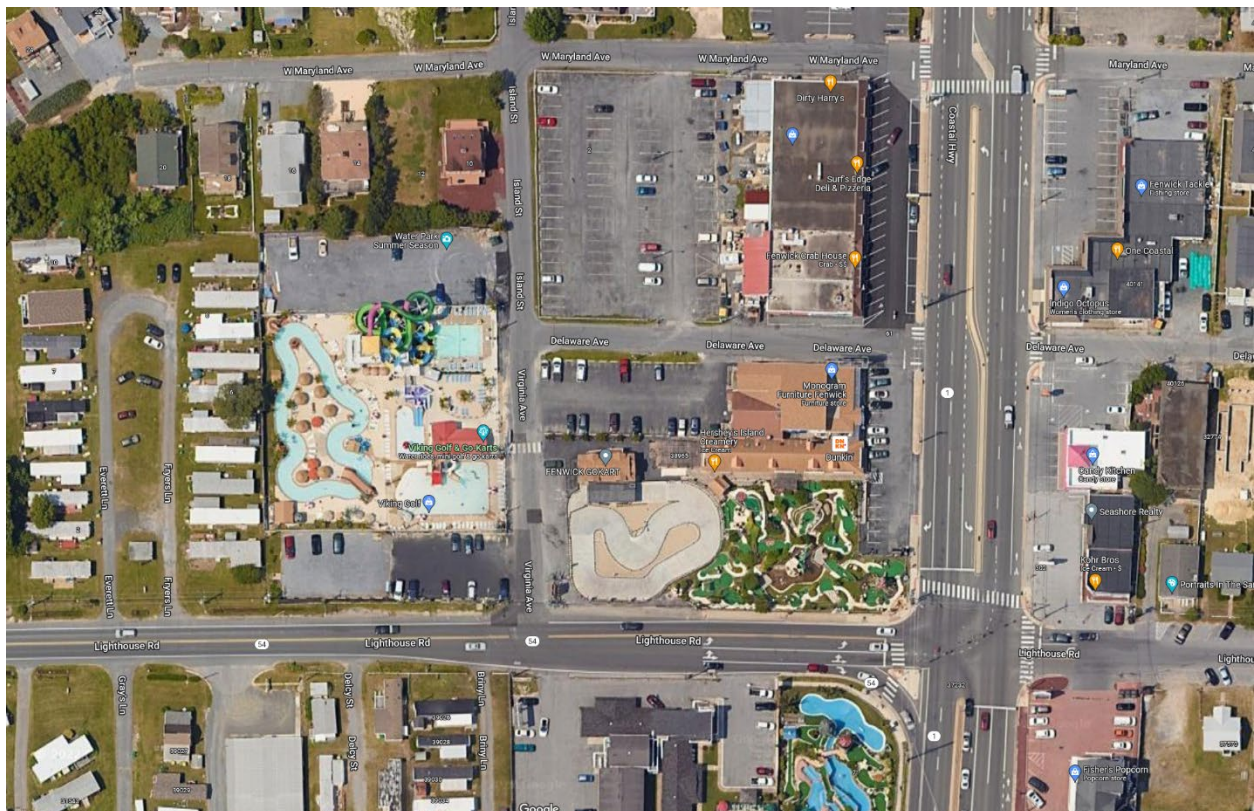


Technical Memorandum

To: Richard Benn, Member of Council, Infrastructure Committee Chair
From: Matheu J. Carter, P.E., Municipal Engineering Circuit Rider
Date: July 12, 2022
Re: W. Maryland Avenue and Island Street Cut Through

At your request, I have examined the cut through issue involving W. Maryland Avenue and Island Street (shown on some maps as Virginia Avenue). From your description, vehicles traveling southbound on SR 1 sometimes circumvent the signalized intersection at SR 54 by turning right onto W. Maryland Avenue and left on Island Street, then either turning left (east) onto SR 54 to use the slip lane back on SR 1 beyond the signal or turning right to proceed west on SR 54. I made field observations of the area Friday, June 24, 2022 (and periodically monitored traffic cameras throughout the Independence Day weekend) and offer the following analyses for your consideration.

My observations were admittedly limited to a few hours on one Friday morning/mid-day and the limited field view of the traffic cameras at the SR 1/SR 54 intersection. The collective



anecdotal knowledge of your committee is more expansive. Hence, my analysis is a bit limited and you should layer on your more intimate familiarity with the streets.

On the day that I visited the area, traffic was moderate (but steady) on SR 1 and SR 54, with relatively short queues at the signal approaches, and vehicular traffic on W. Maryland and Island was very light. However, it is clear from the May 2021 [SR 54 Corridor Study](#) that significant volume is at times present at the signal and queues likely are large enough to generate at least some frustrated/impatient motorists that might see the Maryland/Island route as a suitable alternative.

For solutions, the Delaware [Traffic Calming Design Manual](#) is a useful resource. Approaches to this problem tend to be some form of prohibiting movement, removing incentives, or applying a dis-incentive. Some of the tools to consider for this problem include the following:

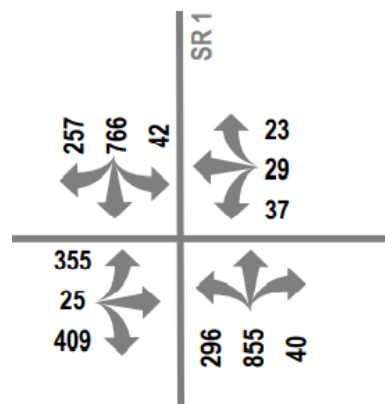


Figure 1 Saturday Peak Traffic Counts, SR 54 at SR 1, July 2019

1. One-way streets.

- a. One-way direction for W. Maryland Avenue and Island Street. By making Island Street a northbound only street and W. Maryland Avenue an eastbound only street, the southbound SR 1 traffic would be prohibited from using the corridor as a cut through. However, this could present an inconvenience for the 30-35 residential homes located beyond the confluence of the two streets. It would also present a significant problem for motorists looking to enter the parking lots for shops along SR 1 on either side of W. Maryland Avenue (e.g., Dirty Harry's, Village of Fenwick Shoppes, etc.).
- b. One-way direction for Island Street only. By making just Island Street one-way northbound, this alternative would address the parking lot access issues noted above, but it could result in motorists reaching the Maryland/Island intersection only to find they cannot proceed and that could generate some frustrated driver behavior that is worse than the impacts seen currently. It could also interfere with access issues for the businesses relying upon Island Avenue. As before, the residents living beyond the Maryland/Island intersection might find this alternative burdensome.
- c. If you do elect to make one or both these streets one-way, you should pay close attention to the signage selection and placement requirements in the Delaware Manual on Uniform Traffic Control Devices ([MUTCD](#)). Either R6-1 or R6-2 One-Way signs can be used, but it is good practice to stick with one throughout the jurisdiction (for consistency) if you can. Part 2B.20



R6-1

R6-2

of the MUTCD addresses One-Way signs and at paragraph 07, it dictates that, **“If used at unsignalized intersections with one-way streets, ONE WAY signs shall be placed on the near right and the far left corners of the intersection facing traffic entering or crossing the one-way street (see Figure 2B-14).”** In addition, a Do Not Enter (Part 2B.37) would be appropriate for the street sections where travel is prohibited.



2. Mid-block narrowings (aka, chokers) could be used at strategic locations along W. Maryland Avenue and/or Island Street to temporarily restrict travel to just one lane for the purpose of making the route less attractive for cut-through purposes. This is not the conventional use of chokers and could potentially create confusion with drivers, so careful consideration should be made before adopting this tool. However, bear in mind that the choker could initially be constructed of inexpensive material like 6”x6” or 8”x8” landscaping ties pinned into the pavement and painted white (the appropriate color for the right edge of the travel lane); if it works out through a trial period, a permanent concrete curb could then be placed. The only logical places this could be tried would be on W. Maryland Avenue immediately west of the Village of Fenwick Shoppes parking lot entrances and on Island Street just north of the Delaware Avenue intersection.

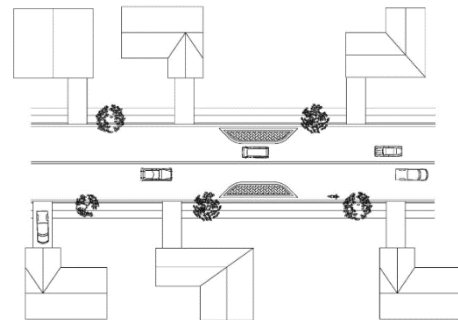


Figure 2 Choker Diagram from Traffic Calming Design Manual

3. Instead of making either street one-way, a partial closure of the Maryland/Island intersection could be used. A No Outlet sign would be needed at the entrance to W. Maryland Avenue and even then, as with the one-way option above, motorists may overlook the W14-2 or W14-2a signs and become frustrated when they cannot turn



W14-2



W14-2a

left onto Island Street, creating worse behavior than a simple cut-through. This alternative would have the advantage that most travel movements would

still be available for business parking lots and residents, but the primary cut through would be removed. As with the choker islands, this partial closure could be initially constructed of timbers to test effectiveness.

- a. However, it should be noted that savvy drivers might then recognize that they could continue down to Delaware Avenue and achieve a similar result. This could perhaps be

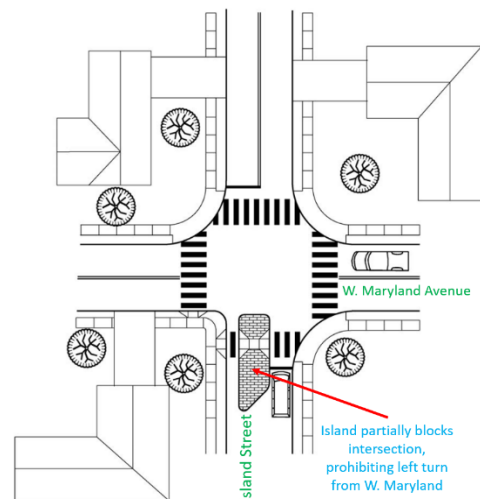


Figure 3 Partial Closure modified from Traffic Calming Design Manual

- eliminated by making Delaware Avenue one-way eastbound, but this again creates parking lot accessibility along SR 1. Therefore a second partial closure would be necessary on the south side of the intersection with Delaware Avenue and Island Street.
- b. Because a No Outlet sign would be incorrect at the SR 1 entrance to Delaware Avenue (since in fact, there would be an outlet by traveling up to W. Maryland Avenue), there could be again some frustrated drivers, at least initially, that travel down Delaware Avenue and find their plan was foiled.

There are likely other approaches or variants on these that could be considered. Any conceivable solution will have some disadvantages for at least some residential or commercial parties. It would be helpful before proceeding to put these and other alternatives in front of the community for comment, as they may recognize still other and more troublesome disadvantages, or they may suggest a solution that we have not considered.

That said, my limited observations of the area did not suggest a speeding issue (at least as a primary concern) and the issue seems to be more one of frustration that these minor streets are being used inappropriately by motorists and, at least at times, causing congestion where there should be none. If that concern is great enough to overcome the negatives, the solution I believe fits best is the partial closure of Island Street's intersections with both W. Maryland Avenue and Delaware Avenue.

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