



An Evaluation of the Merits of an LRT Station at Dale Drive and Wayne Avenue

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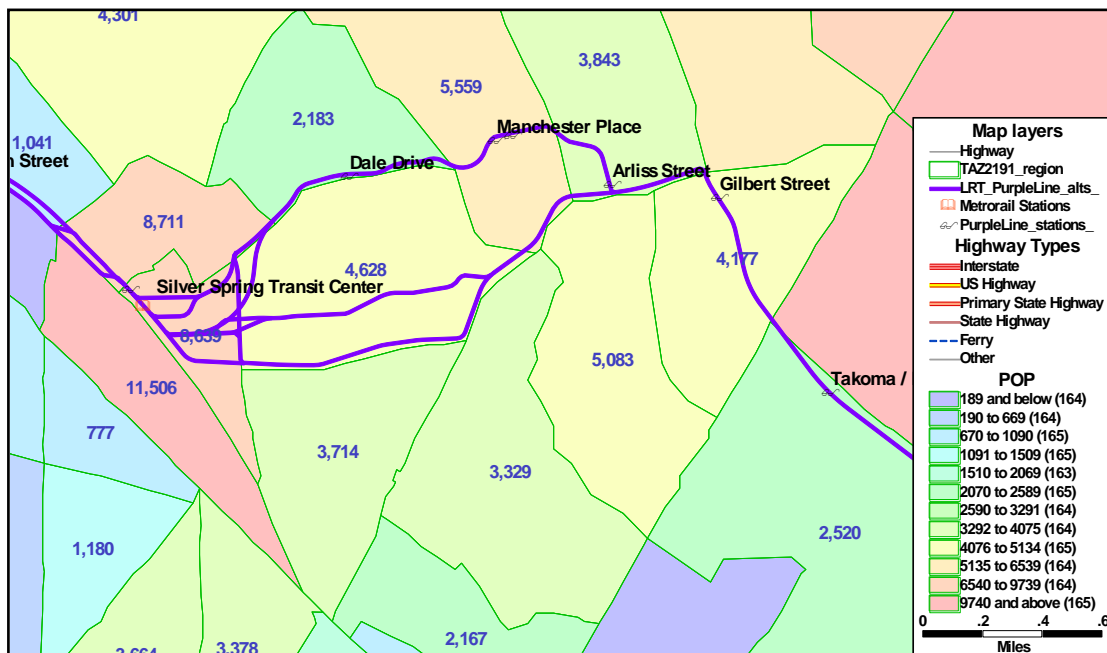
The Dale Drive station on Wayne Avenue in Silver Spring has been the subject of much discussion. Some members of the local community have been opposed to the station; generally because of fears that the area would be rezoned to permit denser development. The Montgomery County Planning Board recommended dropping the station, or at least deferring its construction. The County Council concurred with this, but recommended that the Purple Line be designed and built so that the station could be added sometime in the future without having to acquire additional land.

The recently announced Locally Preferred Alternative includes a surface alignment on Wayne Avenue, but identifies the timing of the construction of the Dale Drive station as “under study”. There are two issues that support the immediate inclusion of the Dale Drive station: access for local users (and how many local users there would be), and the effect of the station on the project’s cost-effectiveness rating under the FTA’s C/E measure. A careful review of the alignment and the projected ridership supports the inclusion of the Dale Drive station. The continued refinement of the travel forecasting model has emphasized the importance of the Dale Drive station. New ridership projections should be available in the near future.

Ridership and Access for Silver Spring Residents

Some community members had questioned the number of riders anticipated at this station. A closer examination of the travel demand forecasts shows that the majority of the projected riders would come from the Travel Analysis Zone to the south of Wayne Avenue. **Figure 1** shows the population in the Travel Analysis Zones in the year 2030.

Figure 1: 2030 Population by TAZ



This area is more densely developed than the neighborhood to the north with multifamily housing and some high-rise apartment buildings on Thayer Avenue.

Figure 2 shows the large number of trip productions in the zone south of Wayne. The purpose of the Purple Line is to provide access and mobility to residents, employees, and other travelers in the corridor.

Figure 2: 2030 Population Trip Productions and Attractions by Zone using Dale Drive Station

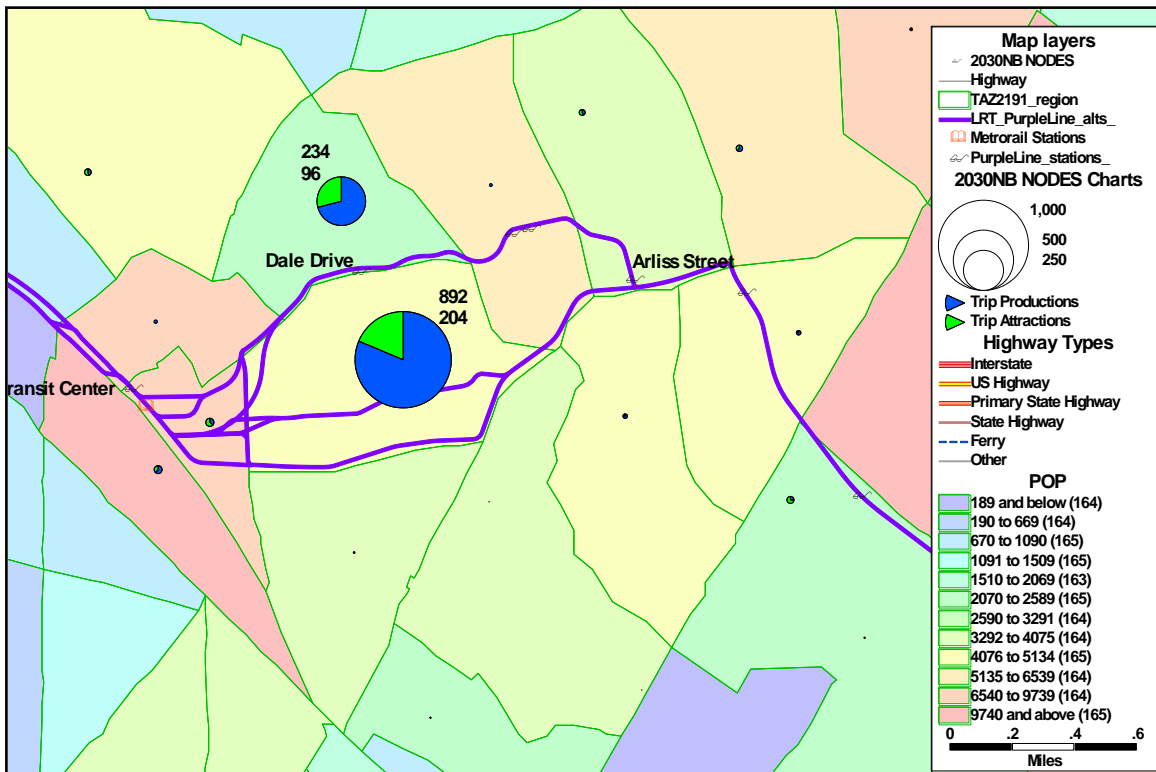
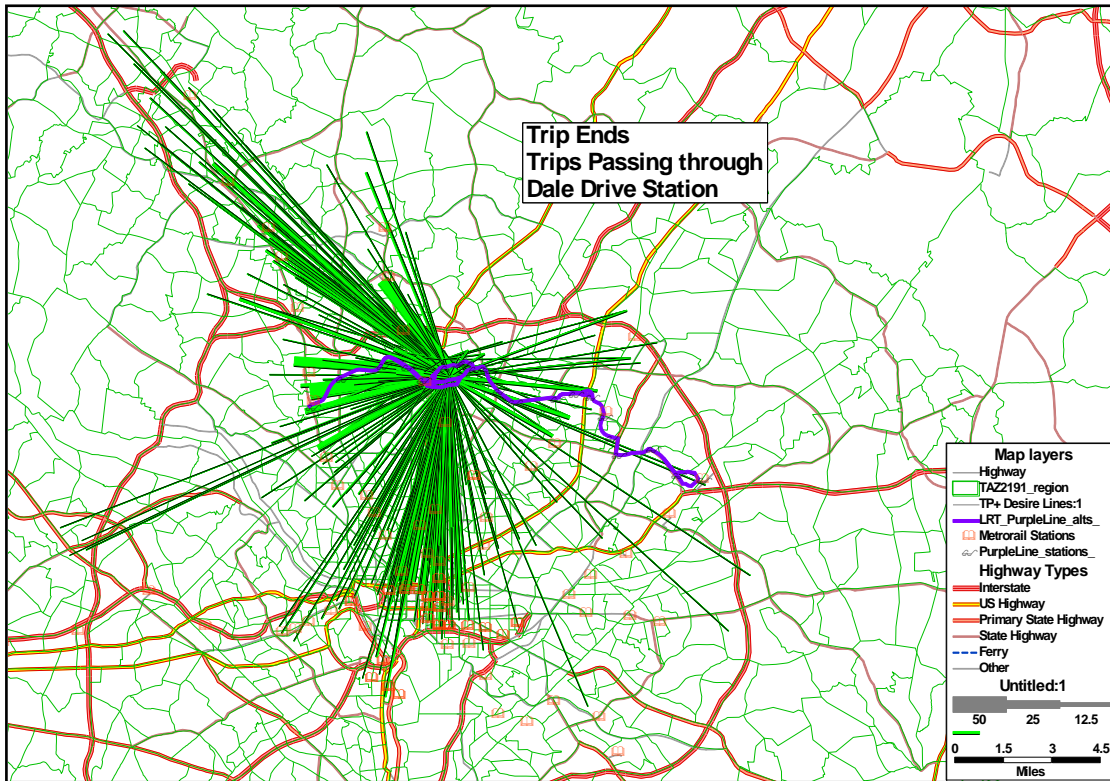


Figure 3 shows the number of transit trips boarding or alighting at Dale Drive in a 24-hour period and shows where those riders would be going to and coming from. The straight lines are a relative indication of where the Dale Drive trips are going to or coming from. The thicker lines that go to and from zones near Bethesda suggest that a large share of the riders to and from Dale Drive are going to and from Bethesda. While there are some locations that are important destinations for trips to and from Dale Drive, there are destinations and origins all over the region that are served by the station.

Figure 3: Destinations and Origins of Riders Using the Dale Drive Station

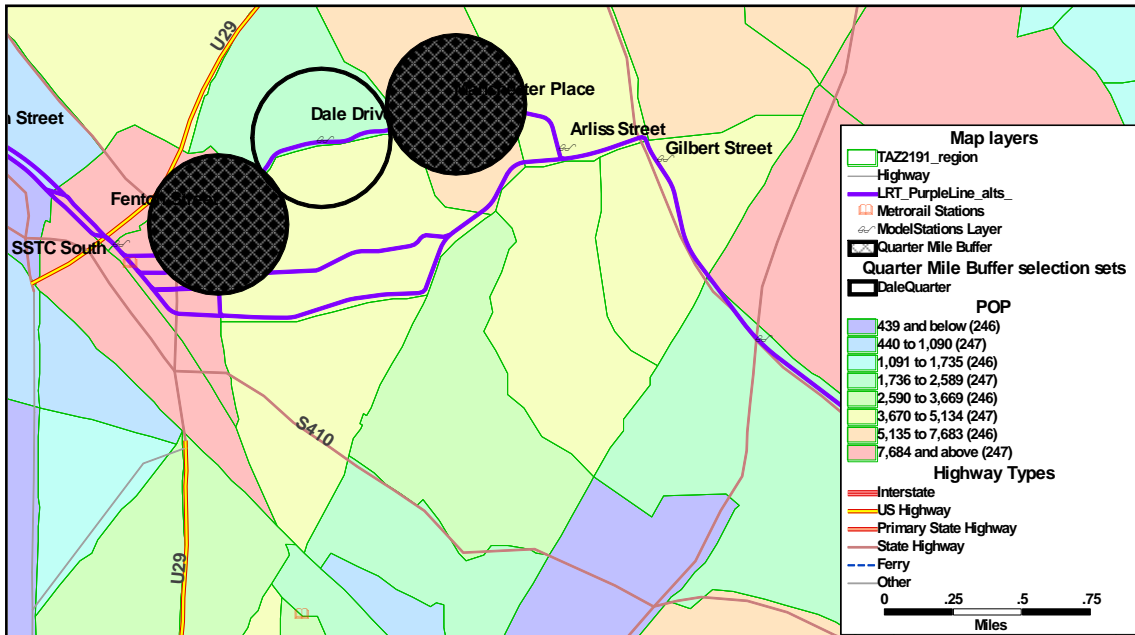


Without the Dale Drive station the distance between the station at the Fenton Street (the new Silver Spring Library) and at Manchester Place would be one mile apart. (See **Figure 4**). This would leave a large segment unserved by the Purple Line. The general rule of thumb is that Americans will walk ¼-mile to a transit station. The figure below shows ¼-mile radius circles around Fenton Street (the new Silver Spring Library), Dale Drive, and Manchester stations.

The physical geography of an area also has a major impact on station accessibility. The steep hills of this area and the presence of Sligo Creek shape the roads and constrain access to the stations.

Figure 4 clearly shows that dropping the station at Dale Drive would leave a segment of ½-mile without convenient access to the Purple Line. This particularly affects the many residents who live south of Wayne Avenue.

Figure 4: Quarter-Mile Buffers around Wayne Avenue Stations



Cost-Effectiveness

Dropping the station would decrease the Purple Line travel time by approximately 20 seconds. Albeit small, any decrease in travel times is generally seen as a benefit, but the benefit in this case would be to those who are outside these neighborhoods rather than those in this part of Silver Spring. However, for many Silver Spring residents, their total travel time would actually increase because of their longer walk times to the remaining stations. Because the FTA’s cost-effectiveness measure looks at total trip time this affects the cost effectiveness figure. The inclusion of the Dale Drive station improves the FTA-defined cost-effectiveness of the Purple Line considerably, by almost \$1. (See **Table 1**). The MTA’s latest numbers from the model indicate that the LPA would have a cost-effectiveness of \$23.27 per hour (2009 \$) without benefit of the Dale Avenue boardings of 1,427 on an average weekday in 2030 and \$22.12 per hour with the benefit of those boardings. The FTA cost-effectiveness threshold for FY 2011 is \$24.99 per hour. This significant improvement which would strongly improve the project in the national competition for federal funding.

It should be noted that with the Dale Drive station, boardings and alightings at Manchester Road only decrease by about 25, while they decrease at the Silver Spring Library by about 140. This is probably a reflection of the geographic constraints mentioned earlier.

Table 1: Ridership and Cost-Effectiveness with and without Dale Drive Station

	LPA without Dale Drive	LPA with Dale Drive	Change with Dale Drive
Daily Boardings			
Silver Spring Transit Center	12,371	12,756	+3%
Silver Spring Library (Fenton Street)	883	743	-16%
Dale Drive	0	1,427	n/a
Manchester Road	943	918	-3%
Total for East Silver Spring Stations	14,197	15,844	+12%
Total Daily Line Boardings	63,004	64,836	+3%
TSUB (daily minutes)	15,231	16,027	+5%
Cost/Effectiveness (\$/Hour)	\$23.27	\$22.12	-5%

Summary

The construction of the Dale Drive Station is strongly supported by both the purpose of the project (serving local communities and providing them access to the transit service), and the substantial improvement to the project’s cost-effectiveness. Given this, the MTA urges Montgomery County to support the inclusion of the Dale Drive station in the initial construction of the Purple Line.