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Melinda B. Peters, *Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

January 9, 2013

Mr. Richard Levine  
9719 Bellevue Drive  
Bethesda MD 20814

Dear Mr. Levine:

Thank you for your response to State Highway Administration's (SHA) August 24, 2012, letter regarding the Base Realignment and Closure (BRAC) Intersection Improvement project at MD 355 (Rockville Pike) and Cedar Lane, Phase 4, which includes widening northbound MD 355 to the north of Cedar Lane. Per your request, SHA has been working hard to analyze the operations of potential alternatives along the MD 355 corridor that would address northbound congestion in lieu of the proposed Phase 4 improvements. It is my pleasure to provide the following analysis results.

The SHA has studied the following two alternatives. The first option is a "hybrid" alternative at the intersection of MD 355 and North Wood Road, which would provide both a channelized free right turn from North Wood Road, as well as the option to use a signalized right turn. The second option is to widen northbound MD 355 between Wilson Drive and North Wood Road, as requested by the Locust Hill Citizens' Association (LHCA).

The "hybrid" option was developed by SHA in an attempt to provide some certainty regarding the long term operations at the intersection of MD 355 and North Wood Road. Under the 'hybrid' option, SHA would construct a channelized free right-turn lane exiting North Wood Road, but would also continue to operate the signalized right-turn movements from North Wood Road during the PM peak period. In theory, this option would address the weaving concern for vehicles leaving the Walter Reed National Military Medical Center (WRNMMC) Installation, while minimizing the amount of red time required for mainline traffic along MD 355 northbound, thereby reducing delays for regional commuters as well as motorists leaving the National Institute of Health (NIH).

My telephone number/toll-free number is \_\_\_\_\_

*Maryland Relay Service for Impaired Hearing or Speech 1.800.735.2258 Statewide Toll Free*

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However, after assessing the advantages and disadvantages of the “hybrid” option in the past months, SHA has determined this option is not feasible for the following reasons.

Operationally, the 400 northbound vehicles making right turns onto eastbound Cedar Lane will create weaving conflicts with the 1,000 vehicles exiting North Wood Road towards northbound MD 355 in the short distance between the North Wood Road and Cedar Lane intersections. Significant operational benefits on northbound through delays would be realized if 70 percent or more of the right-turn traffic from North Wood Road used the free right lane. There are also geometric constraints to constructing the channelized free right turn from North Woods Road. An adequate turning radius for both the signalized right turn lane and the free right turn lane can't be provided for a large truck. Furthermore, the weaving conflicts between North Wood Road and Cedar Lane also create operational and safety concerns.

The SHA had previously considered widening along northbound MD 355 just south of North Wood Road. However, this option was deemed infeasible due to impacts to a Washington Metropolitan Area Transit Authority vent shaft, the Navy fence, and the WRNMMC view shed. Since the major bottleneck along the corridor is at the Cedar Lane intersection, improvements upstream do not provide significant benefits to the system compared to capacity enhancements at the Cedar Lane intersection itself.

At the request of LHCA, SHA has performed additional studies on the operational benefits of widening northbound MD 355 between Wilson Drive and North Wood Road. The LHCA also requested that SHA study this option as an alternative to the Phase 4 improvements. The SHA examined several measures of effectiveness, including travel time, queue lengths, and delay to compare this option versus Phase 4 improvements. For comparison, the SHA also examined the option of providing both Phase 4 and the widening south of North Wood Road. These operational analyses were conducted assuming the North Wood Road signal would remain operational, since widening south of North Wood Road is not feasible if a “free” right turn is provided and the “hybrid” option has been dropped from consideration. Please note, we have attached a memorandum summarizing the analysis results. The results indicate that widening MD 355 south of North Wood Road would be expected to provide only minor improvements to northbound delay and queuing approaching North Wood Road, and would be expected to provide virtually no benefit to corridor travel times.

Analyses were conducted using two different volume sets, which were the original 2011 BRAC forecasts and the 2012 post-BRAC count volumes. To date, SHA has preferred to use the 2011 BRAC forecasts when conducting analyses, because SHA thinks these forecasts better reflect the actual traffic demand in the study area, while the 2012 counts may be constrained by several factors, including peak hour spreading and vehicle diversions. At the request of LHCA, SHA also considered the 2012 count volumes to better capture certain traffic patterns. Using the 2012 traffic count volumes, the simulation model projects that the option to widen south of North Wood Road would not provide any travel time savings along the corridor during the PM peak hour, with or without Phase 4.

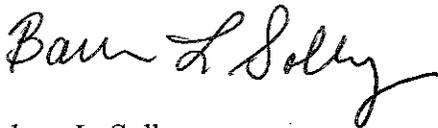
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Using the 2011 BRAC forecast volumes, the simulation model projects minor travel time savings for the option to widen south of North Wood Road (about 30 seconds per vehicle). However, this savings is significantly less than the travel time savings the simulation model projects for Phase 4 (over 100 seconds per vehicle).

Based on the study findings, SHA concludes the “hybrid” option and the option of widening south of North Wood Road are not viable substitutes for the proposed Phase 4 improvements from an operational standpoint. The SHA believes a thorough study of alternatives to Phase 4 has been performed, and Phase 4 can provide the best operational outcome along the corridor by providing additional northbound through capacity at this severely congested intersection. The SHA will move forward with Phase 4 improvements at the intersection of MD 355 and Cedar Lane, while the North Wood Road signal remains operational. We will continue to work with the LHCA to mitigate the potential community impacts and address your concerns.

Thank you, again, for your letter. If we may be of further assistance, please do not hesitate to contact me or Ms. Yuqiong Bai, Project Manager, Highway Design Division, SHA at 410-545-8816, toll-free 1-888-228-5003 or via email at [ybai@sha.state.md.us](mailto:ybai@sha.state.md.us).

Sincerely,



Barbara L. Solberg  
Chief, Highway Design Division

Attachments–Memo summarizing analysis of Locust Hill Community Option  
cc: Ms. Yuqiong Bai, Project Manager, Community Design Division, SHA  
Mr. Brian Young, District Engineer, SHA