

New Blue Line Connections

Summary

Adding new Blue Line connections seeks to restore train frequencies to every six minutes during the peak period between Pentagon and Rosslyn stations, resulting in less waiting time and crowding for Blue Line riders in Northern Virginia. Once the Silver Line opens, the Blue Line service will operate every 12-14 minutes as opposed to the previous six minutes. The feasibility analysis is currently underway and has identified two potential alternatives to create new connections:

- Alternative 1: Add rail track that would create a new connection between the Blue and Orange/Silver Lines, or
- Alternative 2: A second Rosslyn Station for a new Blue Line with an underground passageway to the existing Rosslyn station, which would connect to the Orange/Silver Lines with a pedestrian tunnel.

Purpose and Need

In 2012, to prepare for the Silver Line and better match ridership growth on the Orange Line west of Rosslyn, service changes were implemented that added more capacity to high-growth areas along the Orange Line. Due to the limit of 26 trains per hour per direction from Rosslyn into Washington, Blue Line service was reduced from every six minutes to every twelve to fourteen minutes. Even with expanded Yellow Line service between Virginia and Washington, Metro recognizes that this service change has been disruptive to thousands of riders, especially those who are among the 32,000 peak period daily trips recorded between the west side of Washington and south Arlington and Alexandria. When the Silver Line opens, Blue Line frequency will decline slightly.



This initiative will restore peak period Blue Line service between Pentagon and Rosslyn stations and provide more frequent trains to Metro's Blue Line customers in Northern Virginia by adding physical capacity for more trains to move to and from and potentially through Rosslyn station. By creating this capacity, Metro will also be provided with needed flexibility at one of the system's most congested sections.

Benefits

• Both alternatives would add five more trains per hour during the peak period between Pentagon and Rosslyn stations, which would provide capacity for at least 4,000 more passengers per direction per hour. This would reduce crowding and wait times by an average of three minutes per trip for around 16,000 trips. These more frequent trains would also benefit new intra-Virginia trips that may occur after the Silver Line opens.

Alternative 1: Add rail track that would create a new connection between the Blue and Orange/Silver Lines

- Enables a one-seat ride between Dulles Airport, Tysons Corner, Ballston, the Pentagon, National Airport, and Alexandria without having to travel through the core;
- Adds five more trains in the both directions on the Silver/Orange Lines west of Rosslyn, adding

Figure 26: Infrastructure for Blue Line Service Timeline

Facilities	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025

capacity on one of the busiest sections of the system; and

- Adds operational redundancy and flexibility so that riders will have more options to avoid congested areas of the system.

Meanwhile, Alternative 2, a second Rosslyn Station with an underground passageway to the existing Rosslyn station, would set the stage for a second connection across the Potomac – the first step in creating a new east west line into and through downtown Washington.

Considerations

- Both alternatives have complex constructability and must safeguard existing high density development.
- Construction may impact federal property and monuments, such as Arlington Cemetery and the US Marine Corps Memorial, which will require a lengthy environmental review and a high level of mitigation.
- Stopping short of adding the cross-Potomac connection, neither alternative increases capacity across the Potomac River. The restriction remains 26 trains per hour.
- The total timeframe of ten years for planning, design, procurement and construction calls for an early start. Metro is currently conducting a feasibility study.

Status of Ongoing/Previous Studies

- Capacity Study (2002): developed plans and profiles of both alternatives.
- Northern Virginia Core Capacity Study (ongoing, 2013): examines feasibility of the alternatives in greater detail and exploring other short-term and interim-term solutions.

FY2014-2019 Investments

These investments are already included and funded in Metro's current six-year CIP:

- Planning and feasibility studies
- Pocket track/crossover feasibility testing

Total - \$1 million

Order of Magnitude Cost Estimate

\$1 billion (\$2012)

- Alternative 1: Add rail track to create a new connection will require mined tunnels and large trenches to expose existing tunnels plus new rail cars
- Alternative 2: A second Rosslyn Station will require tunneling of tracks, an underground station, large trenches to expose existing tunnels, plus new rail cars

Figure 27: New Blue Line Connections

