

Bethesda Purple Line Minor Master Plan Appendix – Full Service Bike Station

Full-Service Bicycle Station

While bicycling is one of the least used modes of access to metrorail stations, it is growing at a fast rate. In 2012 1.0% of all trips to metrorail were by bicycle, up from 0.4% in 2002. WMATA has adopted a bicycle access mode share goal of 2.1% by 2020 and 3.5% by 2030¹. A full service bicycle storage facility – not to be confused with a bikeshare station – can provide access to and from transit and for commuters to Bethesda. This bicycle storage facility should be located in the Apex Building site on the Purple Line level, due to its proximity to the Red Line, Purple Line, and the Capital Crescent Trail.

WMATA opened a 2,500 square foot facility at the College Park metrorail station in 2012 and is planning to open facilities at four other metrorail stations in the coming year, including Vienna, West Hyattsville, East Falls Church, and Franconia-Springfield.

The potential market for a long term bicycle storage facility was developed by considering the number of transit boardings and alightings at the Bethesda South Station for Purple Line and Red Line passengers, as well the employment and household forecasts in the immediate area. The Planning Department contracted with the Toole Design Group to estimate the number of bicycle parking spaces and the square foot requirements for a long term bicycle storage facility (see Toole Design Group technical memo). Their analysis considered four scenarios for estimating bicycle parking demand in 2030:

- No Growth: assumes no change to existing rates of bicycle access to transit in Bethesda (2.3%) and a nominal rate of bicycle access for commuters to jobs in Bethesda (1%)
- Medium Growth: assumes a conservative rate of bicycle access to transit in Bethesda (5.0%) and a nominal rate of bicycle access for commuters to jobs in Bethesda (1%)
- Standard Growth: assumes a rate of bicycle access to transit (9.7%) that is consistent with WMATA's bicycle access goals for Bethesda in 2030 and a nominal rate of bicycle access for commuters to jobs in Bethesda (1%)
- Highest Growth: assumes a rate of bicycle access to transit in Bethesda (12.0%) that is more consistent with WMATA's bicycle access goals for other Metrorail station with adjacent high quality trails (College Park, West Hyattsville, East Falls Church, and Medical Center) and a slightly higher rate of bicycle access for commuters to jobs in Bethesda (3%)

For each of the four scenarios, the potential demand for three user groups was estimated as follows:

- Red Line passengers: WMATA estimates there will be 4,153 passengers boarding the Red Line in Bethesda during the morning peak period in 2030²
- Purple Line passengers: MTA estimates there will be 1,047 passengers boarding the Purple Line in Bethesda during the morning peak period in 2030³

¹ WMATA Board of Directors, Resolution 2011-10

² Source: 2011 WMATA Bike Parking Forecasting Study - Station Level

³ Source: Bethesda Station South Entrance Alternate Station Concept (07/23/13) Elevator Simulation Calculations

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- Commuters that work in the area surrounding the station: Based on the land use forecasts for TAZ 637⁴, and trip generation rates in the January 2013 LATR guidelines, there will be 3,182 AM peak hour vehicular trips in 2030

Toole Design estimates that 87.5% of the bicycle parking demand for the Red Line will be at the Bethesda South Station, due to its proximity to the Capital Crescent Trail.

In addition, Toole Design considered two different mixes of bicycle parking types – a WMATA Parking Mix that includes four types of bicycle storage and a High Capacity Parking Mix that only includes two types of bicycle storage and uses space more economically.

Overall, there is a demand of between 150 bicycle parking spaces (Low Growth) to 650 bicycle parking spaces (high growth), with a spatial requirement ranging from 1,800 square feet to 13,500 square feet (see Table 2).

Table 2: Bicycle Parking Demand and Spatial Requirements by Growth Scenario (rounded)

Scenario	Parking Demand (2030)	Spatial Requirements (Sq Ft)	
		WMATA Parking Mix	High Capacity Parking Mix
Low Growth	150	2,900	1,800
Medium Growth	250	5,500	3,500
Standard Growth	500	10,000	6,400
High Growth	650	13,500	8,700

The County should reserve space for 500 bicycle parking spaces on the Apex Building site (the Standard Growth scenario). The Medium Growth scenario assumes current growth patterns in bicycle mode share, but this is likely to increase once the Capital Crescent Trail and other bikeway improvements are completed. The High Growth estimate may ultimately be achievable, but remains untested at this time. Regarding the parking mix it is unclear at this time which parking mix is preferable. The plan recommends 10,000 square feet, because this could ultimately include space for showers, changing facilities, and a bicycle repair shop, and because it appears there is sufficient additional space in the Apex Building to accommodate this use.

⁴ Source: MWCOG Cooperative Land Use Forecasts Round 8.0