



MEMORANDUM

To: Erkin Ozberk and Rosalind Grigsby (Takoma Park)
CC: Deborah Bilek (MWCOG), Paul Silberman (SabraWang)
From: Michael King, R.A.
Date: June 28, 2013
Subject: New Hampshire Ave Mutliway Boulevard Feasibility Study - Executive Summary

This memo summarizes the New Hampshire Avenue Multiway Boulevard Feasibility Study, which was completed by Nelson\Nygaard Consulting Associates and Sabra Wang & Associates under contract to the Metropolitan Washington Council of Governments. This analysis was completed through the National Capital Region Transportation Planning Board (TPB) Transportation/Land-Use Connections (TLC) Program.

The subject of this study is New Hampshire Avenue (MD 650) from Eastern Avenue to University Boulevard. Both the New Hampshire Avenue Corridor Concept Plan (2008) and The Takoma/Langley Crossroads Sector Plan (2010 draft) describe a multiway boulevard along this stretch of roadway. This study investigated four distinct elements pertaining to a proposed multiway boulevard: traffic analysis, utilities impact, stormwater management, and bicycle facilities.

TRAFFIC ANALYSIS

The first phase of the study examined the effects of a multiway boulevard on future vehicle traffic in the corridor. Working with the Maryland State Highway Administration (SHA), the project team developed a Synchro model with a one percent traffic growth over a 20-year horizon and 10 percent side road diversion rate. The results showed that half of the 10 intersections would operate a LOS-C or better in the AM and PM peaks. Four intersections would operate at LOS-D or better, and the intersection with East-West Highway would operate at LOS-E. The intersections with Eastern Avenue and University Boulevard (MD 193) were excluded from the study.

The conclusion is that minor intersections would operate satisfactorily with a multi-way configuration. Major intersections would need their own analysis and solutions, but it appears that issues can be resolved with further refinement of the boulevard design, signal systems operational considerations, and detailed travel forecasts and mode share analysis.

UTILITIES IMPACT

The second phase of the study examined the financial and infrastructure-based impacts of the proposed multiway boulevard. It considered the replacement and/or relocation of sewer lines, stormwater inlets, water lines, cable & fiber optic lines, electrical lines, and gas lines. The total cost to relocate all affected utilities within the corridor is approximately \$8,000,000. To place the utilities underground in the process would cost approximately \$23,000,000. Funding sources range from federal programs (20

percent local match) to state grants (less than \$100,000) to local levies such as right-of-way fees and municipal bonds. Given the size of the project, multiple funding sources would probably be required.

STORMWATER MANAGEMENT

Considering stormwater, the study investigated methods to manage 100% of additional flows from new impervious pavement created by the boulevard reconstruction footprint as per Maryland Department of the Environment Guidelines. The project would add approximately 10 acres of net impervious surface area to the corridor. There are a number of ways to manage the stormwater including impervious pavement reduction in the center and/or side (frontage) medians; porous pavers and structural soil cells; urban tree pits for stormwater capture and infiltration; bioswale for center median; urban stream restoration; and below ground stormwater containment cells. Based on the opportunity to construct each of the above mitigations and their relative costs, an estimated range for mitigating the net impervious area is approximately \$200,000 to \$700,000.

BICYCLE FACILITIES

Finally, the study examined possible bicycle facilities along the proposed multiway boulevard. A series of alternatives were examined, including a bike lane within the main road, a "shared" lane within the side road, a cycletrack in the side road adjacent to the sidewalk, a cycletrack in the side road adjacent to the median, and a two-way cycletrack in the side road adjacent to the median. All options have their advantages and disadvantages, including constructability, impact on stormwater management, impact on parking and driveway access, impact on auto movements, and maintenance. The three cycletrack options all perform best in terms of cycling level of service. The decision as to which facility to ultimately build will need to be made in close cooperation with all stakeholders so that the implications are fully understood.

CONCLUSION

The results of this study demonstrate that, at this stage in project development, a multiway boulevard along New Hampshire Avenue is certainly feasible. Future traffic can likely be managed and accommodated. The utilities can be relocated, but it will not be cheap. Stormwater can likely be managed within the corridor. Bicyclists can be accommodated, with varying levels of compatibility.

As the owners of the roadway, much will depend on the acceptance of the multiway boulevard design by SHA. Current policies vis-à-vis auto traffic projections, stormwater management, and bicycle facilities will need to be reviewed in that there currently is no "standard" for a multi-way boulevard. As cities, counties and states around the country are constructing more "complete" streets, this could be a shining example in a suburban context.