# Full Committee Meeting

Texas AAM Advisory Committee

Meeting #6, June 26, 2024

# Agenda

- Chair and Vice Chair comments
- Approve
  - Legislative recommendations and
  - AAM- related definitions
- Discuss report outline

# AAM Committee Deadlines

| Date | Action |
|---|---|
| June 26 | Finalize recommendations and definitions |
| August 1 | Review report |
| September 3 | Turn in report to TxDOT for public comment |
| October | TxDOT commission adopts report |
| November 1 | Report due to Legislature |

# Draft Recommendations

# Recommendations

1. Leadership
    a) AAM Definition
    b) AAM Advisory Committee
    c) AAM Office (TxDOT)
    d) AAM Position (OOG)
    e) State agency information sharing
    f) AAM Public Awareness

2. Statewide AAM Plan
    a) Economic Impact
    b) Workforce Development
    c) First Responder Training
    d) Mitigation of Cybersecurity Risks
    e) Statewide Airspace Infrastructure
    f) Vertiport Standards
    g) Electrical Infrastructure

3. AAM Research and Development

# Navigating the slide deck

3 Primary Recommendations

New info

# Leadership

**Recommendation**: Clarify AAM definition and designate key industry and state points of contact to lead and coordinate the development of AAM in Texas.

a) AAM Definition
b) AAM Advisory Committee
c) AAM Office (TxDOT)
d) AAM Position (OOG)
e) State Agency Information Sharing
*f) AAM Public Awareness*

Leadership

# AAM Definition

Define AAM and its component elements in statute.

Leadership

# AAM Advisory Committee

Direct TxDOT to continue and expand the AAM Advisory Committee, in part to support the development of the Statewide AAM plan.

Leadership

# AAM Office (TxDOT)

Create an office at TxDOT to provide technical support for AAM infrastructure at Texas airports, with a particular focus on electric and autonomous AAM aircraft needs.

Leadership

# AAM Position

Create a position at the Office of the Governor to increase adoption and awareness of Texas on the national and international stage to attract investment in autonomous vehicles including AAM technologies (through demonstration day coordination, conference booths and presentations, etc.).

Leadership

# State Agency Information Sharing

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

Leadership

# AAM Public Awareness

**Recommendation**: Develop communication materials to be posted on TxDOT's website to inform decision makers, the public, and recreational drone users about AAM.

**Who:** TxDOT

**Funding source:** N/A

**How much:** $0

# Statewide AAM Plan

**Recommendation:** Develop a statewide strategic plan which establishes a vision and direction for AAM including near-term, medium, and long-range goals in conjunction with industry and community representatives. This plan should address these topics, at a minimum:

a) Economic Impact
b) Workforce Development
c) First Responder Training
d) Mitigation of Cybersecurity Risks
e) Statewide Airspace Infrastructure
f) Uniform Standards
g) Electrical Infrastructure

**Funding amount:** $4,000,000*

*Includes an additional $2M for the Statewide Airspace Infrastructure component

# Statewide Economic Impact

**Plan requirement:** Estimate the economic impact of AAM in Texas, similar to other AAM leader states, with a particular focus on electric and autonomous aircraft.

# AAM Workforce Development

**Plan requirement:** Direct TWC, THECB, TSTC, and TEA to develop an action plan detailing requirements to educate the workforce required to support a robust AAM industry in Texas, with a particular focus on electric and autonomous aircraft.

Statewide AAM Plan

# First Responder Training

**Plan requirement**: Create a TDEM-led industry and agency working group to develop curriculum and a resource repository to assist first responders in dealing with AAM-related emergencies.

# Mitigation of Cybersecurity Risks

**Plan requirement:** Establish a statewide working group to evaluate cybersecurity and data risks posed by autonomous vehicles including AAM technologies and develop strategies to minimize risks. The working group shall include representatives from state and local public safety agencies, NIST, CISA, and industry.

# Statewide Airspace Infrastructure

**Plan requirement:** Develop a plan for an AAM Airspace Integration System to provide airspace awareness. Plan includes:

i. Proposed operator,
ii. System capabilities and architecture,
iii. Phased implementation, and
iv. Data exchange mechanisms between public and private third-party system operators.
v. Support for public safety to integrate into airspace infrastructure

**Funding:** $2 million (part of overarching $4M)

# Infrastructure Uniform Standards

**Plan requirement:** Identify ways to encourage the use of consensus-based vertiport standards (e.g., templates) and support uniform planning and zoning enabling language related to powered-lift aircraft, autonomous aircraft, electric aviation, and other advances in aviation technology across the state.

# Electrical Infrastructure

**Plan requirement:** Estimate the required electrical generation and transmission capacity in conjunction with the major state utilities, ERCOT, etc. for the different implementation phases of AAM in Texas (crawl, walk, run, and soar) and evaluate the use of other fuel sources.

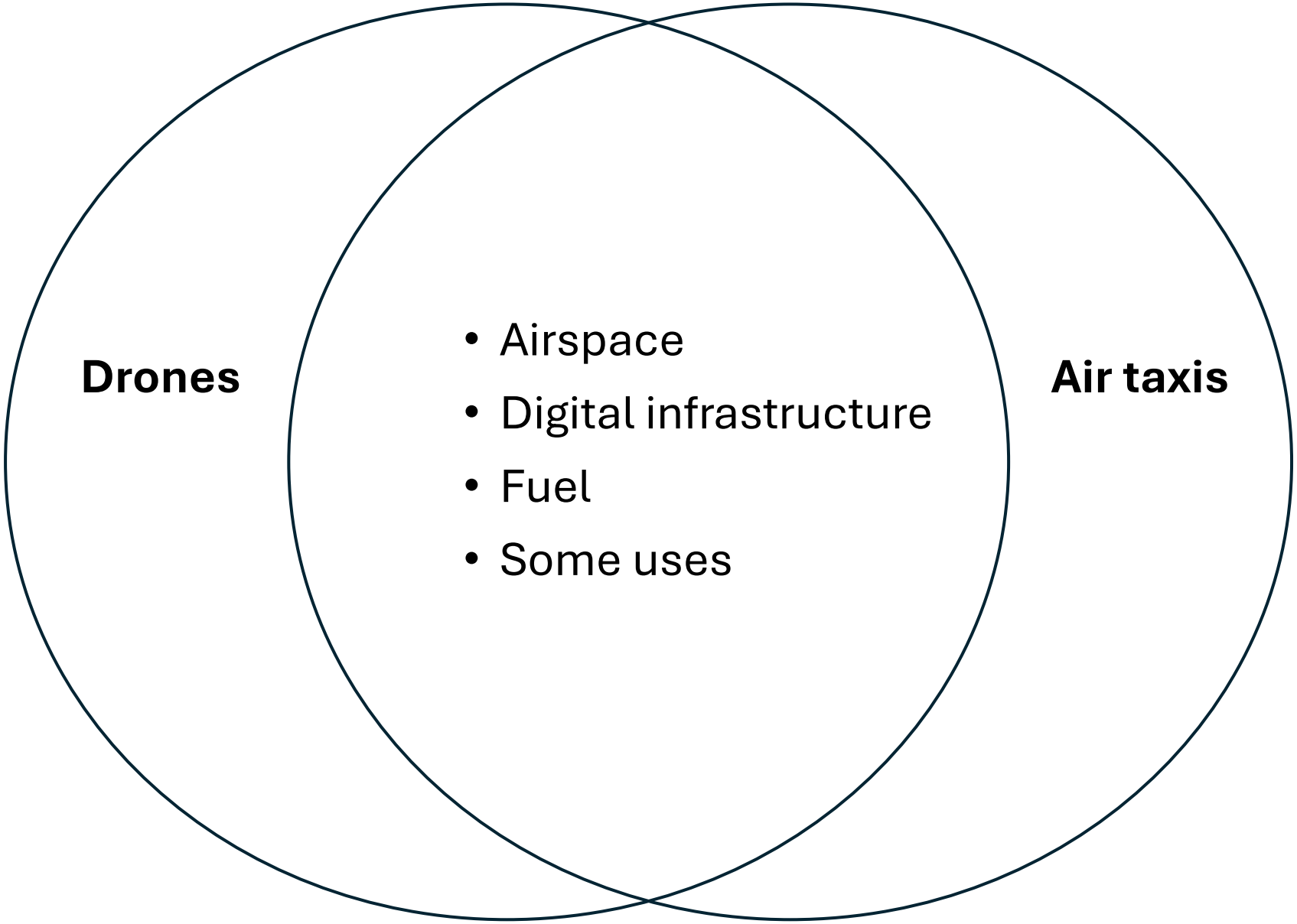
# AAM Research and Development

**Recommendation**: Direct TxDOT to create a research program for state universities to support research and development for AAM technologies, products, and services in Texas (e.g., developing UTM systems, integrating autonomous aviation into the NAS, improved batteries, fuel cell technology, and alternative fuels) by providing matching funds for federal grants and require a minimum percentage of community or industry match.

# Additional To Dos (not recommendations)

- TxDOT to add an AAM member to the Aviation Advisory Committee when an opening occurs.
- Invite IWG to host a meeting in Texas.

# AAM-related Definitions


Drones
Air taxis
• Airspace
• Digital infrastructure
• Fuel
• Some uses

# Benefits of Proposed Texas Definitions

- Considers all committee members and meeting discussions
- Enables combined and differentiated funding

- Acknowledges “system” as operative word of all three definitions
- Acknowledges the similarities and differences within AAM
- Acknowledges AUVSI’s AAM definition 300-pound qualifier
- Does not change or conflict with Federal AAM definition
- Flexible – if federal definition changes to exclude drones for example, they can be removed easily from Texas’ definition

# AAM Definitions

Propose adopting five federal definitions and defining one term

**Adopt**

- AAM
- VTOL
- UAS
- Unmanned aircraft
- Small unmanned aircraft

**Define**

- AAM aircraft

# Proposed Texas Definition Approach

- **Advanced Air Mobility (AAM)** is a transportation system that transports people and property by air between two points in the United States using aircraft with advanced technologies, including electric aircraft or electric vertical take-off and landing aircraft, in both controlled and uncontrolled airspace. (source: FAA)

- **(PROPOSED) AAM aircraft** can be highly automated, fly at lower altitudes, used for commercial, public service, private, or recreational purposes, and have multiple types differentiated by weight.
  - Type 1: less than or equal to 299 lbs.
  - Type 2: over 300 lbs.

# VTOL Definition

- **Vertical Take-off and Landing** — The term “vertical take-off and landing’’ means an aircraft with lift/thrust units used to generate powered lift and control and with two or more lift/thrust units used to provide lift during vertical takeoff or landing.

AAM Coordination and Leadership Act (P.L. 117-203, 136 Stat. 2227)

# Unmanned Aircraft Definitions

- **Unmanned Aircraft System (UAS):** an unmanned aircraft and associated elements (including communication links and the components that control the uncrewed aircraft) that are required for the pilot in command to operate safely and efficiently in the national airspace system.
  - **Unmanned aircraft:** an aircraft that is operated without the possibility of direct human intervention from within or on the aircraft.
  - **Small Unmanned Aircraft:** an unmanned aircraft weighing less than 55 pounds on takeoff, including everything that is on board or otherwise attached to the aircraft.

FAA, Code of Federal Regulations

# Draft Report Outline

# Draft Purpose and Main Point

- **Purpose:** To provide information and recommendations to support the Texas Legislature's decision-making around AAM.
- **Main Point:** AAM is coming to Texas. In order to maximize the potential significant economic and social benefits it can bring, the State should invest $4M in leadership, planning, and research for AAM.

# Report first level headings

1. Introduction
2. What is AAM?
3. Where is activity happening?
4. What are the benefits to Texans?
5. What are the challenges?
6. How can the State help?

# Report second level headings

1. **Introduction**
2. **What is AAM?**
   - Definition and context
   - AAM system
   - Uses
3. **Where is activity happening?**
   - In Texas
   - In other states
4. **What are the benefits to Texans?**
   - Economy
   - Environment
   - Social
5. **What are the challenges?**
   - Power/electricity
   - Safety
   - Communication
   - Economic development
   - Workforce development
6. **How can the State help?**
   - Leadership
   - Statewide AAM Plan
   - AAM Research and Development

# Closing

- Next meeting date: August 1, 9:00 – 12:00 (hybrid)
- Committee member bios