

**INFORMATION PAPER
TO THE
BUSINESS ADMINISTRATION COMMITTEE**

**AEROTRAIN SYSTEM OPERATIONS AND
MAINTENANCE SUPPORT**

JUNE 2014

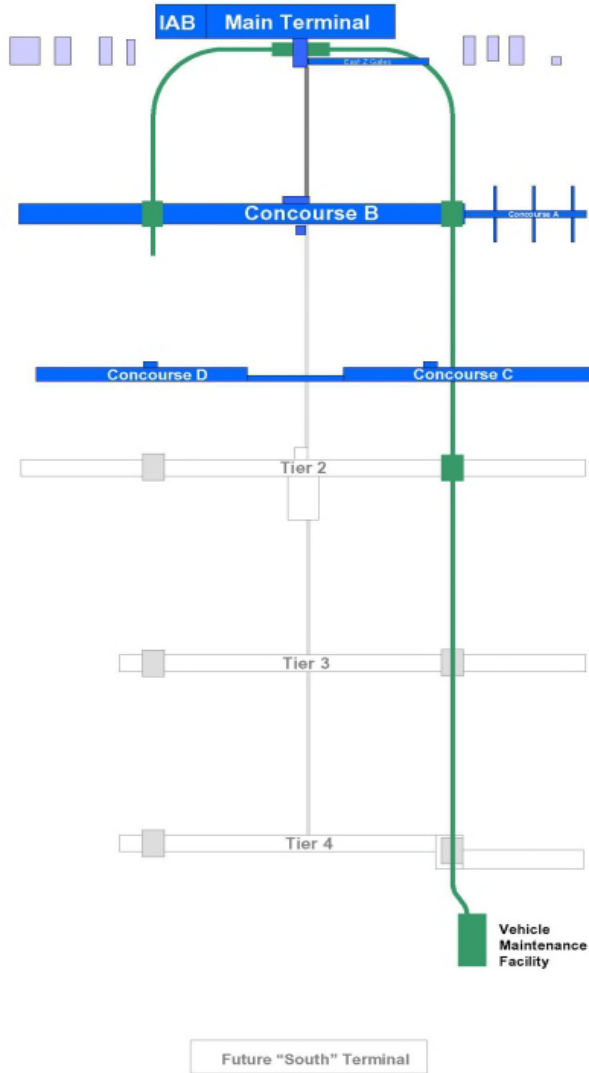


Purpose

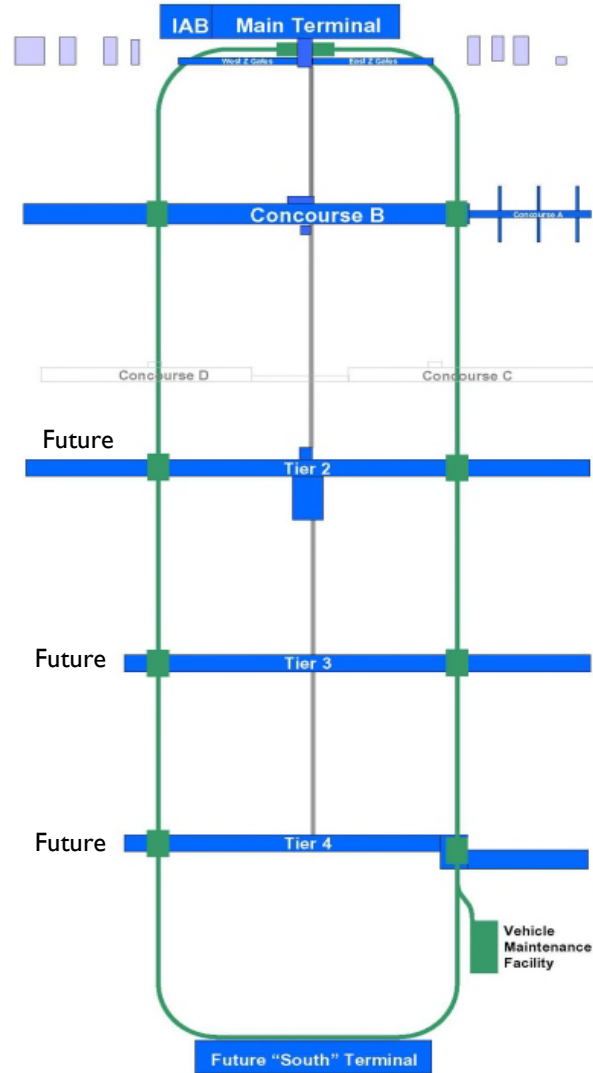
To provide information on the maintenance, operation, and required refurbishment of the AeroTrain System at Washington Dulles International Airport.



Current AeroTrain Alignment



Future AeroTrain Alignment



Dulles AeroTrain System

- 24/7 Wireless Communications-Based Train Control system
- 29 driverless train vehicles manufactured by Mitsubishi Heavy Industries, with a 25 year service life
- 1 Maintenance Recovery Vehicle
- 2 Staffed Control Rooms
- 3 Power Distribution Substations
- 4 Operating Passenger Stations + 1 Unfinished Station (Tier 3)
- 64,000 square foot maintenance facility
- 5.5 Miles underground track
- The AeroTrain moves approximately 20,000 passengers each day at 42 mph from the Main Terminal to Concourses A, B, and C in less than half the time it previously took on Mobile Lounges. Trains arrive in the stations every 2 to 4 minutes.



Main Terminal Station





Control Room





METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Rail Yard





AeroTrain Maintenance Facility





METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

Power Distribution Substation



Background

- Consistent with standard industry practice, the AeroTrain was constructed using a DBOM contract (design, build, operate, and maintain) with Sumitomo Corporation of America and Mitsubishi Heavy Industries (joint venture).
- Crystal Mover Services, Inc. (CMSI), a wholly-owned subsidiary of the Joint Venture, has operated and maintained the AeroTrain System under a fixed price five-year contract since it began operational service in December 2009.
- Annual O&M cost to the Airports Authority is \$9,413,416 excluding any performance bonus.
- The current contract with CMSI expires on November 30, 2014.

Current Contract Scope

- CMSI is responsible for providing all:
 - *Labor*
 - A highly skilled staff of 62+ Control Room Operators, Technicians, Maintainers et al, represent approximately 70% of total annual O&M costs.
 - *Supporting Contracts*
 - 13 specialized sub-contracts (8 proprietary) represent 15% of total O&M costs.
 - *Parts and Materials*
 - Most parts are unique and acquired through contracts with the original manufacturer, representing approximately 10% of the total O&M costs.
 - *Bond and Risk Insurance*
 - Presently valued at 5% of the contract.

Future Requirements

- Continue to provide O&M services as specified in the current contract
- Capital Asset Refurbishment Program (CARP)
 - *Every train vehicle will require significant refurbishment by the manufacturer starting in years 2015 and 2021.*
 - Refurbishment involves a complete rebuild or replacement of axles, wheels, brakes, relays, sensors, power supply etc.
 - *Various support components in the tunnels and track require replacement.*
 - Platform doors, communication modules, track control units etc.
 - *Total cost is estimated to be in excess of \$30m over a 10 year period.*
 - 80% of the cost will be associated with the acquisition of proprietary parts provided by Mitsubishi and the component manufacturers

Analysis of Standard Industry Practices

- *Major System Rehabilitation (CARP)*
 - The significant capital asset refurbishment programs needed to preserve the useful life of airport train systems are most often performed by the manufacturer.
- *O&M services are almost exclusively performed by the manufacturer*
 - Maintaining and repairing airport train system equipment requires specialized experience and expertise, most often provided by the manufacturer.
- *Reliance on Proprietary Parts and Technical Support*
 - Necessary to obtain unique parts/technical expertise from the original equipment manufacturers.
- *Long term O&M Contract Duration*
 - Current industry O&M contracts average 10 years in length.

Options for providing future O&M and Refurbishment Services

- Openly compete for all operations, maintenance, and refurbishment.
- Perform all operations, maintenance and refurbishment using Authority staff.
- Negotiate a sole source operations, maintenance and refurbishment contract with the manufacturer.

Conclusion

This report is for informational purposes only. Authority Staff is completing its analysis of the options presented and will provide a final recommendation to the Business Administration Committee next month.



Ronald Reagan Washington National Airport



Dulles Corridor Metrorail Project



Dulles Toll Road



Washington Dulles International Airport



METROPOLITAN WASHINGTON
AIRPORTS AUTHORITY