



**Maryland Department of Transportation
State Highway Administration**

Parris N. Glendening
Governor
John D. Porcari
Secretary
Parker F. Williams
Administrator

Office of District Engineer
State Highway Administration
9300 Kenilworth Avenue
Greenbelt, Maryland 20770

August 20, 2002

*185 & Chevy Chase
Circle*

Mr. Johnny Aniagboso
Chief, Traffic Signal Design Branch
District of Columbia Department of
Public Works
2000 14th Street, NW 7th Floor
Washington DC 20009

RE: Request for Traffic Signal on
Chevy Chase Circle at Western
Avenue Approaches

Dear Mr. Aniagboso:

This letter is in response to a memorandum from Mr. Abraham Lerner of Daniel Mann Johnson Mendenhall & Harris regarding an updated study for signal warrant studies to be conducted at the Western Avenue approaches to the Chevy Chase Circle. Our primary concern, of course, is the effect such traffic signals will have on the flow of traffic along MD 185 (Connecticut Avenue). However, we have also taken the time to investigate safety and operations within the circle itself and would like to offer the following comments and suggestions.

Generally, up-to-date traffic volumes are used for traffic signal warrant analyses. According to this memo, updated counts were only performed during the AM and PM peak hours at the Western Avenue approaches; the remaining volumes are taken from an outdated 1993 count. One of the updated counts was performed on January 28th, 2002, a Monday. Typically Monday's are avoided in traffic counts due to the uncharacteristic nature of commuter patterns and volumes. It is unclear whether the through volumes on the circle at these locations are updated, outdated, or grown by a certain factor from the previous count. Although the area is built-out, traffic patterns and volumes change, especially over a 9-year period.

In most signal warrant analyses, right turn volumes may be discarded due to the feasibility of this movement and left turns are generally much more difficult to make. A traffic circle presents a unique situation.

My telephone number is 1-800-749-0737

Maryland Relay Service for Impaired Hearing or Speech
1-800-735-2258 Statewide Toll Free

Mailing Address: P.O. Box 717 • Baltimore, MD 21203-0717
Street Address: 707 North Calvert Street • Baltimore, Maryland

Mr. Johnny Aniagboso
August 20, 2002
Page Two

Heavy volumes justify the inclusion of these right turns, at least during the AM peak hour. It should be noted that delays during the PM peak hour appear to be minimal. Data reflecting the measured delay in vehicle-hours should be included for both approaches in the report, otherwise, it is not justified to state that Warrant 3 (Peak Hour) is met.

Long queues and delays are typical of any intersection in the Washington, DC metro area in which a roadway intersects a major arterial. The signal at Connecticut Avenue and Oliver Street creates gaps for vehicles on the eastern leg of Western Avenue. In the PM peak hour, definite platooning of vehicles can be observed in traffic entering the circle from southbound MD 185 due to the signal at Bradley Lane.

Although it is understood that the circle is a gateway to the city and a "potential neighborhood attraction," it should not be encouraged to allow pedestrians to enter the circle. In fact, it is suggested that the existing pedestrian facilities, benches, walkways, etc., be removed from the circle to make it less attractive to pedestrian traffic. Instead, it is suggested that the fountain be repaired, lit, and additional aesthetic amenities, such as trees and shrubs, be planted.

As a policy, the Maryland State Highway Administration approaches traffic control device installation in a hierarchical manner, testing the effectiveness of minor modifications such as signing and pavement markings before progressing to more major modifications such as geometrics and signalization. It is felt that signal installation is not only premature it is simply not recommended. According to the crash data provided, accident occurrence is minimal at both Western Avenue legs to the circle and crash severity has resulted in property damage only. Rear-end accidents tend to drastically increase with the installation of a signal, in particular where sight distance is limited and the signal is unexpected to motorists. In addition, stopping traffic within the circle will have a significant impact on traffic operations both in the circle and on all approaches. Delays along the side streets will likely *increase*, in addition to delays increasing for vehicles traveling northbound and southbound along MD 185 and Connecticut Avenue. Weaving will become a significant problem. Vehicles that once changed lanes with ease in a free-flow condition will now be required to change lanes from a stopped position, drastically affecting the flow through the circle.

As a first step to improving safety at the circle, we offer the following suggestions:

1. Upgrade advance warning signing along the Western Avenue and Connecticut Avenue approaches to include W3-2A (Yield Ahead) and W2-6 (Circular Intersection) with an advisory speed plate (W13-1).

2. Upgrade/install green-on-white advance destination signs:
3. Upgrade/replace street name signs with exit guide signs (street name with arrow or chevron-shaped, larger street name sign).
4. Upgrade warning signs within circle. Small chevron signs should be replaced with larger chevron plates (W1-8a), combined with the existing one-way signs (R6-1R) – or upgraded one-way signs – and all assemblies should be relocated to be in-line with the approaching vehicles.
5. Replace “Yield to Traffic in Circle” signs – many have lost their reflectivity.
6. Replace the “Oliver Street 140 FEET” plate on the Signal Ahead (W3-3) warning sign with a plate that reads “150 FT” with much larger text. The current text on the plate is too small to be legible.
7. Install Pedestrian Crossing signs (W11-2) and diagonal arrows at crosswalks.
8. Upgrade crosswalks with “Zebra” striping (24” x 10’ stripes at 24” spacing). This style of crosswalk provides a higher degree of visibility, differs from traditional transverse crosswalks to alert motorists of a unique intersection, and may require less maintenance due to the ability to space markings to avoid tire tracks.
9. Install yield lines at all approaches (12” broken white line, 3’ stripe and 3’ gap). These lines demarcate the entry approach from the circulatory roadway.
10. Install “YIELD” pavement marking legend prior to crosswalks on approaches to circle and between crosswalk and yield line, one legend per lane (see attachment).
11. Install 5” yellow pavement marking line around the circumference of the central island.
12. Is parking within the circle really a problem? Remove all No Parking signs (most are completely faded, anyway) – their only function now is clutter.
13. Replace or remove all (faded) “Snow Emergency Route” signs.
14. Stripe the centerline for the eastbound Western Avenue approach.
15. Consider installing a mountable concrete splitter island along both Western Avenue approaches. Two approach lanes can still be maintained. These should act to slow approach and exit speeds and provide refuge for pedestrians.
16. Repair the fountain and have it lit. An illuminated object in the central island will allow the motorist to perceive the general layout and operation of the intersection during nighttime hours.

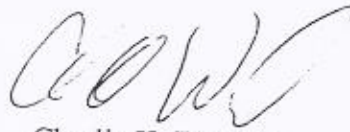
Mr. Johnny Aniagboso
August 20, 2002
Page Four

17. Remove all pedestrian facilities (benches, walkways, etc.) within the central island. It is not safe for pedestrians to traverse the circle and this movement should be discouraged.

It is recommended that, some, if not all, of the above improvements be implemented before considering installation of a traffic signal. Further data collection and analysis should be undertaken as well, including updated counts, delay studies, and SYNCHRO modeling and analysis. If it is then determined that a signal is justified, it is suggested to signalize the west leg of Western Avenue first and observe operations for a year prior to signalizing the east leg. Due to the location of the intersection on a horizontal curve, surrounding trees and nature of operations within the circle, significant advance warning of the signal must be implemented. Please keep in mind that an intersection that meets warrants set forth in the MUTCD is not always *justified*. Engineering judgement must also be used.

Thank you for allowing us to express our concerns on this serious issue. If you have any questions, please do not hesitate to contact me or my Assistant District Engineer for Traffic, Mr. Lee Starkloff at 301-513-7359 or 1-800-749-0737.

Sincerely,



Charlie K. Watkins
District Engineer

CKW:LS:DSU:smc

cc: Mr. Robert Gonzales, Montgomery County Department of Public Works and Transportation
Mr. Tom Hicks, Director, Office of Traffic and Safety, State Highway Administration
Mr. Michael Niederhauser, Office of Traffic and Safety, State Highway Administration
Ms. Mary Rowse, Committee to Repair & Protect Chevy Chase Circle
Mr. Jerry Schiro, Town of Chevy Chase

Attachments: Selected pages from "Roundabouts: An Informational Guide," prepared by the Federal Highway Administration (11 pages)