Safety and Public Good Use-Cases Subcommittee

Texas AAM Committee

Meeting #4, May 13, 2024

Agenda

- Review safety recommendations

Recommendation	Funding Amount	Funding Notes	State	Industry	Federal	Timeframe	Priority
AAM Definition	$0		Y			26-27	
AAM Office	$0		Y			26-27	
State Agency Information Sharing	$0		Y			26-27	
Disallowed AAM Uses	$0		Y			26-27	
Revenue Streams for AAM	$0		Y			26-27	
AAM Rep on TxDOT Aviation Committee	$0		Y			26-27	
AAM Advisory Committee	~~$60,000~~	annually	Y			26-27	
AAM Public Awareness	$500,000	annually each from state and industry	Y	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	
First Responder Training	$2,000,000	annually	Y		Y	26-27	
AAM Workforce – Higher Education	$10,000,000	annually (for a set period of time)	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	
~~Funding for AAM Infrastructure for Existing Airports~~	N/A					28-29	
Statewide Airspace Infrastructure	0		Y			26-27	
~~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				
Electrical Infrastructure	?		Y		Y	26-27	
Data Capture and Analysis	N/A		Y				
Mitigation of Cybersecurity Risks	N/A		Y	Y	Y		

FY 26-27 Total Biennium Request = $69,000,000　　　　**FY 28-29 Total Biennium Request = $4,000,000**

AAM Definition

Recommendation: Include drones and UAS in Texas AAM definition

Who: Texas Legislature

Funding source: N/A

How much: $0

AAM Definitions

Federal:

- 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.

State Transportation Code:

- 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.

Federal and State Aircraft Definition

18 U.S. Code § 31 – Definitions

(1) Aircraft -

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

Texas Transportation Code

Chapter 21. Administration of Aeronautics

Sec. 21.001. Definitions

(2) "Aircraft" means a device intended, used, or designed for flight in the air.

~~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

The UAS program will *not* be used to:

- Conduct random surveillance activities
- Target a person based solely on individual characteristics, such as race, color, ethnicity, national origin, sex, sexual orientation, age, gender, religion, or disability
- Harass, intimidate, or discriminate against any individual or group
- Conduct personal business or any other unauthorized use
- Support any facial or license plate recognition technology
- Carry or deploy any types of weapons
- Monitor traffic for the purpose of issuing traffic citations
- Intercept and collect Wi-Fi data

Use of Unmanned Aircraft

GOVERNMENT CODE CHAPTER 423. USE OF UNMANNED AIRCRAFT (texas.gov)

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:

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

TX HB 2340 2019 (86R) Sec. 418.054 Information Sharing Working Group

(a) In this section, "study group" means the unmanned aircraft study group established under this section.

(b) The unmanned aircraft study group is established and consists of the following members appointed by the chief of the division:

  (1) representatives of the division;

  (2) representatives from institutions of higher education; and

  (3) other appropriate interested persons.

(c) The study group shall study issues related to the appropriate use of unmanned aircraft in responding to and recovering from a disaster, including:

  (1) strategies for coordinating and promoting the use of unmanned aircraft among state agencies, local governments, and private entities in the response and recovery; and

  (2) recommended changes to state law that would allow state agencies, local governments, and private entities to more effectively use unmanned aircraft in the response and recovery.

(d) Not later than November 1, 2020, the study group shall submit a report containing recommendations on the issues described by Subsection (c) to each member of the legislature.

(e) The study group is abolished and this section expires January 1, 2021.

TX HB 2340 2019 (86R) Sec. 418.055
Information Sharing Working Group

a) In this section, "work group" means the work group established under this section.

b) The division shall establish a work group of state agencies involved in disaster management. The work group consists of members appointed by the chief of the division who represent:

   1) the comptroller's office;

   2) the Department of State Health Services;

   3) the Texas Department of Transportation;

   4) the General Land Office;

   5) the Health and Human Services Commission;

   6) institutions of higher education; and

   7) to the extent practicable, appropriate federal agencies.

c) The work group shall develop recommendations for improving the manner in which electronic information is stored by and shared among state agencies and between state agencies and federal agencies to improve the capacity of the agencies to:

   1) respond to a disaster; and

   2) coordinate the agencies' responses to a disaster.

d) Not later than November 1 of each even-numbered year, the work group shall submit the group's recommendations to the governor.

~~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: ?

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: ?

Next Meeting Dates

Safety and Public Good Use-Cases Meeting 5: **June 20**, 10:00-12:00

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

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.

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

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

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

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
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

AAM Position (OOG)

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

~~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

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: ?

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

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

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

AAM Advisory Committee

Recommendation: Continuation and expansion of the AAM Advisory Committee

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

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

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

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

AAM Workforce – Higher Education

Recommendation: Support education and workforce development for AAM by providing funds and resources for state universities, community colleges, and vocational schools to develop and offer programs and courses related to AAM.

Who: workforce solutions, TWC, THECB, TSTC

Funding source: federal (DOD), state, general

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

AAM IWG Workshop (not legislative)

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