CITY OF LOS ANGELES
INTER-DEPARTMENTAL MEMORANDUM

Date: May 11, 2022

To: Honorable City Council
c/o City Clerk, Room 395
Attention: Committee Chair

From: Seleta J. Reynolds, General Manager
Department of Transportation

Vincent P. Bertoni, Director of Planning
Department of City Planning

Subject: **ADVANCED AERIAL MOBILITY**

SUMMARY

In response to Council File (CF) 21-0865, this report outlines a detailed work program, timeline, and resources needed for the Council to advance an Advanced Aerial Mobility (AAM) regulatory framework. This report also identifies grant opportunities to support these work efforts.

RECOMMENDATION

That the City Council RECEIVE and FILE this report.

BACKGROUND

In September, 2021, the City Council (Council) directed the Los Angeles Department of Transportation (LADOT) and the Department of City Planning (DCP) to report on the current permitting for AAM, recommendations for a local regulatory framework, and any staff resources needed to create a permit program.

In November, 2021, Council directed LADOT and DCP to report with a work plan to advance the framework presented as detailed in the October 27, 2021 joint LADOT and DCP report, and identify any grant opportunities to support that effort.

AAM is an emerging mobility sector. Vehicle developers are experimenting with commercial drones for regional transportation, cargo movement, and public services, and ultimately envision AAM to encompass un-crewed[1] autonomous private and recreational vehicles. An early component of this joint work program includes advance planning and policy development for this emergent technology, which will require dedicated staff and contractual services.

[1] Note the FAA has recently made a shift from "unmanned" to "un-crewed" in their terminology to support gender neutral language.

DISCUSSION

The technology and operations models of AAM are evolving and will continue to evolve over time. Early discussion with regulators and potential operators indicate there are three phases that could be useful to frame the City's regulatory approach. Over the next four years, the City must deepen its knowledge and understanding of AAM, identify the types of operations that can fit within the City's urban landscape and transportation network, and develop policies and regulations for the next phases of AAM. In the four to 10 year phase, as new vehicle designs come to fruition, increasing operators and vehicles entering a more mature AAM market may require adjustments to the initial approach. The City will need a comprehensive program in place to regulate the anticipated market a decade from now.

In order to successfully establish a regulatory framework, the City needs an interdepartmental, multi-year work plan with staff and budget to further develop rules and guidelines for permitting, fees, and related land-use planning, as well as recommendations for initial, mid-, and long-term regulatory processes. Developing a thoughtful regulatory framework for AAM requires analysis and research, discussion with agencies, operators, and the public to deliver equitable AAM opportunities. This requires:

- An AAM **work program** to prepare for and position the City to regulate the arrival of piloted electric Vehicle/Takeoff Landings (eVTOLs) and autonomous urban aircraft.

- **Dedicated AAM staff** in both DCP and LADOT to develop, manage, and execute a work program that includes community engagement, policy development, a technology roadmap for implementation, and the formulation of land use regulations.

- **Grant funding** to implement the AAM work program.

AAM Work Program

The following three-year work program will prepare the City for the future of AAM in Los Angeles.

Year 1 - Establish Policy Priorities

- Coordinate with Federal, State, and County Agencies (DCP and LADOT Joint Lead)
    - Continue coordination with the FAA, CalTrans Aeronautics
        - Dialogue with Federal and State regulatory agencies to share local priorities, ensure new regulations reflect those priorities
        - Technical feedback on the development of Federal and State regulations for successful integration and implementation
    - Initiate coordination with SCAG, Metro, LA County, other cities and regional jurisdictions, as well as regulatory agencies including the California Coastal Commission and SoCal Edison
    - Ongoing interdepartmental coordination to identify roles and responsibilities between DCP, LADOT, and other relevant City departments as well as external partners and agencies, like Urban Movement Labs (UML) and Open Mobility Foundation for a collaborative and cohesive approach inclusive of private industry.
    - Work with UML, OMF, industry stakeholders, and associated organizations to develop a Concept of Operations (ConOps) that will:

        - Hire consultant to support development of ConOps
        - Identify operational details that may impact or inform the safe and equitable implementation of AAM technologies, such as: vertiport status and compliance monitoring, emergency and fire response capabilities, noise mitigation, and enhanced weather reporting needs to support safe aerial corridors
        - Codify operational details and data exchanges between the city, aircraft operators, and vertiport operators
- Develop local City of Los Angeles AAM policies
    - Assess existing General Plan and other citywide policies (DCP Lead)
        - Review and recommend updates to land use and transportation policies and documents, such as the Mobility Element, Noise Element Community, and Mobility Plans, as necessary
        - Assess existing airport master plans with LAWA and evaluate land use compatibility for airport adjacent uses
        - Conduct GIS spatial analysis to review alternatives and impacts of suitable locations for vertiports and identify criteria for use compatibility

Year 2 - Develop a Regulatory Framework and a Public Engagement Plan

- Public engagement (DCP and LADOT Joint Lead)
    - Build on work of UAM Fellow to engage community stakeholders in discussion of policy priorities, concerns and solutions to integrate into AAM regulations
    - Hire a consultant to develop a community engagement strategy.
    - Amend existing regulations to implement updated policies (DCP Lead)
    - Develop recommended permitting process
    - Amend the LAMC to reflect the permitting process
    - Recommend amendments to Building and Fire Codes
- Environmental assessment (NEPA and CEQA) (DCP Lead)
    - Identify environmental studies required (i.e., coastal, wildlife, etc.)
    - Determine the level of environmental clearance to issue land use permits
    - Hire consultant(s) to conduct environment clearance
- Nexus and Fee study (DCP and LADOT Joint Lead)
    - Identify need for an impact fee
    - Contract with consultant to develop fee structure for permit and processing of AAM operations
- Continue building out Concept of Operations (LADOT lead)
    - Ongoing contract management with technical consultant

Year 3 - Roll Out and Implementation

- Policy and regulatory adoption (DCP and LADOT Joint Lead)
    - General Plan and code amendments (Building, Fire, etc.) are presented to City Commissions and City Council for adoption, outlining intent, procedures, applicability, fees, and monitoring and enforcement of operations. Open data structure development (LADOT Lead)
    - Contract with consultant to develop and work with AAM operators and regulators for the collection and analysis of data pertaining to flight operations, characteristics of trips, and monitoring of potential impacts

AAM Staffing

The following staff requests will allow DCP and LADOT to effectively establish a new regulatory program for AAM in the City.

Resource Need	Duties
LADOT	
(1) Chief Technology Officer (exempt position)	Manages technical roadmap, development operations, and integration.
(1) Senior Transportation Planner	Community engagement, policy expertise, engaging with local, state, and federal agencies, coordinating engagement with DCP and other City departments as needed.
(1) Senior Management Analyst	Developing financing model, permitting framework, supporting pilots.
LADOT Consulting Services	Funds development of technical integration alongside permitting.
LADOT Consulting Services	Funds permitting and policy related work.

LADCP	
(1) Senior City Planner	Developing policy update, permitting framework, and implementation. Coordinating with local, state, and federal agencies.
(2) City Planners	Developing policy update, permitting framework, and implementation. Coordinating engagement and outreach with LADOT and partners.
(1) GIS Specialist	Research, analysis, development of model to allow and site potential vertiports.
LADCP Consulting Services	Nexus Study and Fee Study
LADCP Consulting Services	Environmental Analysis of vertiports/AAM

Given the complex and multi-jurisdictional nature of AAM, DCP and LADOT need new staffing resources to develop the appropriate policies and regulations to manage this emerging mode. Staff will require

expertise, training, and dedicated time to fulfill critical tasks, including conducting initial research, providing feedback to the FAA and CalTrans Aeronautics, and advancing interdepartmental coordination. Dedicated staffing is also critical to assess existing General Plan, airport master plan, and other citywide policies to evaluate land use compatibility with the assistance of GIS spatial analysis.

Existing staff in DCP and LADOT are currently at capacity with existing assignments and new staffing resources would be essential to begin the work plan outlined in this report. In 2020-2021, DCP and LADOT lost staff resources due to retirement-eligible employees who took advantage of the Separation Incentive Program (SIP). As a result of the City's hiring freeze and subsequent hiring backlog the Department of Personnel is managing many of these positions remain vacant. There is little ability to borrow staffing from other parts of DCP and LADOT to begin this work program. This requested staff is critical to ensure the City is prepared to support AAM technology with comprehensive regulations protect and prioritize community priorities, including safety and equity.

Funding Opportunities/Grant Applications

Measure M, in particular the Visionary Project Seed Funding, is a potential funding source to support this work program. DCP and LADOT are also researching additional grant opportunities and identified at least eight grants the City could apply for to secure needed funding for this work program. These include federal grant opportunities (FTA AIM, SMART Grant Program, FHA Congestion Mitigation and Air Quality Grant), state grants (CalTrans Sustainable Transportation Grants, CA Transportation Commission Solution for Congested Transportation Corridors, CA Air Resources Board Goods Movement Emissions Reduction Grant, Clean Mobility Options Grant) and the SCAG Sustainable Communities Program locally.

The City will continue to advocate with USDOT for local funding opportunities for cities, to support this emerging mobility. Most recently, DCP and LADOT submitted comments to the Office of the Transportation Secretary's Non-Traditional and Emerging Transportation Technology (NETT) Council Request for Comment (Attachment A).

FINANCIAL IMPACT

There is no financial impact in this report.

SJR:amp; VPB: alv:npm:cpt:gj

Attachments

CITY OF LOS ANGELES

CALIFORNIA

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ERIC GARCETTI
MAYOR

April 8, 2022

U.S. Department of Transportation
Office of the Secretary
1200 New Jersey Ave, SE
Washington, DC 20590

RE: Public Comment Docket No. DOT-OST-2022-0016;
Non-Traditional and Emerging Transportation Technology (NETT) Council Request for Comment

Dear Secretary Buttigieg:

I respectfully submit this letter in response to the Office of the Secretary's request for comment published in the Federal Register on March 9, 2022.

The City of Los Angeles has long been a leader in innovation and continues to be one of the leading global cities for transportation technology companies to target for their solutions. Our arenas for innovation include:

- Planning for the future of digital infrastructure to govern emerging modes like Advanced Aerial Mobility (AAM)
- Expanding the definition of infrastructure to include EV charging for shared vehicles, broadband, and workforce development
- Taking a fresh look at who our current system leaves behind such as our work on the transportation needs of women and girls
- Creating new ways of measuring transportation's value, such as our work on Universal Basic Mobility.

The Los Angeles Department of Transportation (LADOT) welcomes innovations in emerging transportation technology to solve problems around climate, safety, and access to opportunity. Testing and adoption of new technologies require thoughtful engagement and discussion with a variety of stakeholders at the local, state, and federal levels, as well as a clear understanding of roles and responsibilities and the pre-requisite tools and regulations in place to allow for responsible oversight.

In reviewing the landscape of emerging transportation technologies, LADOT is most focused on the private sector investments being made in advanced aerial mobility, autonomous vehicles, app-enabled

movement of goods and people, and the related supporting ecosystem of digital infrastructure and technologies.

For clarity and in coordination with the Los Angeles Department of City Planning, we submit comments on questions #3, #4, #6, and #8. Please find our comments below:

3. How can the NETT Council best incorporate the perspective of and engage with other Federal agencies and a broad range of stakeholders (e.g., academia, labor unions, state, local, and tribal governments, private sector) to fully understand potential issues and opportunities related to transportation innovation?

Cities need adequate resources both for robust planning and engagement efforts and to build and scale new forms of digital infrastructure required to continue to manage the public right of way for the public good. Early inclusive planning saves millions of dollars in mitigating unintended consequences and verifiable data helps avoid policymaking in darkness. This requires targeted planning opportunities for visionary infrastructure like vertiports as well as investments in proven technologies like the Mobility Data Specification (MDS) and the software required to install and run it. These investments are scalable. An investment in creating a blueprint for decision making in one city, particularly leveraging organizations like the National Association of City Transportation Officials (NACTO) and the Open Mobility Foundation (OMF), becomes a blueprint for hundreds of cities. This approach has proven powerful for everything from protected bike lanes to the Curb Data Specification (CDS), a set of application programmer interfaces (APIs) already in use in several cities to manage their curb space.

4. How can the NETT Council more effectively reflect inputs from a broad range of transportation stakeholders to assess the positive and negative consequences of transportation innovation?

First, consider a broader definition of *stakeholder* that could include organizations that work in related fields such as social services, housing, and education, as well as organizations that represent system users and communities disenfranchised from traditional planning efforts who bear the burden of negative externalities. Next, support stronger requirements for access to data about existing transportation technologies to inform better policymaking. Finally, take a landscape view of existing organizations, with an eye to those successful at convening the public and private sectors, such as ITS America and the Open Mobility Foundation.

Taking one example and focusing on Advanced Aerial Mobility: a regulatory framework to govern AAM must maximize public benefits and minimize negative impacts. The US has an opportunity to be a global leader in establishing the content and direction of this emerging mode but only if policy considerations are inclusive. Furthermore, this work must recognize the oversights made in the past in land use and transportation planning that disrupted and uprooted communities, especially marginalized communities of color that have had less representation in the political process.

Any new work program must include collaborative outreach and engagement. Equity and community engagement are critical priorities for cities, which are more organized and experienced at developing open dialogues with community stakeholders in order to gather input and address community concerns.

6. Are there stakeholder groups that have been marginalized in transportation technology innovation that should be better represented in the NETT Council's analysis and work?

The City of Los Angeles views questions #4 and #6 as related and intertwined. Past efforts have resulted in unintended consequences that have created marginalization. The City is committed to equitable, meaningful engagement that aims to not repeat unintended consequences of past practices. It is for this reason that the City feels our answer to Questions #4 and #6 reflect the same response.

8. What emerging innovations face gaps in focus, support, and/or regulation under DOT's existing regulatory frameworks, and should be reviewed by the NETT Council?

There are no existing AAM policies today in most jurisdictions as AAM is an emerging technology. The City recently invested its own funds in a multi-year process to identify key policy considerations, next steps for regulation and planning, and initial public input and reaction. Local jurisdictions should be involved in establishing regulations and need to obtain grant funding to initiate work programs. Absent their participation, the industry faces an uncertain path to scaling in a way that realizes its full potential to address real challenges in climate, racial equity, resilience, workforce development, and economic mobility.

The challenge is that local jurisdictions, including the City of Los Angeles, do not currently have AAM in their core work programs. As a result, no staff are available to address the need for a new emerging technology to establish new policies and regulations, collaborate with the various federal and state agencies that are involved in considering regulations at the federal and state levels, review existing regulations, and provide feedback on rulemaking, operations, and local recommendations. AAM's ability to complement the region's multi-billion-dollar transit investments remains a critical question for the region.

Future AAM support should enhance economic benefits for local communities and avoid potential impacts that make AAM an unattractive mobility option. The City will need to plan for where to allow vertiports and travel routes, how best to locate vertiports in proximity to employment centers, and how to connect an aerial network to existing and planned transit infrastructure. In addition to shaping future travel, AAM has the potential to impact how future buildings are designed as well as implications for adjacent future development.

Local land use planning and new conditional use permits to determine appropriate use of properties around airports, heliports, and vertiports should be an integral part of any recommendations for revised land use policy and new regulatory tools. Coordination with federal, state, and local agencies during the formative stages of AAM development will be critical to ensure that land use compatibility, sustainability, and equity are integrated into planning for AAM. This coordination should occur before the creation, adoption, and implementation of any policy or regulations.

Regulatory considerations include land use and zoning regulations, multimodal connectivity, operator and city indemnification, implementation plans for operators, data and privacy sharing protocols, and an ongoing periodic review of adopted policies and processes. City regulations must also address permit and fee structures, compliance with the National Environmental Protection Act (NEPA) and the California Environmental Quality Act (CEQA), community engagement strategies, and equity considerations.

Advanced aerial mobility needs additional funding support to tie local, state and federal planning in advance of any type of deployment. Furthermore, AAM needs to prioritize data standards, data sharing, and digital infrastructure between the local level and federal levels to create a tiered model regulatory framework that can be used uniformly across the nation

Our transportation network is increasingly digitized. Transportation providers are developing and operating new types of shared mobility vehicles that demand more of the existing physical network than we can supply. Los Angeles deployed digital infrastructure to ensure equity, climate, and privacy outcomes are met while these new technologies are introduced. Los Angeles, along with over one hundred other cities self-organized to create The Open Mobility Foundation (OMF), a non-profit open-source technology Foundation where digital infrastructure is uniformly developed through a unique private / public governance model. The OMF has benefited from financial resources donated from large philanthropic organizations like Rockefeller and Knight to help cities keep pace with private industry innovation. LADOT asks NETT to consider directing resources to Rockefeller and Knight who understand the needs deeply and have the ability to deploy resources with precision.

In summary, LADOT supports innovation and encourages multi-jurisdictional collaboration with both the public and private sectors. Thank you to Secretary Buttigieg and his office for soliciting our feedback and for supporting ways to continue to advance innovation while ensuring that we don't repeat the mistakes of the past.

Sincerely,

Seleta J. Reynolds
General Manager