kansas must create specialized training programs for AAM manufacturing, maintenance, and flight operations to prepare a skilled workforce for emerging industry demands. These programs should include immersive learning experiences for operators and technicians, registered apprenticeships with aviation employers, and pathways for technical, 2-year, and 4-year degree programs. Examples like Joby Aviation's AMA Program<sup>100</sup>, Sinclair Community College's AAM maintenance technician certificate and Vermont's Manufacturing Production Technician apprenticeship program can serve as models for workforce pipelines tailored to electric aircraft and eVTOL systems<sup>101</sup>.

Kansas should also support pilot education programs focused on autonomy, simplified vehicle operations, and alternative power systems by collaborating with FAA Part 141 flight schools and aviation training institutions. While the FAA defines the curricula for these schools, the state can play a key role in facilitating partnerships between educational institutions, industry leaders, and regulatory bodies to ensure training programs align with AAM workforce needs. The state and supporting aviation training facilities have an opportunity to work with the FAA to establish pathways to address powered-lift qualified flight instructor shortages and training requirements for pilot certification of powered-lift through Part 141 and Part 61 traditional training avenues.

The state should also assess existing workforce development programs, specifically the Kansas Industrial Training and Promoting Employment Across Kansas programs to establish AAM-specific training initiatives. Key actions include:

- Assessing flight maintenance programs for certification and training in high-voltage repairs for alternatively powered aircraft.
- Conducting a strategic review of aviation apprenticeship programs to address skill gaps in AAM operations and manufacturing.
- Evaluating high school aviation education programs to support AAM workforce needs.
- Identifying core competencies for AAM and autonomous aviation to guide university curriculum development.

## OBJECTIVE 3: CULTIVATED AAM INTEREST

Community enthusiasm and STEM education are critical to building a pipeline for a strong workforce and ensuring the long-term success of AAM. By showcasing AAM’s potential to transform transportation, Kansas can highlight its public benefits and inspire future leaders to pursue careers in this emerging industry. Collaboration with schools, chambers of commerce, museums, and industry partners will ensure these efforts are impactful and widespread.

### Activity 1: Inspire Future Leaders

*Integrate AAM into STEM programs to engage students and develop future professionals.*

Kansas should partner with K-12 schools and academic institutions to incorporate AAM into STEM education, fostering interest in emerging technologies and building a skilled workforce pipeline. Public-private partnerships, like the Cosmosphere and Kansas State University Salina collaboration, can support early workforce development. Highlighting AAM’s potential to revolutionize transportation and drive innovation will inspire students to pursue careers in the industry.

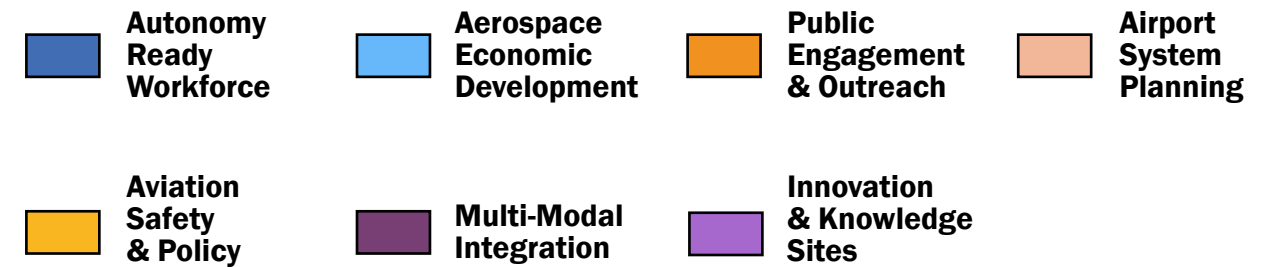
### Activity 2: Foster Community Outreach Opportunities

*Host events and exhibits to raise public awareness and excitement for AAM.*

As AAM is a new form of transportation, many Kansans are unaware of AAM’s benefits. Community events and partnerships with science museums and discovery centers can showcase AAM technology and missions, generating public enthusiasm. Museums like the Kansas Aviation Museum,<sup>102</sup> Cosmosphere,<sup>103</sup> Mid-America Air Museum, and Topeka Combat Air Museum can incorporate AAM concepts into exhibits, field trips, and events to engage students and communities while driving interest in AAM use cases.

## STRATEGIC ALIGNMENT OF ACTIVITIES

The roadmap activities align to a workstream, as mentioned in Section 2, that categorizes distinct efforts with related goals. These goals describe the overall impact of each workstream to AAM implementation. This alignment and their color coordinations are summarized below.



### AUTONOMY READY WORKFORCE

Activities in the *Autonomy Ready Workforce Workstream* ensure support for education and training efforts towards an AAM workforce.

Autonomy Ready Workforce		
(Near-Term)	(Mid-Term)	(Long-Term)
Adapt Workforce Capabilities & Skills		
Inspire Future Leaders		
	Establish AAM-Ready Training Programs	

*Autonomy Ready Workforce Workstream*

The primary stakeholder for this workstream includes educational institutions like technical trade schools, universities, and others.

## AEROSPACE ECONOMIC DEVELOPMENT

Activities in the *Aerospace Economic Development Workforce Workstream* support pursuit for AAM business development and partnerships.

Aerospace Economic Development		
(Near-Term)	(Mid-Term)	(Long-Term)
Develop an AAM Business Strategy		
Integrate AAM into Other Kansas Strategic Plans		
Pursue Alternative Funding and Partnerships		
Coordinate National Engagement		
	Coordinate National Engagement	
	Attract & Retain AAM Business	
		Explore Cross-State and Regional Collaboration

*Aerospace Economic Development Workforce Workstream*

The primary stakeholder for this workstream includes government (local and state), as well as local economic development organizations. Airports are also expected to assist in coordination of national engagement efforts through community organizations enabled by the state.

## PUBLIC ENGAGEMENT AND OUTREACH

Activities in the *Aerospace Economic Development Workforce Workstream* support pursuit for AAM business development and partnerships.

Public Engagement & Outreach		
(Near-Term)	(Mid-Term)	(Long-Term)
Create a Kansas AAM Innovation Portal		
Engage with Local Government		
Accelerate Community Showcases		
	Engage with AAM Consumer Communities	
	Foster Community Outreach Opportunities	
	Increase Public Awareness	

*Aerospace Economic Development Workforce Workstream*

Primary stakeholders for this workstream include a mix of government, community associations, airports and local and state government.

## AIRPORT SYSTEM PLANNING

Activities in the *Airport System Planning Workstream* will support development of long range, strategy, and infrastructure planning for statewide AAM infrastructure and services.

Airport System Planning		
(Near-Term)	(Mid-Term)	(Long-Term)
Integrate AAM into Transportation Plans		
Perform Initial Feasibility Studies		
	Define Best Practices for AAM Infrastructure	
	Explore Investment and Integration Approaches	
	Plan Service Provision Networks	
	Leverage Emerging National Funding Programs	

*Aerospace Economic Development Workforce Workstream*

Airports, enabled by local and mostly state government are the primary stakeholders for this workstream.

## AVIATION SAFETY AND POLICY

Paramount to any transportation system is a priority to ensure safe operations through evaluations and testing of safety critical services, shown in the *Aviation Safety and Policy Workstream*. This also includes the relevant state policies to support safety assurance and formalize AAM governance.

Aviation Safety & Policy		
(Near-Term)	(Mid-Term)	(Long-Term)
Create an AAM Advisory Council		
Establish Formal State AAM Leader		
Assess Financial Assistance Programs		
Identify Surveillance Requirements and Gaps		
	Identify Communications Requirements and Gaps	
		Identify Weather Data Requirements and Gaps
		Establish On-Boarding Process

*Aviation Safety and Policy Workstream*

Primary stakeholders for this workstream will consist of a mix of leading research universities and educational institutions enabled by state government led bodies.

## MULTI-MODAL INTEGRATION

Supporting operational missions is the essence of AAM integration, and activities the *Multi-Modal Integration Workstream* contribute to advancing operational maturity.

Multi-Modal Integration		
(Near-Term)	(Mid-Term)	(Long-Term)
Invest in Precision Agriculture Operational Enablers		
Improve Air Medical Operations with AAM		
	Improve Air Cargo Operations	
	Enhance Emergency Response with AAM	
		Boost Passenger Air Mobility
		Initiate Cooperative Operating Practice Development

*Multi-Modal Integration Workstream*

Industry, enabled by leading airports focused on early AAM and long term AAM implementation will drive this workstream forward with government support.

## INNOVATION AND KNOWLEDGE SITES

To maintain Kansas's leadership in cutting aviation technology, the *Innovation & Knowledge Sites Workstream* includes activities to prioritize the continued pursuit of technical innovation and support for innovative test sites and capabilities.

Innovation & Knowledge Sites		
(Near-Term)	(Mid-Term)	(Long-Term)
Integrate AAM into Transportation Plans		
Establish Airport Communities of Interest		
Enable Flight Demonstrations		
Encourage Innovation and Investment through Policy		
Convene Mission-Oriented Industry Forums		

*Innovation and Knowledge Sites Workstream*

Educational intuitions supported by early adopter airports and enabled by government policy are key stakeholders for this workstream.

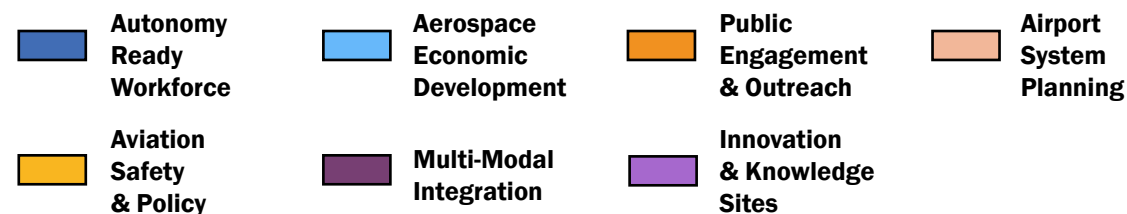
## ROADMAP

For roadmap priorities to be met and AAM to be realized, all workstreams must be prioritized and make progress concurrently. The roadmap activities capture the progression of each workstream from initial near-term efforts to long-term activities over the next decade, shown in *Workstream Summary by Strategic Evolution*.

(Near-Term)	(Mid-Term)	(Long-Term)
Adapt Workforce Capabilities and Skills		
Create a Kansas AAM Innovation Portal		
Engage with Local Government		
Accelerate Community Showcases		
Integrate AAM into Transportation Plans		
Create an AAM Advisory Council		
Establish Formal State AAM Leader		
Assess Financial Assistance Programs		
Identify Surveillance Requirements and Gaps		
Invest in Precision Agriculture Operational Enablers		
Integrate AAM into Transportation Plans		
Establish Airport Communities of Interest		
Develop an AAM Business Strategy		
Integrate AAM into Other Kansas Strategic Plans		
Pursue Alternative Funding and Partnerships		
Coordinate National Engagement		
Perform Initial Feasibility Studies		
Improve Air Medical Operations with AAM		
Enable Flight Demonstrations		
Encourage Innovation and Investment through Policy		

*Workstream Summary by Strategic Evolution*

(Near-Term)	(Mid-Term)	(Long-Term)
	Establish AAM-Ready Training Programs	
	Coordinate National Engagement	
	Attract & Retain AAM Business	
	Increase Public Awareness	
	Define Best Practices for AAM Infrastructure	
	Explore Investment and Integration Approaches	
	Plan Service Provision Networks	
	Leverage Emerging National Funding Programs	
	Identify Communications Requirements and Gaps	
	Improve Air Cargo Operations	
	Enhance Emergency Response with AAM	
		Explore Cross-State and Regional Collaboration
		Identify Weather Data Requirements and Gaps
		Establish On-Boarding Process
		Boost Passenger Air Mobility
		Initiate Cooperative Operating Practice Development
Inspire Future Leaders		
Engage with AAM Consumer Communities		
Foster Community Outreach Opportunities		
Convene Mission-Oriented Industry Forums		



Workstream Summary by Strategic Evolution (cont.)

## CONCLUSION

Kansas has long been recognized as a global leader in aviation, with a rich legacy of innovation, manufacturing excellence, and a highly skilled workforce. The state’s aviation ecosystem—anchored by industry giants, cutting-edge research institutions, and a robust supply chain—has generated billions in annual economic impact, created tens of thousands of jobs, and connected communities across the nation and the world. As the aviation industry enters a new era with Advanced Air Mobility (AAM), Kansas faces both extraordinary opportunity and an urgent challenge. The roadmap provides a strategic plan to build on Kansas’s aviation heritage and position the state as a leader in AAM. It is expected to adapt to technological advancements and market changes through phased implementation and updates, as well as the addition of new activities and completion of others. By addressing the priorities and objectives outlined by the stakeholders that helped build the roadmap, Kansas will maintain and accelerate its leadership in aviation. The state will also best position itself to integrate AAM into its transportation system and fully realize the expected economic and societal benefits across the identified use cases and aerospace sectors, while strengthening its position as a global exporter of aircraft and emerging aviation technology.

### Economic Impact and Urgency

Other states—including North Dakota, Oklahoma, Ohio, Texas, and Utah—are already investing heavily in AAM infrastructure, workforce, and policy. These states view AAM as a disruptive force and are positioning themselves to attract companies and talent. Kansas must act with urgency to secure funding, enact enabling policies, and mobilize stakeholders—especially state government—to avoid losing its aviation dominance and to fully realize the benefits of optimistic economic impact projections. Without action, the chances of Kansas capturing the most optimistic market scenarios projected are decreasing.

### Call to Action

Kansas’s aviation future depends on immediate, coordinated action by key stakeholders working under a coordinated effort and towards an aligned strategy. By leveraging existing strengths and proactively addressing gaps, Kansas can maintain its leadership, capture new markets, and deliver transformative benefits for all Kansans. Failure to move with urgency risks ceding leadership and losing out on billions in economic opportunity, thousands of high-quality jobs, and the chance to shape the future of transportation. The Kansas Advanced Air Mobility Roadmap sets forth a bold vision to build on the state’s century-long aviation legacy and position Kansas as a national and global leader in next-generation flight. The roadmap’s priorities are designed to deliver tangible results through phased, strategic implementation intended to secure Kansas as a hub for advanced air mobility innovation, manufacturing, and service. **Kansas’s aviation legacy is unmatched, but its future leadership in AAM depends on immediate, strategic action. The roadmap is a call to all stakeholders—government, industry, academia, and communities—to invest, innovate, and lead. The time to secure Kansas’s place at the forefront of aviation is now.**

# APPENDIX A

## ALIGNMENT OF STATE AGENCY PLANS WITH OBJECTIVES

AGENCY/PLAN	STATE GOALS	RELATED COMPONENTS	ALIGNED AAM OBJECTIVES
<p>Kansas Department of Commerce</p> <p>Kansas Framework for Growth (2021)</p>	<ul style="list-style-type: none"> <li>Talent</li> <li>Innovation</li> <li>Policy</li> <li>Community Assets</li> </ul>	<ul style="list-style-type: none"> <li>The plan identifies aerospace as a key sector, urging expansion of the value chain, driving innovation, and capturing projected growth.</li> <li>The plan commits Kansas to be an early customer for disruptive aerospace technologies.</li> <li>The plan leverages existing research assets and scales them for emerging entrants and technologies.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrated AAM Job Growth</li> <li>Prepared AAM Workforce</li> <li>Efficient and Effective Governance</li> <li>Established Operational Evaluation and Testing Systems</li> </ul>
<p>Kansas Department of Transportation</p> <p>2020-2045 Kansas Long Range Transportation Plan</p>	<ul style="list-style-type: none"> <li>Economic Growth</li> <li>Enhanced Transportation</li> </ul>	<ul style="list-style-type: none"> <li>The plan includes information related to emerging entrants that will drive infrastructure, economic growth, and technology change considerations across the department of transportation.</li> <li>The plan identifies a series of long-range transportation goals that AAM is envisioned to provide meaningful progress towards by 2045.</li> <li>The plan indicates that the airport system of the future should be prepared for emerging entrants as a new mode of transportation.</li> </ul>	<ul style="list-style-type: none"> <li>Aligned Kansas Strategy</li> <li>Empowered Kansas Use Cases</li> <li>Unify Strategy and Long-Term Planning for Smart Policy</li> <li>Enhanced Infrastructure and Services</li> <li>Established Service Providers</li> <li>Enabled Airports</li> </ul>

AGENCY/PLAN	STATE GOALS	RELATED COMPONENTS	ALIGNED AAM OBJECTIVES
<p>Kansas Department of Transportation</p> <p>Kansas Aviation System Plan</p>	<ul style="list-style-type: none"> <li>Enhanced Transportation</li> </ul>	<ul style="list-style-type: none"> <li>The plan identifies goals to provide a modern network of airports.</li> <li>The plan supports local and statewide economic growth.</li> <li>The plan promotes aviation education and increases accessibility to airports.</li> </ul>	<ul style="list-style-type: none"> <li>Enabled Airports</li> <li>Mature Vertiports and Supporting Infrastructure</li> <li>Established Service Providers</li> <li>Prepared AAM Workforce</li> <li>Empowered Kansas Use Cases</li> </ul>
<p>Kansas Board of Regents</p> <p>Building a Future Strategic Plan (2020)</p>	<ul style="list-style-type: none"> <li>Innovation</li> <li>Economic Development</li> <li>Higher Education</li> </ul>	<ul style="list-style-type: none"> <li>The plan indicates intentional economic development and facilities initiatives focused on aerospace and advanced aviation manufacturing capabilities.</li> <li>The plan outlines industry-sponsored research as a key area of innovation for enabling talent pipelines and Kansas businesses.</li> <li>The plan identifies agriculture, advanced manufacturing in aviation, computer science, and energy as particular areas of importance.</li> </ul>	<ul style="list-style-type: none"> <li>Established Operational Evaluations and Testing Systems</li> <li>Prepared AAM Workforce</li> <li>Demonstrated AAM Job Growth</li> <li>Connected Industry</li> </ul>

AGENCY/PLAN	STATE GOALS	RELATED COMPONENTS	ALIGNED AAM OBJECTIVES
Mid-America Regional Council  Connected KC50	<ul style="list-style-type: none"> <li>• Accessible Transportation</li> <li>• Climate Resilience</li> </ul>	<ul style="list-style-type: none"> <li>• The plan focuses on strategies that encourage adoption of new and novel types of transportation technologies and modes.</li> <li>• The plan includes efforts to expand transportation choices, reduce transportation costs, address climate resilience, and increase overall access to transportation opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>• Empowered Kansas Use Cases</li> <li>• Efficient and Effective Governance</li> <li>• Mature Vertiports and Supporting Infrastructure</li> <li>• Convened Communities</li> </ul>
Kansas Board of Regents  Kansas Science and Technology Plan	<ul style="list-style-type: none"> <li>• Innovation</li> <li>• Enhanced Transportation</li> </ul>	<ul style="list-style-type: none"> <li>• The plan outlines the Kansas innovation profile for each university and highlights aviation and transportation as critical resources and areas of focus for the state, particularly related to UAS and aerospace engineering.</li> <li>• The plan identifies precision agriculture and autonomy as key areas for Kansas to grow its economy and innovation profile.</li> </ul>	<ul style="list-style-type: none"> <li>• Empowered Kansas Use Cases</li> <li>• Established Operational Evaluations and Testing Systems</li> <li>• Demonstrated AAM Job Growth</li> <li>• Prepared AAM Workforce</li> <li>• Cultivated AAM Interest</li> </ul>

# APPENDIX B

This appendix outlines a notional feasibility process used to assess potential vertiport locations for specific use cases and generally across Kansas. A full feasibility is recommended to be completed as one of the key Kansas state activities to enable AAM using available state data on infrastructure and other key areas.

## VERTIPORT AND USE CASE FEASIBILITY

The feasibility analysis was complete for a generalized vertiport feasibility model, as well as use-case specific feasibility models. Vertiport site feasibility may differ based on proximity to use-case specific needs (e.g. a hospital for air ambulance use cases).

### Analysis Approach and Assumptions

For the analysis, data sources were considered based on what pre-existing infrastructure may support vertiport siting and use case capability. Examples include availability of power supply or distance to fuel sources, availability of real estate, proximity to existing heliports, etc. Over 60 datasets were reviewed for applicability to the feasibility model. The dataset<sup>104</sup> includes:

- Existing Aviation Facilities
- Census Tract Data
- Colleges and Universities
- State and County Emergency Operations Centers
- Fire and EMS Stations
- Power Plants
- Broadband Service and Transmitters
- FAA Obstacles
- Military Installation Ranges and Bases
- Law Enforcement Locations
- Hospitals
- Intermodal Facilities
- Alternative Fueling Stations and Corridors
- Distribution Centers
- Intermodal Passenger Connectivity Hubs
- Substation
- Cargo Facilities
- ETHOS Air Medical Basis
- Part 145 Repair Stations
- Part 142, Part 141, and 147 Training Centers
- Protected Land Management Areas

The dataset and process are expected to grow as a full feasibility process is undertaken during AAM planning by the state.



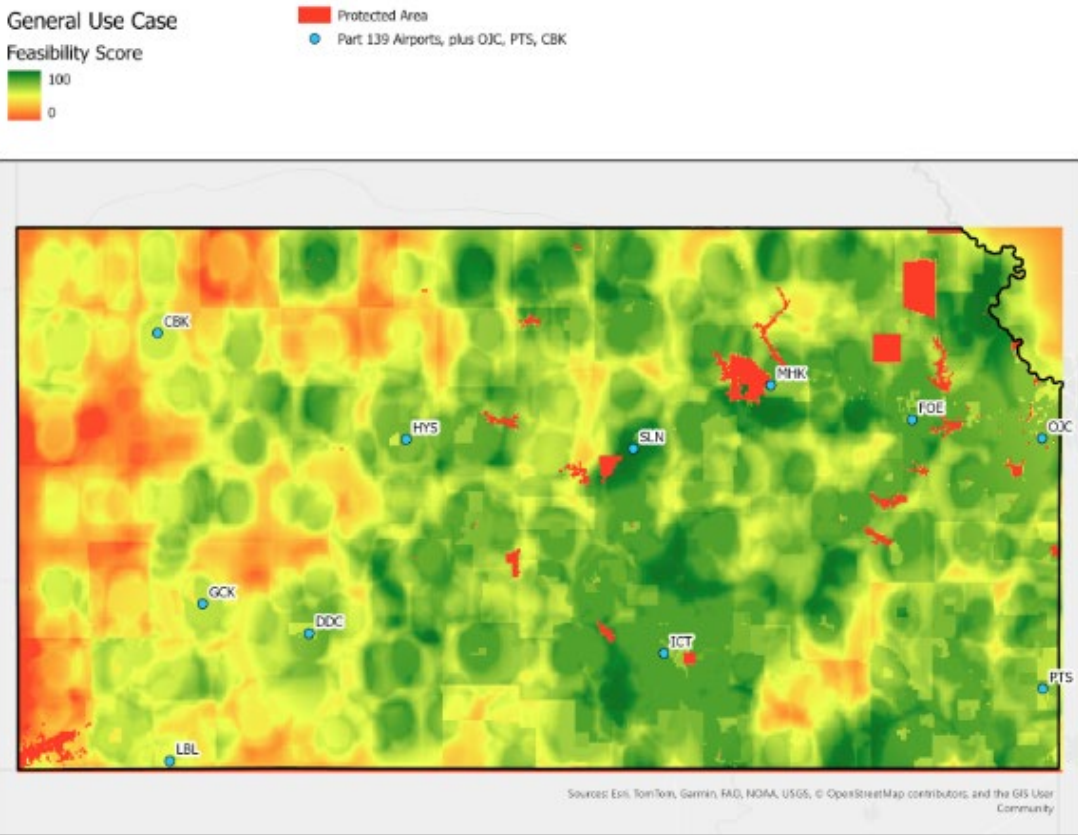
An initial network of airports supporting AAM emergency management services, previously proposed from the passenger transport use case, was envisioned to also support potential AAM emergency management services. Service can be established out of these airport locations with less incremental costs, as many of those airports are Part 139 certified and are best equipped with supporting infrastructure and resources that emergency management agencies may need.

Airports located in high suitability areas were added to cover gaps in the initial AAM emergency management network. For example, between the 50-mile radius of DDC and ICT airports, there is a large area in the state that would be uncovered. The addition of another public use airport, PTT (with a high feasibility value of 85), to this potential vertiport network will cover almost all of the service area gap between DDC and ICT, making it a good potential site to include for emergency management.

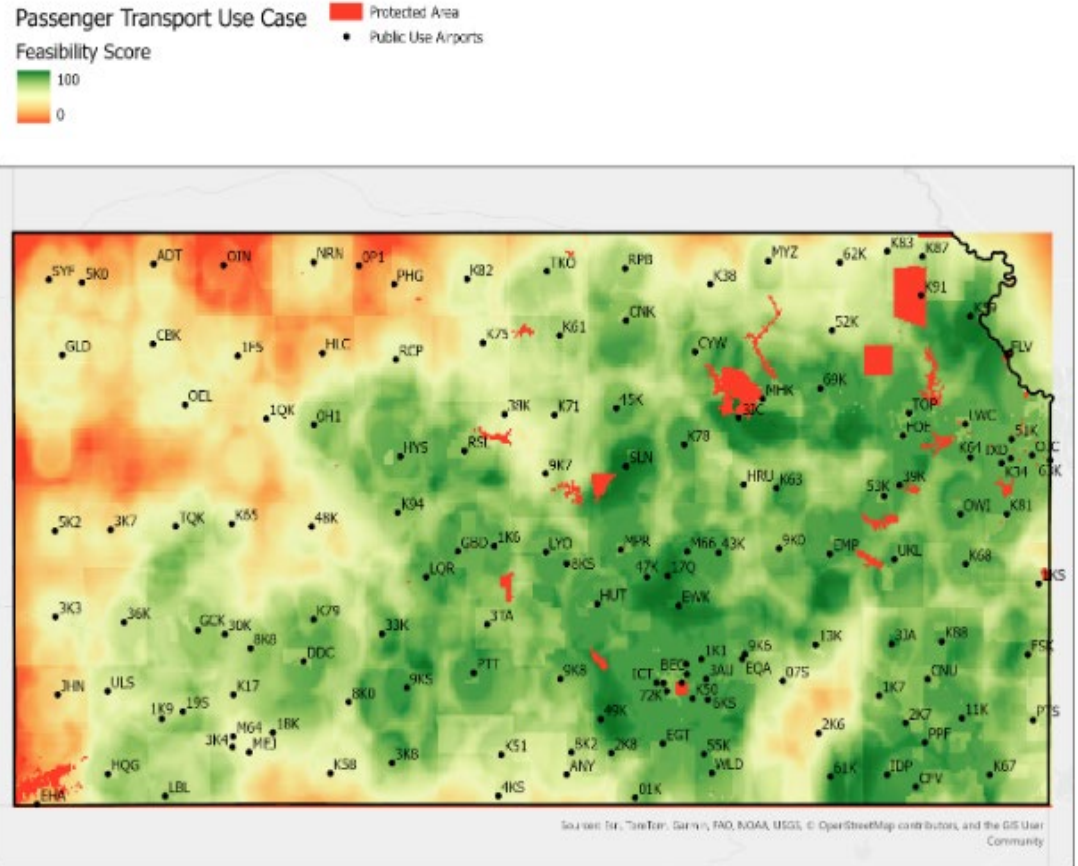
A final set of Kansas airports determined ideal to support counties most affected by disasters with high feasibility scores, assuming a conservative operational range of the AAM vehicle of 50 miles is presented in (*Potential Network of Suitable Kansas Airports for AAM Emergency Management*). By enabling additional emergency response capability at these counties in the state, there are implied indirect economic benefits that and societal benefits that the state would enable by investing in necessary infrastructure and capabilities to support this use case.

**VERTIPORT FEASIBILITY ANALYSES**

A generic vertiport feasibility result in shown in *General Use Case Vertiport Feasibility Statewide*. A feasibility analysis for passenger transportation is shown in *Passenger Use Case Vertiport Feasibility Statewide*. A feasibility analysis for cargo transportation is shown in *Cargo Use Case Vertiport Feasibility Statewide*. A feasibility analysis for air ambulance vertiport placement is shown in *Air Medical Use Case Vertiport Feasibility State*.



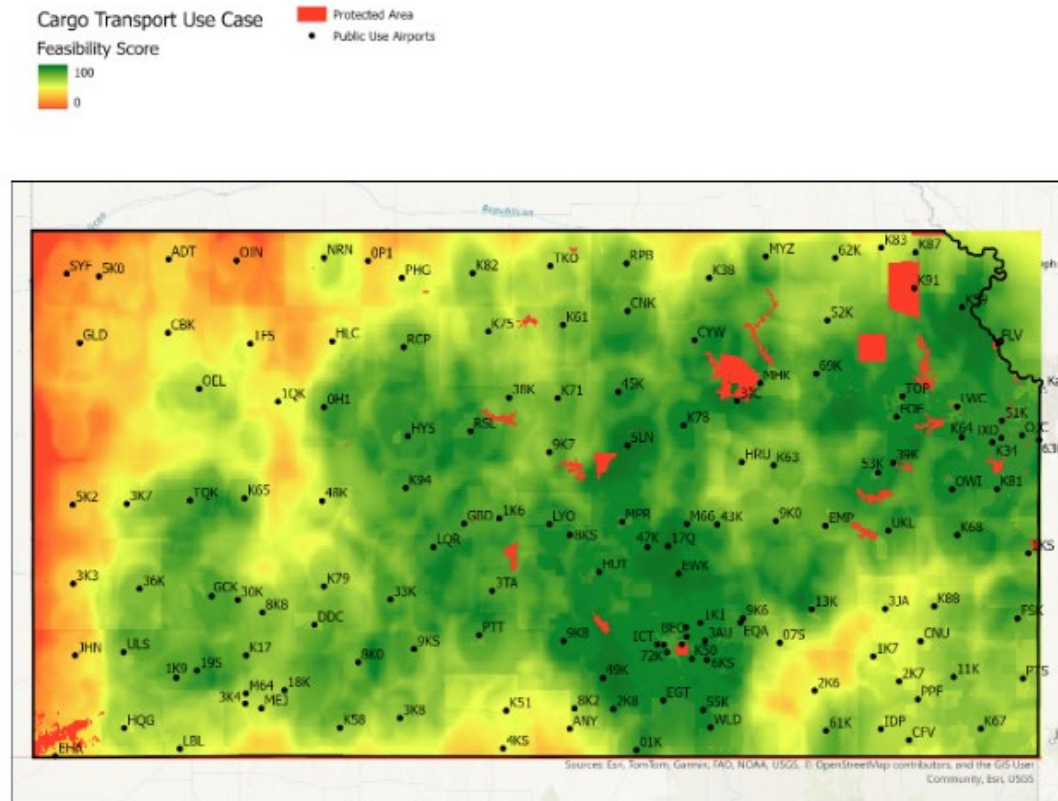
General Use Case Vertiport Feasibility Statewide



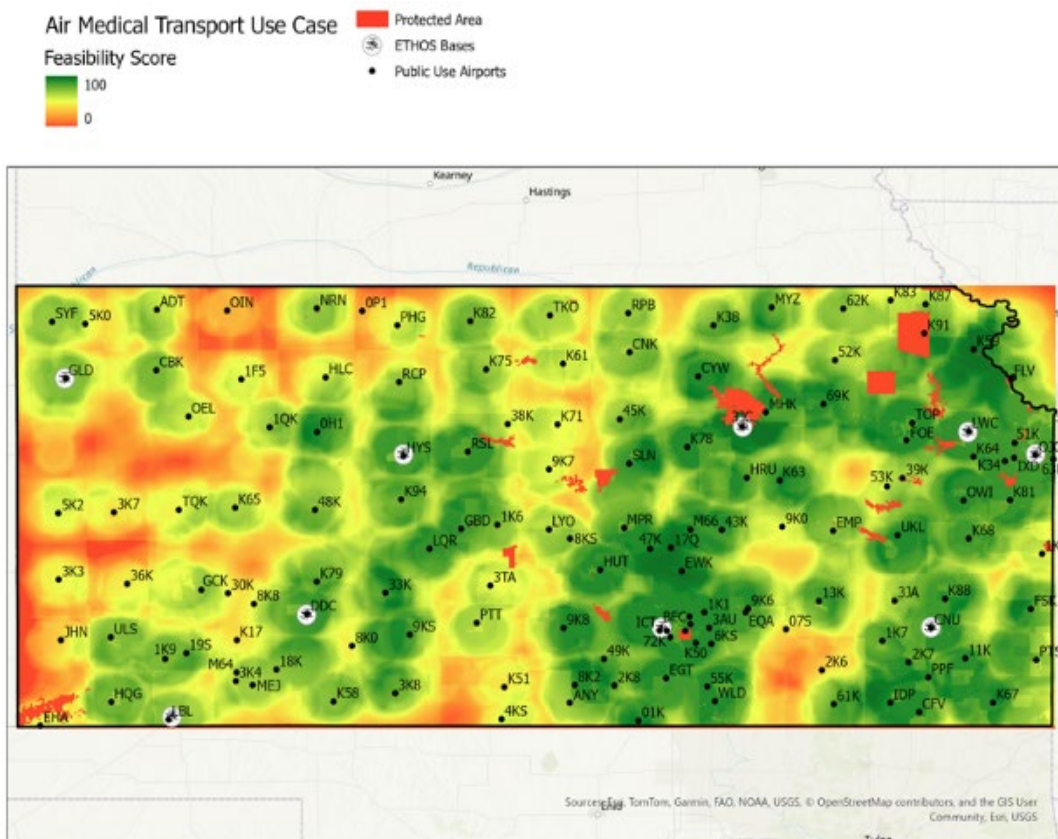
Passenger Use Case Vertiport Feasibility Statewide

# APPENDIX C

## ACRONYMS AND ABBREVIATIONS



Cargo Use Case Vertiport Feasibility Statewide



Air Medical Use Case Vertiport Feasibility Statewide

TERM	DEFINITION
AAM	Advanced Air Mobility
ADS-B	Automatic Dependent Surveillance Broadcast
AIM	Aviation Innovation and Maintenance Center of Excellence
ASSURE	Alliance of System Safety of UAS through Research Excellence
AUVSI	Association for Uncrewed Vehicle Systems International
BVLOS	Beyond Visual Line-of Site
CAMI	Community Air Mobility Initiative
CBK	Colby Municipal Airport
CNU	Chanute Martin Johnson Airport
CONOP	Concept of Operations
COP	Cooperative Operating Practice
DDC	Dodge City Regional Airport
DOT	Department of Transportation
eCTOL	Electric Conventional Takeoff and Landing
EIS	Economic Impact Study
EMS	Emergency Medical Services
eSTOL	Electric Short Takeoff and Landing
eVTOL	Electric Vertical Takeoff and Landing
FAA	Federal Aviation Administration
FAF	Freight Analysis Framework
FARS	Fatality Analysis Reporting Systems
FOE	Topeka Regional Airport
FTE	Full Time Equivalent
GCK	Garden City Regional Airport
GDP	Gross Domestic Product
HYS	Hays Regional Airport
ICT	Wichita Dwight D. Eisenhower National Airport
IFT	Interfacility Transports
IMPLAN	Impact Analysis for Planning
IXD	New Century Air Center
KAIP	Kansas Airport Improvement Program
KBEMS	Kansas Board of Emergency Medical Services
KBOR	Kansas Board of Regents
KDOT	Kansas Department of Transportation

TERM	DEFINITION
K-State	Kansas State University Salina Campus
KSU	Kansas State University
KU	Kansas University
L1	Level 1
L2	Level 2
LBL	Liberal Mid-America Regional Airport
MARC	Mid-America Regional Council
MCI	Kansas City International Airport
MHK	Manhattan Regional Airport
MKC	Charles B. Wheeler Downtown
MMRO	Manufacturing, Maintenance, Repair and Overhaul
MNL	Multinational logit
MPH	Miles per hour
MPO	Metropolitan Planning Organization
MRO	Maintenance, Repair, and Overhaul
NAICS	North American Industry Classification Systems
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
NextGen NHTS	Next-Generation National Household Travel Survey
NIAR	National Institute of Aviation Research
NPIAS	National Plan of Integrated Airport Systems
OD	Origin-Destination
OEM	Original Equipment Manufacturers
OJC	Johnson County Executive Airport
Project AAERO	Project for Advanced Aviation and Engineering Research Operations
PTS	Atkinson Municipal Airport
RAM	Regional Air Mobility
REMI	Regional Economic Model
RIMS II	Regional Input-Output Modeling Systems
SLN	Salina Regional Airport
STEM	Science, Technology, Engineering, and Math
U.S.	United States
UAS	Unmanned Aerial Systems

# FOOT NOTES

## PART 1

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- <sup>6</sup> [https://www.wichita.edu/industry\\_and\\_defense/NIAR/](https://www.wichita.edu/industry_and_defense/NIAR/)
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- <sup>9</sup> <https://www.salina.k-state.edu/research-training/applied-aviation-research-center/>
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- <sup>17</sup> The 2020-2045 Kansas Long Range Transportation Plan  
<https://www.ksdot.gov/home/showpublisheddocument/3545/638722973000170000>
- <sup>18</sup> [https://aviation.ks.gov/files/KAIP\\_FY26\\_Guidelines\\_EffJan1\\_2025.pdf](https://aviation.ks.gov/files/KAIP_FY26_Guidelines_EffJan1_2025.pdf)
- <sup>19</sup> <https://www.govtech.com/fs/kansas-poised-to-lead-in-future-of-aviation-air-taxis>
- <sup>20</sup> [https://www.kansasregents.gov/resources/PDF/Kansas\\_Science\\_Technology\\_Plan\\_2021\\_Effective.pdf](https://www.kansasregents.gov/resources/PDF/Kansas_Science_Technology_Plan_2021_Effective.pdf)
- <sup>21</sup> <https://www.spiritaero.com/pages/release/spirit-aerosystems-announces-acquisition-by-boeing-in-8.3-billion-transaction/>
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- <sup>24</sup> <https://ae.ku.edu/unmanned-aerial-systems>  
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- <sup>25</sup> [https://www.wichita.edu/about/wsnews-releases/2024/05-may/evtol\\_3.php](https://www.wichita.edu/about/wsnews-releases/2024/05-may/evtol_3.php)  
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- <sup>27</sup> <https://www.salinaairport.com/media/37194/aviation-innovation-and-maintenance-center-of-excellence-set-to-reach-new-heights-in-salina.html> <https://www.spiritaero.com/pages/release/spirit-aerosystems-announces-acquisition-by-boeing-in-8.3-billion-transaction/>
- <sup>28</sup> [https://kslegislature.gov/li/b2025\\_26/committees/ctte\\_h\\_trnsprt\\_1/documents/testimony/20250225\\_01.pdf](https://kslegislature.gov/li/b2025_26/committees/ctte_h_trnsprt_1/documents/testimony/20250225_01.pdf)
- <sup>29</sup> <https://www.farm-equipment.com/blogs/6-opinions-columns/post/23886-large-domestic-autonomous-aerial-applicator-comes-to-midwest>
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- <sup>31</sup> Agriculture in Kansas: Testimony for the Senate Committee on Agriculture and Natural Resources by Kansas Secretary of Agriculture
- <sup>32</sup> Kansas Aviation Economic Impact Study - Executive Summary, Burns & McDonnell and CDM Smith, 2016 (<https://aviationacrossamerica.org/economic-impact/kansas/>)
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<https://www.kansascommerce.gov/industry/logistics/#:~:text=Kansas%20is%20home%20to%20a%20connected%20network,in%20the%20nation%20based%20on%20tons%20carried>

## PART 3

- <sup>34</sup> Bureau of Economic Analysis. Regional Input-Output Modeling System (RIMS)
- <sup>35</sup> IMPLAN. <https://implan.com/>
- <sup>36</sup> Regional Economic Models, Inc. [www.remi.com](http://www.remi.com)
- <sup>37</sup> <https://www.kansascommerce.gov/economic-development-districts/>
- <sup>38</sup> These baseline projections are control forecasts, which is largely possible due to the dynamic capability.
- <sup>39</sup> National Association of State Aviation Officials (NASAO), ks-05-23-24.pdf
- <sup>40</sup> \*OW-2024Report-OnePager-USStateByState.pdf
- <sup>41</sup> Kansas Department of Agriculture. 2024 Economic Contribution Report, August 2024.

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- <sup>42</sup> Impact estimates in the report for all cases are reported as a net change over a baseline growth for every measure used.
- <sup>43</sup> [Gross Domestic Product: All Industry Total in Kansas \(KSNAGSP\) | FRED | St. Louis Fed](https://fred.stlouisfed.org/series/GDPKANS)
- <sup>44</sup> Rounded to the nearest 100 jobs.
- <sup>45</sup> <https://www.flyingmag.com/archer-agrees-to-potential-air-taxi-sale-worth-580m/>
- <sup>46</sup> <https://ir.jobyaviation.com/news-events/press-releases/detail/131/abdul-latif-jameel-and-joby-agree-to-explore-opportunities?>
- <sup>47</sup> Output is all sales (sales to final uses (GDP) and sales to intermediate users.
- <sup>48</sup> For instance, the South Central Kansas is currently the most specialized in aircraft and other transportation equipment manufacturing with very high employment location quotients.
- <sup>49</sup> REMI Policy Insight was used for all impact analysis.
- <sup>50</sup> North American Industry Classification System (NAICS)- 3364 includes all of the 3 sectors listed.
- <sup>51</sup> Analysis of data for Kansas extracted from County Business Patterns, 2023. Census Bureau. The 2023 reported direct jobs in 2023 in the three sectors was reported as 23753, with the bulk of the jobs located in the South Central Kansas region.
- <sup>52</sup> Assuming an average direct and indirect multiplier of 1.6.
- <sup>53</sup> Leakages to regions outside of Kansas are also likely to increase in the medium and high scenarios, where labor pools of surrounding regions may be impacted.
- <sup>54</sup> Value of impact is calculated in 2024-dollar value, not accounting for inflation, and rounded to the nearest dollar value.
- <sup>55</sup> Employment is calculated in full time equivalent (FTE) jobs.
- <sup>56</sup> These impact estimates assume the necessary infrastructure, incentives, and regulatory framework are in place for each use case. The agricultural use case also reflects Kansas's strong role as a major agricultural trading partner, which supports significant sector growth and related economic benefits.
- <sup>57</sup> <https://www.agriculture.ks.gov/kansas-agriculture>
- <sup>58</sup> Hughes, Kaitlynn and Dharmasena, Senarath and Martin, Daniel E., Value of the Agricultural Aerial Application Industry in the United States Delineated by Crops Grown and by State: A Counterfactual Study (June 17, 2024). Available at SSRN: <https://ssrn.com/abstract=4868351> or <http://dx.doi.org/10.2139/ssrn.4868351>
- <sup>59</sup> Transportation Data Platform, The MITRE Corporation.
- <sup>60</sup> Kansas Radar & ADS-B Coverage Analysis, The MITRE Corporation, January 2025.
- <sup>61</sup> <https://www.ers.usda.gov/data-products/charts-of-note/chart-detail?chartId=110550>
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- <sup>63</sup> [https://data.nass.usda.gov/Statistics\\_by\\_State/Kansas/Publications/Crops\\_Releases/Annual\\_Summary/2025/KS-cropsum2501.pdf](https://data.nass.usda.gov/Statistics_by_State/Kansas/Publications/Crops_Releases/Annual_Summary/2025/KS-cropsum2501.pdf)
- <sup>64</sup> <https://crops.extension.iastate.edu/encyclopedia/soil-compaction-may-be-cutting-your-yield>
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- <sup>66</sup> Agribusiness Commodity Flow Study, Kansas Department of Agriculture. 2022.
- <sup>67</sup> <https://ntrs.nasa.gov/api/citations/20230012505/downloads/NASA-CR-20230012505.pdf>
- <sup>68</sup> Goyal, R., & Cohen, A. (2022). Advanced Air Mobility: Opportunities and Challenges Deploying eVTOLs for Air Ambulance Service. Applied Sciences, 12(3), 1183. <https://doi.org/10.3390/app12031183>

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- <sup>71</sup> <https://aams.org/page/aams-requests-363-5m-to-support-air-ambulances>
- <sup>72</sup> <https://www.metroaviation.com/2024/11/04/metro-partners-with-beta/>
- <sup>73</sup> <https://www.flightglobal.com/airframers/electra-secures-more-funding-still-eyes-2029-market-entry-for-el9-blown-lift-aircraft/162681.article>
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- <sup>76</sup> <https://www.transportation.gov/safe-system-approach/post-crash-care>
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- <sup>91</sup> U.S.DOT: Benefit-Cost Analysis Guidance for Discretionary Grant Programs | US Department of Transportation
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### APPENDIX B

- <sup>104</sup> Authoritative Geospatial Data Sources from state, federal, and industry datasets were utilized.
- <sup>105</sup> Layers that represent locations of infrastructures that reinforce vertiport site feasibility, such as electric substations, are assigned a higher feasibility value. Layers that represent locations AAM is expected to avoid or that may not enable AAM are assigned a lower feasibility value. Layers that have gaps or do not cover the full extent of the state are filled using a neutral feasibility value.

