



Building the AeroTrain System

In 2003 the Metropolitan Washington Airports Authority contracted with Sumitomo Corporation of America who, working with Mitsubishi Heavy Industries, designed, engineered, constructed, and delivered the AeroTrain cars and system to Washington Dulles International Airport. Sumitomo will also operate and maintain the system for the first five years of passenger service.

The primary challenge that faced the Metropolitan Washington Airports Authority during construction was maintaining the uninterrupted flow of passengers, luggage and Mobile Lounges between the Terminal and airline gates in the Midfield Concourses. In order to achieve this goal, work was carefully phased.

Tunnels

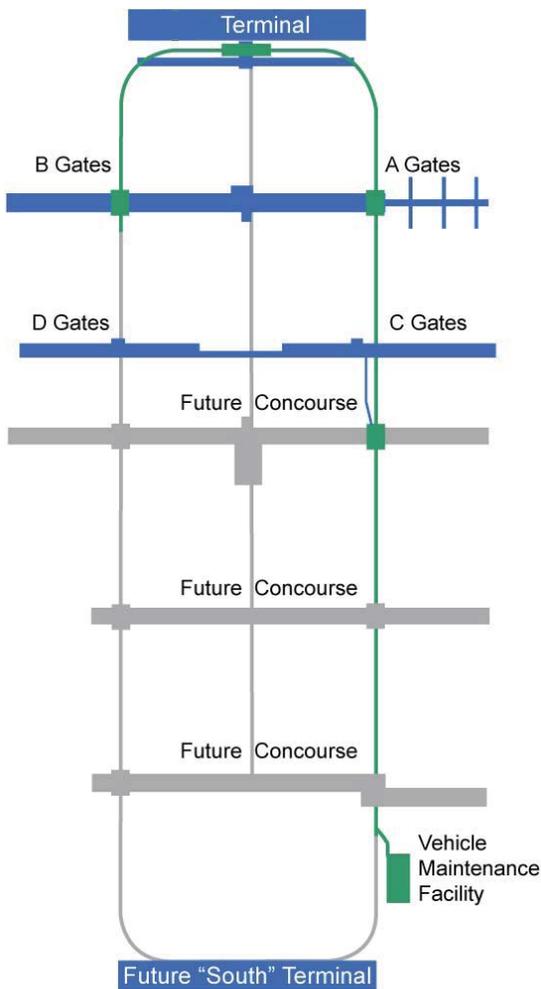
Three distinct methods were used to excavate the AeroTrain tunnels.

- **Cut and Cover:** Used to excavate approximately 7,700 track feet with a process that involves excavating a large trench down from the surface. This method was used close to existing facilities and where above ground access was available without disrupting airport activity.
- **New Austrian Tunneling Method (NATM):** A system of mining used in areas where the tunnels curve (3,650 track feet). NATM used a combination of techniques to grind the rock face in layers. Shotcrete was immediately applied to the exposed tunnel walls to provide support.
- **Tunnel Boring Method (TBM):** Used to bore approximately 4,300 track feet for the straight tunnel runs. The 23-foot diameter machine, known as a mole, bored through solid rock approximately 55 feet below grade. Precast concrete wall lining segments were mechanically put into place by the mole as it continued to move forward.



Testing the System

After the AeroTrain cars arrived at Dulles, a rigorous process of calibration and testing took place throughout the system. Trains rolled through the system under manual and automatic control to ensure proper alignment along guideways, through switches and within stations. Software and communications links between the trains and control facilities were tested in regular and special operating conditions. And in the final phase of testing, trains with weights to simulate passenger loads ran continuously during the testing period on the airport's normal operating schedules.

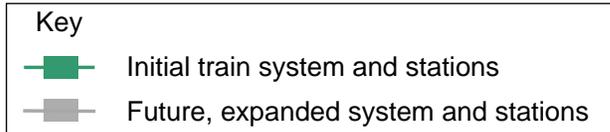


The Initial Operating Phase Begins Now

The initial operating phase of the new system connects the train station at the Main Terminal to Concourses A and B. The Concourse C station is located at the site of a future permanent Midfield Concourse that will be built when future demand requires. In the interim, a walkway connects this station to the existing Concourse C.

Future Operating Phase

The Master Plan for Washington Dulles International Airport envisions a future that consists of the existing Main Terminal (located at the north end of the airport) and a new “South” Terminal, with four permanent midfield concourses in between. The AeroTrain system will develop concurrently with each new facility until it finally joins into one continuous “loop.”



Program Cost

The estimated total program cost is \$1.5 billion, which includes:

- Trains and System
- Tunnels, Station Shells & Maintenance Facility
- Main Terminal Train Station and Security Mezzanine
- Concourse Stations (3): A, B and C-Gates