

## **BWI Marshall Airport Multi-Modal Ground Transportation Center and Automated People Mover Planning Study**

### **Detailed Statement of Work**

The detailed statement of work for the BWI Marshall Airport Multi-Modal Ground Transportation Center (GTC) and Automated People Mover (APM) Planning Study (the Study) includes nine (9) sequential work tasks. While MAA will provide the local funding for the study, it will involve several key stakeholders who are involved in complementary planning efforts to ensure effective coordination. These local and regional partners include State Highway Administration (SHA), Maryland Transit Administration (MTA), and Anne Arundel County, among others.

#### *Task 1: Project Initiation*

##### 1.1 Goals and Objectives Setting

In coordination with key stakeholders, define the purpose, perceived benefits, and desired outcomes of the Study, to address at a minimum: optimized passenger experience, enhanced traffic safety, reduced greenhouse gas emissions, enhanced access to BWI Marshall Airport, increased job opportunities and access, natural resource protection and climate resiliency, operational reliability, regional economic health/strength, and support for compatible and sustainable land use patterns. Based on this Study definition, prepare project-specific goals and objectives and Measures of Effectiveness (MOEs).

##### 1.2 Stakeholder Mobilization and Partnership, and Project Kickoff Workshop

Identify methods/forums for inclusive involvement of stakeholders. Establish a Stakeholder Steering Committee to gather on-going input from stakeholders and consensus on the program. Plan, coordinate, and conduct kickoff meeting(s) with MAA staff and stakeholders.

#### *Task 2: Targeted Public and Agency Engagement*

Undertake varied means of outreach to determine the transportation challenges and needs of Airport and nearby business employees, particularly employees traveling from Areas of Persistent Poverty (APP) in the region (i.e., Baltimore City). Collaborate with MDOT Commuter Choice Program to identify employee travel needs through targeted outreach by surveying Airport employees and developing an interactive webpage for employees to provide input on travel preferences, needs and obstacles they face as it relates to commuting and surveying residents of APPs to determine any transportation barriers preventing them from applying for work at the Airport and surrounding area. Create a demographic profile of Airport and area employees, including where they travel from. Utilize demographic profile and input from employees to inform the development of access and multi-modal concepts. Utilize the interactive webpage to solicit ongoing feedback and input on draft concepts from impacted populations. Engage environmental regulatory agencies for early input on impacts and potential mitigation strategies.

#### *Task 3: Establish Existing Conditions*

Review adopted plans and agency guidance and obtain relevant data, including base mapping, traffic counts and models, parking data, and aviation forecasts. Existing data will be used to develop base maps depicting roadway infrastructure, existing traffic patterns, transit services, and

multi-modal infrastructure. An existing conditions report will be prepared integrating Tasks 2 and 3 findings and shared with the Stakeholder Steering Committee.

#### *Task 4: Airport Needs Assessment*

Estimates of future vehicle volumes and parking needs has been completed as part of on-going strategic planning. An additional needs assessment will be conducted in relation to multi-modal ridership, including forecast bus and transit ridership, and potential demand, including the impact on public and employee travel mode choice, associated with an APM connecting the MARC/Amtrak station to the Airport. The needs assessment will be used to determine facility space requirements to accommodate demand and strategies to encourage a shift in airport access modes away from single occupancy private vehicles, and will evaluate whether some terminal functions can better serve passengers in a GTC. Innovative concepts such as bag checks located in parking facilities could promote improvements in accessibility and efficiency.

A workshop with the Stakeholder Steering Committee will be held to establish a range of forecast scenarios such as reviewing alternatives with and without [MAGLEV](#),<sup>1</sup> impacts of emerging technology including autonomous vehicles, use of autonomous shuttles and net-zero/net-plus airport ground transportation, and/or other sustainability focused options. This workshop will also serve as a visioning session to source ideas for the program which will support employee and passenger needs such as:

- Creation of an "MTA mobility hub"
- Connecting the APM (or autonomous shuttle) system to hotels, parking and other airport area businesses, enhancing opportunities for employees and passengers using alternate modes
- Incorporation of passenger processing such as security screening and airline check-in
- Expansion of the baggage handling system

#### *Task 5: Site Development Planning Parameters*

Identify/summarize development related issues or constraints that could limit the range of planning/design solutions, such as: airfield setbacks/height restrictions; roadway access; utilities; existing and planned facilities; and sensitive environmental resources. Identify the proposed full build-out of the airport terminal area, airfield and access and circulation roadways. Identify green technologies that could influence planning decisions, including opportunities for solar and geothermal as well as identification of target Leadership in Energy and Environmental Design (LEED) standards and opportunities.

Conduct a workshop with the Stakeholder Steering Committee to establish their perspectives on airport access, projects and considerations that can affect airport access, and the stakeholders' views where partnership with MAA for advocacy (advocacy for any of specific projects, funding/financing legislation, technology adoption, etc.) would be meaningful. The Stakeholder Steering Committee will include economic development groups such as the BWI Partnership to

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<sup>1</sup> The Northeast MAGLEV is a proposed superconducting high speed rail line connecting DC to New York and beyond. BWI Marshall Airport is the only local stop currently proposed between DC and Baltimore.

understand the development communities' views on challenges and priorities for regional access to BWI Marshall Airport.

After review and discussion with key stakeholders, finalize appropriate screening criteria that align with the goals set in Task 1, addressing such considerations as safety, wayfinding, adaptive re-use, resiliency/flexibility, sustainable infrastructure and development practices, revenue generation/grant/P3 potential, and phasing/constructability.

### *Task 6: Concept Development and Screening/Refinement*

#### 6.1 Concept Development

Develop up to six GTC and APM concepts that reflect screening criteria developed under Task 5 and take into consideration currently accepted long-range development (Airport hotel, [MAGLEV](#) station, etc.) Concepts will review opportunities both with and without the proposed MAGLEV. GTC concepts will include layouts/floorplans depicting how all multi-modal transportation modes will be accommodated and APM alignments will depict facilities that may be connected to the terminal, including the MARC/Amtrak station, parking lots and rental car center. APM concepts will also consider alternate technology, such as autonomous shuttles, to achieve a circulator connecting disparate airport facilities throughout the study area. Evaluate concepts utilizing the screening criteria developed in Task 5.

Identify access improvements required to support the GTC and APM concepts, light rail transit (LRT) station location, parking lots, and a potential future MAGLEV connection. Concepts will give consideration to plans and predictions for the future of major highway and rail access from the major interstate corridors that serve the Airport, including review of current MDOT, Baltimore Metropolitan Council – Baltimore Regional Transportation Board (BMC-BRTB), and Anne Arundel County transit-oriented development (TOD) plans.

Conduct a one-day workshop with MAA staff and the Stakeholder Steering Committee to gain consensus on preferred concepts. Select three concepts or concept families to carry forward.

#### 6.2 Refinement and Evaluation of Concepts

Further develop, refine and analyze selected short-list alternatives for GTC and APM alignment, terminal access, and transit/multi-modal access. Provide technical options to preserve and protect for future major projects with minimal up-front investments.

For each short-listed alternative, prepare a sketch plan depicting the major elements of the project in relation to the site boundary and to the Airport and review the general arrangement of proposed facilities for compatibility with phased development, future proposed facilities and expansion areas along with assessing the engineering feasibility of development concepts.

Conduct a one-day workshop with MAA staff and the Stakeholder Steering Committee to select a preferred concept for the GTC, APM and supporting infrastructure. Evaluation criteria used will build upon the screening criteria identified in Task 5 adding considerations for feasibility, constructability, high-level cost and phasing.

*Task 7: Preferred Concept and Cost Estimate*

Develop detailed layouts of the development phases depicting the preferred GTC and APM. The preferred concept will include depiction of improvements to the supporting roadway/transit/multi-modal network to optimize airport accessibility and connections to the regional roadway and transit network and adjacent communities.

Document advocacy positions on recommended concepts, and develop a strategy for interagency coordination and partnering that builds/maintains wider support and commitment to implementing projects outside of MAA's property or control.

Develop preliminary engineering information of the preferred concept to support the cost estimate; identification of applicable sustainability measures, assessment of environmental feasibility and future permitting; and for use in revising the ALP and submitting to FAA for federal approval, as needed. Develop an order of magnitude cost estimate for recommended facility and roadway plans.

*Task 8: Implementation and Impact Analyses*

8.1 Recommended Capital Actions/Program

Develop a recommended capital program for 0-5 years, 5-10 years, and 10+ years including financial feasibility summary showing expected costs, revenue gains, grants and potential P3 or third-party investments. Generate a phased development plan for the recommended projects to tie to the capital program and including identification of recommended timing and approach to NEPA approvals, as needed.

Identify any follow-on project-specific detailed planning studies and project definition programs or open issues and post-study actions for interagency coordination of jointly sponsored projects.

8.2 Impact Analysis

Fiscal: Complete a financial feasibility analysis with expected capital and operating costs, and potential revenue gains for GTC, APM and associated roadway improvements. Evaluate proposed development with regard to life cycle cost implications and options to optimize the phasing of recommended improvements to cost-effectively replace aging infrastructure and maximize the useful life of Airport investments.

Economic: Complete an economic impact evaluation, including assessing potential job growth resulting from the construction of airport-led projects, as well as the growth of local businesses to support an increase in passengers and employees (i.e., restaurants, shops, etc). The evaluation will include the support of employees commuting from historically underserved communities which may not have access to all the services provided in the study area.

Environmental: Summarize potential environmental impacts and recommendations for stormwater management and environmental management areas set-aside to protect natural resources if anticipated to be impacted by preferred concept (particularly the APM alignment). Provide an assessment of programs and technologies to reduce greenhouse gas emissions and incorporate sustainability considerations. Provide an overview of potential environmental impacts, determine likely level of NEPA review, summarize recommended mitigation strategies, and identify the permits, approvals, and reviews necessary for implementation.

*Task 9: Final Report and Deliverables*

Prepare a detailed narrative report and an executive summary describing the study and recommendations. Plan sheets, 3D renderings and animation of the final recommendation will be provided. Briefing materials will be prepared for use online and in meetings with public officials, stakeholders, and the public. A final presentation to the Stakeholder Steering Committee will be held.