

Figure 6-13. Auto Tensioned Catenary System



Figure 6-14. Fixed-Termination Single Contact Wire Sharing a Pole with Street Lights



Gates

An automatic gate protects road users and pedestrians, and informs them of the approach or presence of rail traffic at grade crossings. Automatic gates are typically installed in conjunction with flashing light signals, and they are designed to extend across the approaching roadway to block roadway vehicles or pedestrians from crossing the

tracks when a train is approaching. On the Purple Line, the decision to install automatic gates at grade crossings will be based on engineering studies of each crossing. In general, automatic gates would be installed at grade crossings of dedicated alignments where LRT speeds would exceed 35 mph.

Crossovers

A crossover is a location where a rail vehicle can move from one set of tracks to another. Twelve crossovers are proposed, one at each of the two terminal stations at Bethesda and New Carrollton, and 10 intermediate crossovers. The crossovers at the terminal stations would be used for normal operations to provide access to both platform tracks. The intermediate crossovers would be used during special operations or during maintenance. These have been located to provide approximately 12-minute headways in both directions when single-track operations are required.

Additionally, two pocket tracks would be located on either side of the UMD campus to facilitate the addition of supplementary trains during special events at the University. Pocket tracks are short sections of track located off the mainline transitway to provide a place to stage supplementary trains. The pocket tracks would be located in the median of University Boulevard near Riggs Road and just east of the College Park Metro station, behind the proposed joint development residential building on River Road.

Preferred Alternative Service Characteristics

The operations plan for the Preferred Alternative is based on a number of assumptions that were developed from the ridership estimates. Headways for the line were planned to provide sufficient capacity for that passenger volume. The Preferred Alternative would take approximately 63 minutes to travel the corridor from Bethesda to New Carrollton during peak hours, and 60 minutes during off peak hours. When operating in or adjacent to roadways, the Preferred Alternative would operate at, or below, the posted speed limit.

Hours of Service and Headways

The Preferred Alternative would operate seven days a week. The hours of operation would be scheduled to meet the first and last Metrorail train at each of

the four stations where the Preferred Alternative connects with Metrorail (Table 6-3). Peak hour headways would be 6 minutes, and off-peak headways would be 10-12 minutes.

Table 6-3. Approximate Span of Service

Day of Week	Hours of Operation
Monday–Thursday	5:00 AM–12:00 AM
Friday	5:00 AM–3:00 AM
Saturday	7:00 AM–3:00 AM
Sunday	7:00 AM–12:00 AM

Fares

Purple Line fares are assumed to be a flat fares following the regular Metrobus fares and policies. Passengers would purchase tickets from ticket vending machines at stations and board the trains through multiple doors to expedite boarding. A proof-of-payment method is assumed, with roving, on-board fare inspectors. SmarTrip cards and other multi-trip passes would be available for purchase at Metro sales offices, retail outlets, or Commuter Stores. Passengers would swipe their cards to record the trip before boarding the Purple Line. Purple Line transfers to Metrobus and Metrorail would be free. Transfers from the Purple Line to Metrorail and from Metrorail to the Purple Line would be reduced. Transfers to other local services are proposed to be equal to existing bus-to-bus transfer policies.

Preferred Alternative Operating Characteristics

The specific vehicles for the Purple Line have not been identified, but a set of general design criteria have been established calling for articulated vehicles approximately 95 feet long operating in two-car trains. Each vehicle would accommodate 140 passengers for a total train capacity of 280. The vehicles would be 70 percent low-floor vehicles for easy boarding.

Preferred Alternative Costs

Capital Cost

The estimated capital cost for the Purple Line is \$2.2 billion in Year of Expenditure dollars. This cost includes the transitway construction, vehicles, support facilities, right-of-way, and the engineering

and other professional services required to design and implement the project. These costs are presented in detail in the *Purple Line Capital Cost Technical Report* (2013).

Project capital funding is expected to come from federal and State/local sources with up to 50 percent of funding planned to come from the federal FTA New Starts program. FTA's New Starts program is a discretionary federal program that provides capital grants for the construction of fixed-guideway transit projects. The Purple Line would compete for New Starts funding grants with projects from across the country. On October 7, 2011, the Purple Line was approved for FTA New Starts Preliminary Engineering Phase, as it was called at the time of approval, based on the previously submitted Request to Enter Preliminary Engineering. The project was deemed competitive in projected ridership, cost-effectiveness, user benefits, and many other areas, as compared to other projects receiving federal funds, and it is believed the project continues to be competitive for the next phases under the new criteria FTA has established under the recent federal MAP-21 law that enabled the New Starts program. The State of Maryland is identifying funding options from state and local sources for its share of the funding with the primary state source being the Transportation Trust Fund.

As the SSTC and the Takoma/Langley Transit Center are funded separately and scheduled to be constructed independently and in advance of the Purple Line, no costs are assumed here except for possible modifications of the projects to accommodate the Purple Line. The new south entrance to the Bethesda Metro station also is an independent project, but it would be built at the same time as the Purple Line.

The expenditure for the Georgetown Branch right-of-way between Bethesda and the CSXT Metropolitan Branch, purchased previously by Montgomery County for the specific purposes of providing both a transitway and trail, is assumed to be already contributed by the county to the project.

The Capital Crescent Trail between Bethesda and Silver Spring would be constructed by MTA concurrently with the construction of the Purple