

Economic Impact Subcommittee

Texas AAM Committee

Meeting #4, May 15, 2024

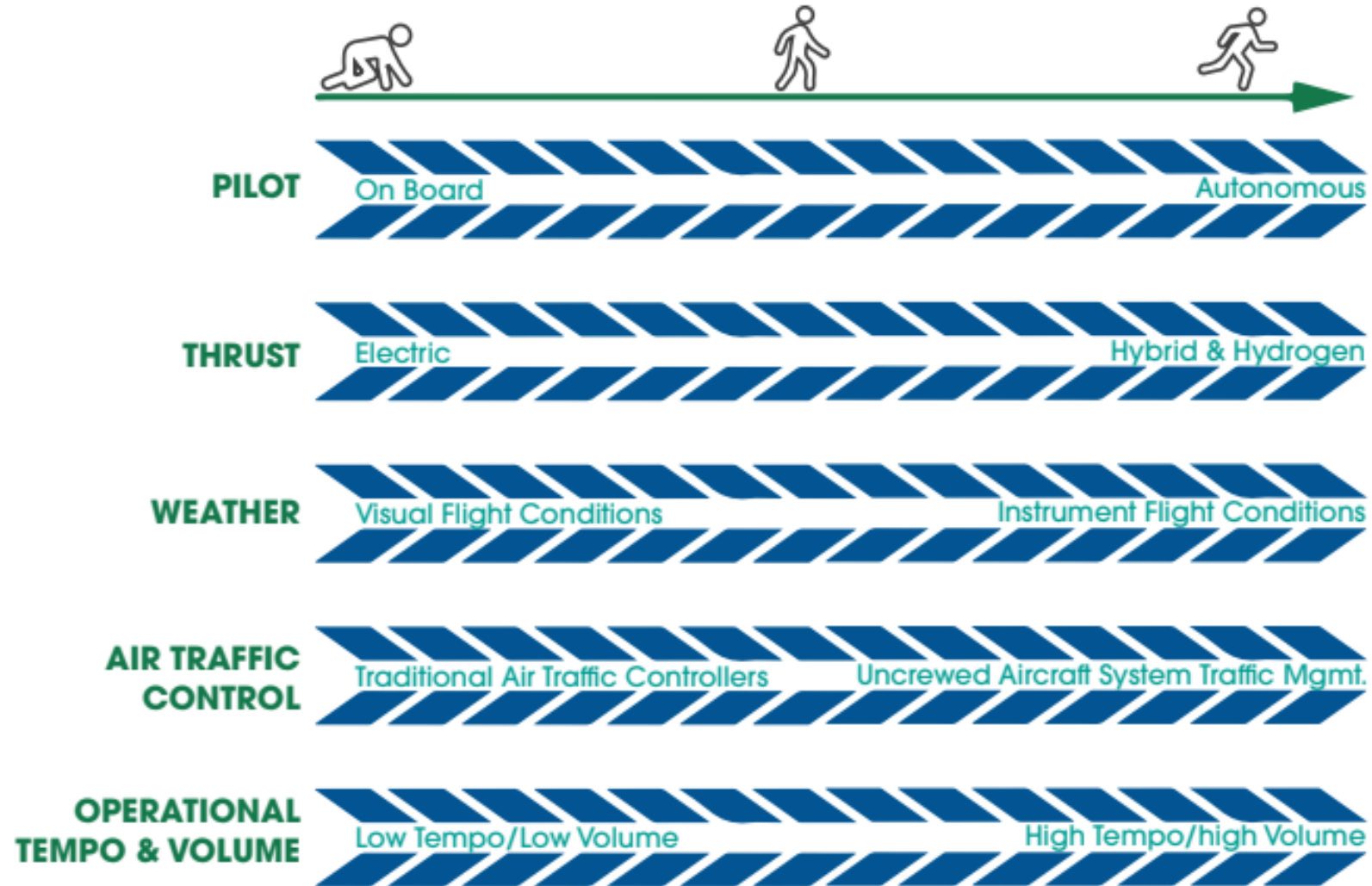
Agenda

- Legislative tips
- Refine economic impact recommendations
- Review other recommendations

Legislative Tips

- Consolidate recommendations as much as possible so they can be easily remembered and communicated (10-15 recs total)
- Ask for what you want, but asking for it will not necessarily make it happen
- Desired outcomes need to be clearly specified
- King's coin - if you take money from the king, you are now the king's man
- No state agency can lobby
- Advocacy for the industry is better handled by a trade association
- An economic impact study can help show the ROI for the state, with the importance increasing as the investment amount increases
 - It's best to have this information available in November 2024 when bills get filed
- Be careful "opening up" statute because you never know what changes will be made on the floor

CRAWL, WALK, & RUN PHASES OF AAM



Recommendation	Funding Amount	Funding Notes	State	Industry	Federal	Timeframe	Priority
AAM Definition	\$0		Y			26-27	
AAM Office (TxDOT)	\$0		Y			26-27	
State Agency Information Sharing	\$0		Y			26-27	
First Responder Training	\$0		Y			26-27	
Revenue Streams for AAM	\$0		Y			26-27	
Disallowed AAM Uses	\$0		Y			26-27	
AAM Rep on TxDOT Aviation Committee	\$0		Y			26-27	
AAM Advisory Committee	\$0	annually	Y			26-27	
AAM Position	\$0		Y			26-27	
AAM Public Awareness	\$500,000	annually each from state and industry	Y	Y	Y	26-27	
Electrical Infrastructure	?		Y		Y	26-27	
Statewide Airspace Infrastructure	?		Y			26-27	
AAM Workforce – Higher Education	\$10,000,000	annually (for a set period of time)	Y		Y	26-27	
Economic Impact Study (long-term)	\$1,000,000		Y	Y	Y	26-27	
Statewide AAM Plan	\$1,000,000		Y	Y	Y	26-27	
AAM Research and Development	\$20,000,000	annually	Y			26-35	
AAM Workforce – K-12	\$2,000,000		Y			28-29	
Mitigation of Cybersecurity Risks	?		Y	Y	Y	?	
Funding for AAM Infrastructure for Existing Airports	N/A					28-29	
Vertiport Grant Program	\$50,000,000	annually	Y			28-29	
Vertiport Construction Matching Program	\$100,000,000		Y		Y	28-29	
Ancillary Off-airport Infrastructure	N/A		Y		Y	28-29	
Vertiports at Existing Airports	N/A		Y			N/A	
Data Capture and Analysis	N/A		Y			N/A	
FY 26-27 Total Biennium Request = \$65,000,000		FY 28-29 Total Biennium Request = \$4,000,000					

Economic Impact Recommendations

Recommendation

AAM Workforce Development

Recommendation: Direct state universities, community colleges, vocational schools, and TEA to put together an action plan detailing requirements to develop a robust AAM industry.

Who: workforce solutions, TWC, THECB, TSTC

Funding source: federal (DOD), state, general

How much: ~~\$10M annually (for a set period of time)~~

Timeframe: 26-27

Recommendation

~~AAM Workforce – K-12~~

Recommendation: Direct the TEA to integrate AAM into K-12 curriculum (e.g., NASA toolkit) and coordinate with TWC on developing AAM apprenticeship programs at high schools.

Who: TEA, TWC

Funding source: state

How much: \$2M

Timeframe: 28-29

Not a Legislative Recommendation

Economic Impact Study (short-term)

Recommendation: Put together a preliminary study estimating workforce development and economic impact potential.

Who: AAM committee, industry

Funding source: industry and/or local partners

How much: \$50,000-75,000

Timeline: complete by ~~January 2025 at the latest~~ November 2024 for optimal results

Recommendation

~~Economic Impact Study (long-term)~~

Recommendation: Put together a comprehensive statewide study estimating workforce development and economic impact potential.

Who: regional and state stakeholders, industry, and other relevant parties

Funding source: state, industry, federal

How much: \$500,000-1,000,000

Timeline: FY 26-27

Recommendation

~~Statewide AAM Plan~~

Recommendation: TxDOT develop a statewide plan for Texas AAM in conjunction with industry, similar to other AAM leader states

Who: industry, state

Funding source: state, federal, industry

How much: \$500,000-1,000,000

Timeline: FY 26-27

Recommendation

Statewide Economic Impact and AAM Plan

Recommendation: Complete a comprehensive study estimating workforce development and economic impact potential, combined with a statewide plan for Texas AAM in conjunction with industry, similar to other AAM leader states.

Who: industry, state

Funding source: state, federal, industry

How much: \$1,000,000-2,000,000

Timeline: FY 26-27

Recommendation

AAM Advisory Committee

Recommendation: Continue and expand the AAM Advisory Committee in part to support the statewide economic impact and AAM plan.

Who: TxDOT

Funding source: TxDOT funding

How much: \$0 (supported by existing staff)

*If a report or other significant deliverable is envisioned, then there is a cost

Next Meeting Dates

Economic Impact Meeting 5: **June 12**, 10:00-12:00

Full Committee Meeting: **May 16**, 12:30-3:30 (fully online)

Other Recommendations

Recommendation

AAM Public Awareness

Recommendation: Provide funds to create communication materials targeted to the public, decision makers, and recreational drone users that can be implemented as appropriate.

Who: Texas Economic Development, TxDOT, Program Manager

Funding source: general fund, rider, industry funds (advertising campaign), federal funds

How much: \$500,000 annually each from state and industry

Recommendation

AAM Office (TxDOT)

Recommendation: ~~Create an office at TxDOT to increase adoption and awareness of AAM (through demonstration day coordination, conference presentations, etc.)~~

Modified recommendation: Create an office at TxDOT to provide technical support for AAM infrastructure at Texas airports

Who: TxDOT

How much: 0

Note: State employees cannot advocate for a particular industry. That is a role better served by a trade association

Recommendation

AAM Position

Recommendation: Create a position at OOG to increase adoption and awareness of autonomous vehicles including AAM technologies (through demonstration day coordination, conference presentations, etc.)

Who: OOG

How much: 0

Note: State employees cannot advocate for a particular industry. That is a role better served by a trade association

Texas Economic Development & Tourism

- Texas Economic Development & Tourism (EDT), within the Office of Governor Abbott, is tasked with marketing and promoting the state of Texas as a premier business location and travel destination
- The purpose of the Aerospace and Aviation Advisory Committee is to advise the Governor on the recruitment and retention of industry jobs and investment

Texas Economic Development Corporation

- The Texas Economic Development Corporation (TxEDC) is an independently funded and operated 501(c)(3) nonprofit organization responsible for marketing and promoting Texas as a premier business location.
- Through a robust program of national and international investment attraction missions, industry events, media relations, advertising and other signature initiatives, TxEDC spreads the word of Texas' business advantages among a target audience of corporate decision makers and site selection consultants.

Recommendation

AAM Research and Development

Recommendation: Support research and development for AAM technologies, products, and services in Texas by creating a program for state universities (e.g., developing UTM systems, integrating autonomous aviation to the NAS) which could be used as matching funds for federal grants and a minimum percentage of community or industry match.

Who: TxDOT

Funding source: general

How much: \$40M bi-annually

Recommendation

AAM Definition

Recommendation: Include drones and UAS in Texas AAM definition

Who: Texas Legislature

Funding source: N/A

How much: \$0

State AAM and Aircraft Definitions

AAM Definition from State Transportation Code and SB 2144:

In this section, "advanced air mobility" means an aviation transportation system that uses highly automated aircraft, which may be manned or unmanned, to operate and transport passengers or cargo at lower altitudes for commercial, public service, private, or recreational purposes.

Aircraft Definition from State Transportation Code, Chapter 21

“Aircraft” means a device intended, used, or designed for flight in the air.

Federal AAM and Aircraft Definitions

AAM definition

AAM is a transportation system that moves people and property by air between two points in the United States (U.S.) using aircraft with advanced technologies, including electric aircraft, or electric vertical takeoff and landing (eVTOL) aircraft, in both controlled and uncontrolled airspace.

Aircraft definition

The term “aircraft” means a civil, military, or public contrivance invented, used, or designed to navigate, fly, or travel in the air.

Recommendation

First Responder Training

Recommendation: TDEM establish a working group to research the development of curriculum for first responders to deal with AAM related emergencies and maintain a resource repository of all documents.

Who: TDEM

Funding source:

How much:

Recommendation

State Agency Information Sharing

Recommendation: Reestablish working group from legislation (HB2340 2019, Sec. 418.055) and include members of the AAM community in the group.

Who: legislature

Funding source: N/A

How much: \$0

Recommendation

Mitigation of Cybersecurity Risks

Recommendation: Texas A&M establish a working group to look at cybersecurity and data risks posed by autonomous vehicles including AAM technologies. The working group shall include state and local public safety representatives, NIST, CISA, and industry.

Who: Texas A&M

Funding source: state

How much: ?

Recommendation (will be modified)

Statewide Airspace Infrastructure

- The State of Texas SHOULD **support** the creation of state-wide airspace infrastructure that provides 24/7 surveillance, situational awareness, traffic management support (not Air Traffic Control), communication / telemetry support, identification services, and micro weather infrastructure. Allow private infrastructure investors to support
- Key Considerations:
 - The State could invest in the core infrastructure and create the framework that operators and developers could “plug in” to exchange data.
 - Important for the State to not pick winners / losers but provide the framework that other system developers and operators can push data to and pull data from.
 - Funds for the system could be appropriated to TXDOT who could then hire integration engineers to define the system and possibly operate it on behalf of the State.
 - Significant upside for communities, workforce, and development of the AAM and broader UAS industries.
- Funding – State of Texas for core system - \$50M to \$100M over 4-6 years but cost will vary depending on surveillance hardware required.

Recommendation (include info from NASA electrical study)

Electrical Infrastructure

Recommendation: ~~Provide matching funding to improve electrical capacity on or near Texas airports for aircraft.~~

Alternate Recommendation: Provide sufficient electrical generation and transmission capacity in Texas to accommodate AAM. Provide support for other fuel sources

Who: ~~TxDOT, AAM office~~, ERCOT, PUC

Funding source: general, federal, rider, PPP

How much: ?

Timeframe: FY 26-27

Recommendation (fold into education recommendation)

~~Disallowed AAM Uses~~

Recommendation: List of ways that AAM will not be used and encouragement of liberal use when applicable (e.g., use on state land)

Who:

Funding source:

How much: \$0

Recommendation

~~AAM Rep on TxDOT Aviation Committee~~

Recommendation: Add AAM representation to the existing 9-member TxDOT Aviation Advisory Committee.

Who: TxDOT

Funding source: N/A

How much: \$0

AAM industry representatives could already qualify

Recommendation

~~Funding for AAM Infrastructure for Existing Airports~~

Recommendation: Increase available funding for on-airport and off-airport infrastructure to support AAM if the infrastructure meets public use/public good standard.

Who: TxDOT

Funding source: non-dedicated source as directed by the Legislature

How much: ? (current airport funding pot is \$15M/yr for 80 airports)

Timeframe: FY 28-29

Recommendation

~~Vertiports at Existing Airports~~

Recommendation: Modify Chapter 21 of the Transportation Code to enable existing airports and heliports to function as vertiports and increase available funding if the vertiport meets public use/public good standard.

Who: legislature

Funding source: N/A

How much: ?

Recommendation

~~Ancillary Off-airport Infrastructure~~

Recommendation: Increase TxDOT aviation funds and allow funds to be used on or off-airport to construct infrastructure to enhance the aviation system.

Who: TxDOT, OOG, AAM office

Funding source: federal, state, general, rider

How much:

~~Vertiport Grant Program~~

- The State of Texas SHOULD create a grant program for the development of Vertiports across the State.
- Key Considerations:
 - Funds to be appropriated and managed by TXDOT and awarded on rolling basis over next two years.
 - Grants to be two-step process – initial planning grant followed by implementation grant; Initial planning grants \$500K-\$1M with implementation grants up to \$20M. Possible fund matching criteria.
 - Grant proponents could be communities, economic development, development authorities, academic institutions, quasi-governmental, or possibly land stakeholders. (This list is not exhaustive, but grantees should have sign-off from stakeholders with land use planning authority.)
 - TXDOT to set up grant management committee to set up rules, eligibility, process, review proposals, review plans, and conduct ongoing grant management reviews. May need multiple committees
 - Planning grants awarded based on make-up of team, core details of the plan, planning approach; Implementation grants awarded based on comprehensiveness of plan for economics, sustainability, workforce, community engagement and other key criteria. Other criteria TBD.
- Funding: \$200M over 4 years

Recommendation

~~Vertiport Construction Matching Program~~

Recommendation: Create a state matching program for new public good/public use vertiport construction

Who: TxDOT, AAM office

Funding source: general, rider, federal

How much: \$100M

Recommendation (combine with economic impact rec.)

~~Revenue Streams for AAM~~

Recommendation: Develop and recommend a list of revenue streams to educate the legislature on their options

Who: legislature

Funding source: N/A

How much: \$0

Note: the legislative experts noted that the Legislature is very familiar with existing revenue stream options

Recommendation

~~Data Capture and Analysis~~

Recommendation: Coordinate collaborative mechanism for capturing and analyzing existing public data on airspace integration and from drone detection companies to enhance air safety, especially for public safety uses, enabling further scaling and automation of operations.

Who: TxDOT? Texas Comptroller model?

Funding source: state

How much: ?

Not a Legislative Recommendation

AAM IWG Workshop

Recommendation: Ask the Governor's Office to request an AAM interagency working group (IWG) workshop for the state of Texas

Who: TxDOT to draft request to Governor's Office

Funding source: NA

How much: \$0