Briefing Session: AUTOMATED PEOPLE MOVER AT LOGAN AIRPORT

Capital Programs and Environmental Affairs Department
Boston Logan International Airport
Massachusetts Port Authority, USA

April 26, 2018
Boston Logan International Airport is evaluating development/implementation of an **Automated People Mover (APM)** to alleviate congested traffic flow due to increased and projected increases of passenger volumes. Implementation of the Logan APM is a complicated undertaking. The APM will need to be planned so that it will be complementary with ongoing improvements within the airport, including:

- Terminal E Modernization
- Terminal C Roadways
- Terminal C Canopy and Upper Deck
- Parking Expansion
### PASSENGER EXPERIENCE

- Service frequency – Bus = 5-15 minutes, APM = 2-3 minutes
- Connection time between facilities – time savings with APM

<table>
<thead>
<tr>
<th>FROM:</th>
<th>T Station</th>
<th>Economy Garage</th>
<th>Terminal E</th>
<th>Terminal C</th>
<th>Terminal B</th>
<th>Terminal A</th>
<th>CONRAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>T Station</td>
<td>1.3 minutes</td>
<td>3.1 minutes</td>
<td>4.5 minutes</td>
<td>5.7 minutes</td>
<td>7.7 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economy Garage</td>
<td>1.3 minutes</td>
<td>3.1 minutes</td>
<td>4.5 minutes</td>
<td>5.7 minutes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terminal E</td>
<td>1.1 minutes</td>
<td>1.1 minutes</td>
<td>1.3 minutes</td>
<td>2.7 minutes</td>
<td>3.9 minutes</td>
<td>5.9 minutes</td>
<td></td>
</tr>
<tr>
<td>Terminal C</td>
<td>2.9 minutes</td>
<td>2.9 minutes</td>
<td>1.3 minutes</td>
<td>0.9 minutes</td>
<td>2.1 minutes</td>
<td>4.1 minutes</td>
<td></td>
</tr>
<tr>
<td>Terminal B</td>
<td>4.3 minutes</td>
<td>4.3 minutes</td>
<td>2.7 minutes</td>
<td>0.8 minutes</td>
<td>2.7 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terminal A</td>
<td>5.6 minutes</td>
<td>5.6 minutes</td>
<td>3.9 minutes</td>
<td>0.8 minutes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONRAC</td>
<td>7.7 minutes</td>
<td>6.1 minutes</td>
<td>4.3 minutes</td>
<td>2.9 minutes</td>
<td>1.5 minutes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**KEY:**
- **1.1 minutes** = APM travel time
- **- 16 minutes** = APM travel time differential (faster or slower) with Bus
The consultant shall demonstrate experience in several disciplines including but not limited to:

- Program Management
- Transportation Planning
- Passengers Modeling
- Financial/Funding Options
- APM Systems Design
- APM Operational and Maintenance Program Setups
- APM Systems Procurement
- Architectural, Civil, Structural, Mechanical, Electrical, Fire Protection, Vertical Transportation
- Cost Estimating
- Environmental Permitting
- Construction Phasing
THE OVERAL SCOPE OF THE PROJECT

Identifying Needs
APM System Definition
Facilities Design Criteria
APM Architectural and Engineering Design
APM System Procurement Support
APM Implementation

Program Management
Comprehensive interface management strategy and coordination for possible multiple, concurrent projects that will result from the studies.

Integration of the different facets of Design, Construction, Procurement and provide standardized technical and management expertise.
1.1 Document Review

Review of the previous studies, strategic plans, Current Airline Operational data, Aviation Activity Forecast, Proposals and design documents of ongoing and future projects of the airport that could impact APM, etc.

The intent of the review is to document the validity of the planning criteria and assumptions.
1.2 General Planning and Programming Services
The design team is requested to develop a comprehensive master plan starting with the simple articulation of **airport needs** and ending with a **complete project definition** that is ready for preliminary design and engineering.

The following studies are considered to be developed during this activity:

1.2.1 APM/Terminal Interface Planning
1.2.2 APM System Timeline Review
1.2.3 Community/media outreach plan
1.2.4 Information Briefings and Site Visits
1.2.5 APM Conceptual Design Report
1.2.6 Environmental Assessment documents prepared for Stages of APM System
1.2.7 Transit studies related to the interface with the Airport APM System and T.
1.2.8 Transportation Center development plan
1.3 **Prepare Concept Review Report**
Based on the review of the Planning and Concept Design studies, the design team will complete the following tasks and any other tasks required by the authority and incorporate the results into the Concept Review Report:

1.3.1 Alignment Study
1.3.2 Station Locations and Configuration / Sizing
1.3.3 Failure Management Evaluation
1.3.4 Prepare Concept Review Report
1.3.5 Planning Level Cost Assessment
1.3.6 Renewable Energy Potential Resources
1.4 APM Operational Analysis
The Design Team shall review Operational Planning Criteria and Assumptions used in the preparation of the Logan International Airport APM Planning and Conceptual Design Studies. These criteria include but might not be limited to:

1.4.1 Update Ridership
1.4.2 Train Simulation
1.4.3 Operational Analysis
1.4.4 Technology Assessment
1.4.5 Circulation and Trip Time Analysis
1.4.6 Passenger Queuing Analysis
1.4.7 Emergency Evacuation Analysis
1.4.8 Prepare Operational Analysis Report
2.1 Define Type of APM System
This task concerns the definition of the APM system and its components such as type of the guideways, type of the rail, vehicles, etc.

2.2 Define Propulsion Power System
This task will develop the preliminary design of the APM Propulsion Power System including the identification of the source of electrical power at Logan International Airport.

2.3 System Definition Summary Report
This task is the result of Concept Review Report, Operational Analysis and definition of propulsion Power System tasks that should be incorporated into a final APM System Definition Summary Report.
3 Facilities Design Criteria

3.1 APM System Guideway
The Design Team will provide criteria relative to the required vehicle dynamic envelope, guideway alignment, guideway loads (static and dynamic), lighting, drainage and emergency access requirements, among others.

3.2 Maintenance Facility
The Design Team will provide criteria relative to the recommended Maintenance Facility location, size, and configuration. Additional information will include: required utility services, access, lighting, structural, functional and space allocations.

3.3 Central Control Facility
The Design Team will provide recommended location, size, functional layout and other unique requirements for the Central Control Facility.
3.4 Equipment Rooms
The APM System will require a limited amount of space for electronic equipment, dispersed along the APM right-of-way and at stations. Space, functional and services requirements for wayside electronics rooms and station equipment rooms will be provided as part of the Facilities Design Criteria handbook.

3.5 Guideway and Station Interface
The Design Team will provide dimensional requirements for the physical interfaces between the guideway and the stations.

3.6 Facilities Design Criteria Handbook
The information described above will be compiled in a Facilities Design Criteria Handbook, which will be utilized by the APM Facilities Design Team as criteria for the design of stations, guideways, tunnels, maintenance facilities, etc.
4.1 Preparation of Architectural and Engineering Design:

Required scope includes but is not limited to the design of guideway of the APM and its structure, all the stations along the APM path, maintenance and storage facilities, vertical and horizontal accesses, etc.
5.1 APM System Procurement Planning
The design team will prepare a recommended procurement approach for the APM System at Logan International Airport. The required scope includes but might be not limited to:

5.1.1 Identification of Procurement Approach
5.1.2 Procurement Planning
5.1.3 Develop Detailed Procurement Plans and Procedures
5.1.4 Develop APM Contract Scope
5.1.5 Prepare Cost Estimate for APM System
5.1.6 Prepare Schedule for APM System
5.2 APM System Procurement Process
The design team will complete the following tasks to support the procurement process for the Logan International Airport APM System.

5.2.1 Request for Proposals
5.2.2 Pre-Proposal Conference
5.2.3 Prepare Detailed Evaluation Procedures and Forms
5.2.4 Evaluate Proposals
5.2.5 Assist the Authority to Negotiate with Contractor
5.2.6 Assist the Authority in the Process of Awarding the APM Contract
Implementation Phase Services will begin after award of the APM Contract to the selected Contractor and extend through the remainder of the project, until the APM System becomes operational.

6.1 Design and Quality Oversight
During the implementation of the Logan International Airport APM System, the design team will provide design and quality oversight reviews of the APM Contractor. The complementary tasks for this activity includes but is not limited to:

6.1.1 Contract Submittals Reviews
6.1.2 Design Audit Reviews
6.1.3 Quality Assurance Reviews
EVALUATION CRITERIA:

The submission shall be evaluated on basis of:

(1) Successful completion of at least **one major similar airport circulator project**
(2) **Project Manager** shall have sufficient experience and multidiscipline technical expertise performing planning and implementation of Airport circulator systems
(3) **Geographic location** and **availability of the Project Manager**, resident inspectors and other key personnel to be assigned to the project
(4) Experience and expertise of sub-consultants
(5) Development of a **BIM Model** and management of a BIMxP (BIM Execution Plan)
(6) Demonstrated experience in **Lean Design, Lean Construction**
(7) Demonstrated ability to perform work with minimal disruption to airport operations
(8) Familiarity with MGL, including filed sub-bid experience
(9) Cost management and scheduling capabilities
(10) **M/W/DBE** and affirmative action efforts with the indication of the proposed % of M/W/DBE participation
(11) Current level of work with the Authority, and past performance for the Authority, if any
(12) Experience with **sustainable design** concepts and resiliency
(13) Project understanding and technical approach to this project
The Authority may reject any application if any of the required information is not provided: Cover Letter, Insurance Requirements, Litigation and Legal proceedings, Registration of the Board of Director as defined in MGL Chapter 7C Section 44, and SF330 Part IIs for the Prime and every sub-consultant. Make sure that, in the Cover Letter, you mention the Insurance Requirements, Litigation and Legal proceedings, Registration of the Board of Director as defined in MGL Chapter 7C Section 44.
THE PROCUREMENT PROCESS SCHEDULE:

<table>
<thead>
<tr>
<th>EVENT</th>
<th>DATE/TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solicitation: Release Date and Supplemental Package Available</td>
<td>April 25\textsuperscript{th}, 2018</td>
</tr>
<tr>
<td>Consultant Briefing</td>
<td>April 26\textsuperscript{th}, 2018 at 10 am</td>
</tr>
<tr>
<td>Deadline for submission of written questions</td>
<td>May 1\textsuperscript{st}, 2018 at 12:00 PM (noon)</td>
</tr>
<tr>
<td>Official answers published (Estimated)</td>
<td>May 8\textsuperscript{th}, 2018</td>
</tr>
<tr>
<td>Solicitation: Close Date / Submission Deadline</td>
<td>May 24\textsuperscript{th}, 2018 at 12:00 PM (noon)</td>
</tr>
</tbody>
</table>

Times are Eastern Standard Time (US).
Questions may be sent via email to: CPBidQuestions@massport.com

In the subject lines of your email, please reference the MPA Project Name and Number.
APM PROCUREMENT SCHEDULE (Tentative)

- **April**
  - RFQ And Briefing Session

- **May**
  - RFQ Short List

- **June**
  - RFP BEING ISSUED

- **July**
  - RFP REVIEW

- **August**
  - INTERVIEWS

- **Final**
  - FINAL TEAM SELECTION
Thank you.