NCDOT Division of Aviation Advanced Air Mobility (AAM) Planning Grant Overview

Program Background

The North Carolina Department of Transportation envisions a comprehensive transportation system that embodies safety, sustainability, efficiency, resilience, and equity for all residents. With North Carolina's population projected to grow from 10 million to 14 million by 2050,[1] the demand on our transportation infrastructure will intensify, necessitating innovative and strategic approaches. In response to the evolving transportation landscape, advanced mobility innovations have the potential to improve our transportation system and meet increasing demands.[2] By synergizing the collaborative efforts of NCDOT's Aviation, Integrated Mobility, and Rail divisions, Advanced Air Mobility (AAM) technology emerges as a transformative force that aims to enhance accessibility and mobility for both people and freight across the state.

AAM is a range of emerging aviation technology that hold immense potential to enhance statewide connectivity and fortify critical services. Furthermore, AAM seamlessly complements established transportation systems, acting as an economic catalyst and drawing essential investments. As this innovative approach gathers momentum, local communities stand to benefit significantly. Consequently, municipalities and planning organizations should prioritize the development of AAM plans that seamlessly integrate into long-term planning efforts. Integrating AAM into the planning process enables local and regional authorities, as well as public agencies, to understand the complexities of different transportation modes and their interplay. It also provides practitioners the opportunity to mitigate potential impacts and ensures that AAM has broad societal benefits.[3] Collectively, these strategies lay the groundwork for the seamless integration of AAM into the existing transportation ecosystem, thereby facilitating the development of related projects.

Source: N.C. Department of Transportation Advanced Mobility NC (2024)

To support this endeavor, the NCDOT Division of Aviation is pleased to establish an AAM Planning Grant Program. This program, anticipated to be awarded annually, helps strengthen North Carolina by funding local planning initiatives that support statewide AAM planning goals. NCDOT Division of Aviation can provide guidance to local agencies on key considerations related to AAM including: infrastructure development, partnership facilitation, community outreach and engagement, economic development, and policy alignment. With a total of $1 million allocated, municipalities can develop AAM plans or enhance existing multimodal plans tailored to their unique community needs.

What is AAM?

Advanced Air Mobility helps emerging aviation markets safely develop a system that transports people and cargo between places not served or underserved by aviation.[4] It represents a paradigm shift in transportation, aiming to integrate cutting-edge technologies into our daily mobility experiences with a range of innovations, including electric vertical takeoff and landing (eVTOL) aircraft, autonomous systems, and connected infrastructure. AAM serves as an umbrella term that encompasses the use of emerging aviation technology including the following:

Urban Air Mobility (UAM): UAM focuses on transporting passengers and cargo within cities, bypassing traffic congestion by utilizing electric Vertical Takeoff and Landing (eVTOL) aircraft.

Regional Air Mobility (RAM): RAM extends beyond cities, connecting suburbs, villages, small towns, and even remote areas. It serves as a bridge between different regions, including islands and communities separated by challenging terrain.

Uncrewed Aerial Systems (UAS): AAM integrates UAS, which are remotely piloted or autonomous aircraft, into the airspace. These include small uncrewed aircraft systems (sUAS), electric conventional take-off and landing vehicles (eCTOLS) and eVTOLs. These systems play a crucial role in various applications, from cargo delivery to public services.

Infrastructure Development: Existing infrastructure that is underutilized provides an opportunity for early AAM operations. As the technology evolves and operations scale, new infrastructure may be needed, including vertiports (airports for vertical takeoff and landing) and the digital infrastructure for highly automated operations (such as UAS Traffic Management).

How AAM Planning Benefits Your Community

The adoption of Advanced Air Mobility (AAM) involves a strategic planning process that lays the groundwork for its successful integration into a community's transportation ecosystem. Here are the key steps typically undertaken by a community seeking to develop and implement AAM:

Planning: Communities engage in comprehensive planning studies, which may include a Comprehensive Transportation Plan, Metropolitan Transportation Plan, multimodal network plan, or an AAM Integration Plan. These studies help define the vision, goals, and strategies necessary for AAM implementation.

Collaboration: Planning encourages collaboration between municipalities, industry stakeholders, and research institutions. Joint efforts can lead to innovative solutions and shared best practices.

Public Involvement: Essential to the AAM implementation process is the active involvement of the public. Communities initiate public engagement strategies to inform, consult, and collaborate with citizens. This includes public forums, workshops, and surveys that ensure community needs and preferences are integrated into planning efforts. Public engagement fosters transparency, builds trust, and enhances the receptivity of new transportation initiatives.

Funding: To secure necessary funding, communities explore a variety of avenues. This may include applications for Federal Discretionary funds, engagement with various innovation funds, and consideration of forthcoming cycles of NCDOT Division of Aviation funds.

Implementation: The culmination of the project is marked by the implementation phase, followed by the tangible realization of construction and/or operational activities. This pivotal stage actualizes the AAM vision, thereby expanding and enriching the transportation alternatives available to the community.

What the Program Funds

For FY 2025, the AAM Planning Grant Program includes $1 million of potential funding to support AAM planning initiatives. To maximize the impact of these funds while fostering local investment and commitment, the NCDOT Division of Aviation will cover 90% of eligible costs under the grant program. Grantees are expected to provide a 10% cash match.

The **Advanced Air Mobility Planning Grant** can significantly benefit a municipality providing funding for the following:

- **Transportation Needs Assessment & Use-Case Alignment**: Funds may be used to assess existing transportation requirements and needs and ensure AAM applications are appropriately aligned.

- **Land-use and Infrastructure Planning:** Grant funds support planning for AAM-compatible land use and infrastructure. This includes assessing current infrastructure, planning for new facilities like landing pads and charging stations, and the equitable integration of AAM operations into the community.

- **Multi-modal Integration Planning:** Funds aid in integrating AAM with other transport modes. This includes planning for intermodal facilities and efficient cargo movement, ensuring AAM complements existing systems.

- **Feasibility Studies**: Grant funds may be used to conduct feasibility studies related to AAM implementation. These studies evaluate factors such as airspace integration, safety protocols, environmental impact, use-cases, and economic viability.

- **Outreach & Public Engagement**: Grant funds can support community outreach efforts to educate residents about AAM and address any concerns. Public acceptance and understanding are crucial for successful AAM integration.

- **Policy and Regulation Alignment**: Grant funds may be allocated to review and update local policies and regulations to align with AAM requirements. This ensures safe and efficient AAM operations within the community.

Who the Program is for

The following entities are encouraged to apply for AAM planning grant funding:

1. Any NC Municipality or County Government (with a planning department)

2. Any NC Planning Organization
Metropolitan Planning Organizations (MPOs) and Rural Planning Organizations (RPOs).

Applications may include a consortium of multiple applicants as defined above for regional planning purposes. If neighboring municipalities and/or planning organizations wish to file a joint application, please select one primary applicant and use the indicated box on the application to list additional local partners.

How to Apply (Updated 10/23/2024)

To apply for the grant, please submit a cover letter and your application to Jason Schronce, Division of Aviation Deputy Director of Programs and Planning, at jbschronce@ncdot.gov. The application will be attached, emailed, or located on our website.

The due date for FY 2025 submission will be November 22, 2024. There is no limit to the amount of the $1 million grant that you can apply for, so long as the 10% local cash match requirement is met.

The applicant (MPO, RPO, Municipality, or County) will apply with a project vision, outcome goal, and implementation strategy on how an AAM Planning Grant will be incorporated into their community planning procedure (using the questions in the application form). If a high-level scope/fee has been developed with a particular consultant, please indicate as such and provide the additional information as an attachment.

In the application, please indicate the “not to exceed” cost and “not to exceed” local match funds (10%) that the locality or planning organization is willing to contribute to the project. Then, indicate the source of the local matching funds.

NCDOT Division of Aviation will make selection(s) from the grant applications and administer the grant funding through on-call limited-service contracts (LSC) with NCDOT and the selected Consulting Firm(s).

- When an application is submitted without a direct consultant scope attached, then the Division of Aviation will match a consultant with the submitted project after consultation with the applicant.

- If an applicant provided a high-level scope/fee with a particular consultant and the project was selected, then Division of Aviation will work within our LSC parameters to honor that request and contract with that particular consultant for the project.

The 10% local match funds will be provided to NCDOT during the contractual establishment at the start of the project. The intent is that any selected firm will be prequalified with NCDOT under the Multimodal Transportation Planning (Code 141) action code.

A list of prequalified firms can be found on NCDOT's Connect webpage: https://www.ebs.nc.gov/VendorDirectory/search.html?s=pc&a=new.

Selection Process

The NCDOT Division of Aviation staff will perform an initial review of all applications to ensure completeness and general appropriateness. This review includes consultation with other NCDOT staff and professionals experienced in AAM plan development, administration, and implementation. Selection of applicants will be based on a competitive review process. However, efforts will also be made to award grants not only based on the merit of the proposal but also to achieve statewide geographic distribution.

Criteria

Applicants must demonstrate knowledge of advanced air mobility and how it may address existing needs within their area. Furthermore, applicants should demonstrate how they intend to integrate AAM plans into long term land use, transportation, and/or multimodal plans.
As a rule, AAM grants will only be awarded to qualifying applicants who can meet the local match of 10%. Local participation cannot be fulfilled through in-kind services; it must be a cash contribution. Additionally, other NCDOT state or federal funds provided to a municipality cannot be used as a local cash match. However, funds secured from other state agencies, organizations, or businesses may be used for the local match.

When to Expect Funding

Following award notification, anticipated grant recipients will be announced, and a consultant will be selected through NCDOT's on-call LSC through grantee coordination. The grantee will receive a municipal agreement from NCDOT Division of Aviation which must be submitted within three months. The agreement outlines responsibilities, terms, and deliverables. The

planning process commences once the municipal agreement is executed and the NTP has been issued to the consultant.

Division of Aviation Planning Support

The successful implementation and integration of AAM relies on a statewide collaborative approach, bolstered by the comprehensive support of the NCDOT Division of Aviation. Accordingly, the Grant Program includes **technical guidance** and; one year of **structured roundtables, peer exchanges**, and/or **workshops** with NCDOT Division of Aviation to foster knowledge sharing and establish best practices. This multifaceted support ensures a robust foundation for AAM's realization.

Deliverables

Award recipients and the consultant are required to submit quarterly progress reports throughout the duration of the project. Upon project completion, a comprehensive final report must be completed.

Note: Funds must be spent within two years of receipt.

Helpful Resources

NCDOT has developed a comprehensive statewide Advanced Mobility Plan that incorporates AAM considerations. This strategic plan provides essential insights into AAM technologies and infrastructure, serving as a framework for addressing AAM planning at local and regional levels. Additionally, applicants can refer to the following critical resources for AAM planning:

- AAM Prepared American Planning Association (APA): *Planning for Advanced Air Mobility* (2024)
- Association of Uncrewed Vehicles Systems International (AUVSI): AAM Prepares (2024)
- Federal Aviation Administration (FAA): Advanced Air Mobility Implementation Plan (2023)
- National Aeronautics' and Space Administration's (NASA): *Advanced Air Mobility Community Integration Considerations Playbook* (2023)
- NC Department of Transportation: *Advanced Mobility Strategic Plan* (2024)

Endnotes

[1] Office of State Budget and Management. (2022). NC's population to reach 14.0 million by 2050. https://www.osbm.nc.gov/blog/2022/12/30/ncs-population-reach-140-million-2050

[2] North Carolina Department of Transportation. (2024). NC Advanced Mobility Strategic Plan. ncdot.gov/divisions/aviation/advance-mobility/Documents/advanced-mobility-strategic-plan.pdf

[3] American Planning Association. (2024). Planning for Advanced Air Mobility. Planning For Advanced Air Mobility (planning-org-uploaded-media.s3.amazonaws.com)

[4] North Carolina Department of Transportation. (2023). What is Advanced Air Mobility? https://www.ncdot.gov/divisions/aviation/advance-mobility/Pages/advanced-air-mobility.aspx