

## **Technical Memorandum**

То:	Richard Benn, Member of Council, Infrastructure Committee Chair
From:	Matheu J. Carter, P.E., Municipal Engineering Circuit Rider
Date:	July 12, 2022
Re:	Bunting Avenue Congestion

At your request, I have examined the pedestrian and bicycle congestion on Bunting Avenue. I traveled some or all of Bunting Avenue several times on Friday, June 24, 2022 and at times had to come completely still with the vehicle mid-block until the crowd lessened. At other times, the number of pedestrians and cyclists were fewer, but they were present in large numbers at least on parts of the route throughout my observations.

While Bunting Avenue varies in paved width along its route, much of it is narrow enough that two vehicles can only slowly pass each other; hence, there is little room left to accommodate pedestrians and cyclists.

To be clear, the existing condition seems to work. However, it is probably uncomfortable at times for pedestrians and cyclists who are unsure what approaching motorists will do and in particular, children walking or biking in such close quarters with vehicles



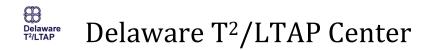
Photo courtesy of Bunting Avenue Resident

leaves little room for error. Indeed the greatest danger is when there are just a few pedestrians or cyclists, since larger groups will capture the attention of motorists whereas an errant pedestrian or cyclist straying just a foot or two into the lane could come in conflict with a motorist driving a little faster than one would when many pedestrians and cyclists are present. Safety in numbers is often a true notion.

## Signage and Pavement Markings

One option to enhance the navigation between motorist and pedestrian would be to add signage and/or pavement markings along Bunting Avenue. My sense (but this is absolutely where the eyes of the community and the anecdotal evidence of living along Bunting Avenue can be very instructive) is that motorists and pedestrians already know what they are supposed to do along the corridor (even if either party may not always fully comply). Signage and/or pavement markings would only serve to reinforce the "rules of the road" a bit, but could be a more suitable alternative than the directional control discussed below.

To begin with, we could examine more closely the stop controls at each intersection, although my first impression is that those are about right. Transverse stop bars at some or all Stop signs



could reinforce the signs. Also, pedestrian signage at some of the intersections (typically, the W11-2 assembly) would reinforce the yield conditions. Note that the W11-2 assembly may use a fluorescent yellow-green background, but the Manual on Uniform Traffic Control Devices (MUTCD) guides that a systematic approach should be used with pedestrian sign background colors. I would be happy to draft a sign and/or pavement marking strategy for you and the community to consider.



However, additional signage might be viewed by the community as aesthetically unpleasing and the sign clutter might be inconsistent with community goals, reinforcing the importance of community engagement with proposed solutions. In addition, more signage and/or pavement markings mean additional maintenance costs. Traffic control devices that are poorly maintained become a liability for the community that can be a worse threat than what you began with, so any additional installations should come with budgeting to make sure they can be adequately maintained.

## **Directional Control**

Since a large capital project solution (i.e., street widening, sidewalks, etc.) is both financially unfeasible and also undesirable for its impacts to the character of the street, the logical solution, should it be acceptable to the community, may be to make Bunting Avenue one-way. Since it is also reported that the street is sometimes used as an alternative to congestion along SR 1, some care in directionality might assist with that concern as well.

For example, if Bunting Avenue were made one-way southbound from E. Atlantic Street and one-way northbound, since motorists cannot turn left onto E. Atlantic Avenue from SR 1 southbound, some of the incentive to utilize Bunting Avenue as an alternative to SR 1 would be removed. It should be noted that traffic on E. Atlantic Avenue might increase as a result, which could be poorly received by those residents.

However, this would by no means eliminate the ability of motorists to use Bunting as a relief route. South Carolina Avenue and West Virginia Avenue would remain available for SR 1 southbound traffic to jump over to Bunting Avenue if the SR 54 signal created standing queues. Converting each of these to one-way westbound would eliminate that ability, but the SR 1 crossovers have been there for (at least) decades and their continued presence could create confusion for drivers. Changes to the directionality of South Carolina and or West Virginia Avenues have broader implications for area traffic safety and I would encourage consultation with DeIDOT Traffic because of potential impacts with SR 1 operations.

If you decide to proceed with one or more of the streets converting to one direction, I am happy to help you construct a signage plan. The careful placement of One-Way and Do Not Enter signs will be important to make sure motorists have all the information they need to safely navigate the streets.



These and other alternatives you may have should be part of a community discussion since those living along Bunting Avenue and the side streets will have a variety of views and their experience may reveal some elements that we have not considered.

B6-1

I hope this helps a little. The exercise of incentivizing and dis-incentivizing motorists, pedestrians, and cyclists to balance competing needs is difficult and the various solutions that we might consider can generate strong opinions in each direction, so transparency and open dialogue can go a long way towards consensus. I am happy to continue discussing this with you and helping however I can.

The Delaware T<sup>2</sup> Center's full-time Engineer position was established with the primary mission of providing transportation advice and technical assistance to Delaware municipalities. Contact Matt Carter at <u>matheu@udel.edu</u> or at (302) 831-7236 for assistance.



The Technology Transfer  $(T^2)$  or Local Technical Assistance Program is a partnership among state universities, state departments of transportation, and the Federal Highway Administration. There are 51 centers throughout the United States with primary missions to promote training, technology transfer, and research project implementation at state and local transportation agencies.

This document and/or its attachments may contain analyses or other technical information. These are prepared as an Information Service of the Delaware  $T^2/LTAP$  Center and are provided "as is" without warranty of any kind, either expressed or implied. The Delaware  $T^2/LTAP$  Center, and its funding agencies (e.g., DelDOT, FHWA, University of Delaware) shall not be responsible for the use of this information. The products and technologies discussed herein (some of which are proprietary) are not endorsed by the author or the Delaware  $T^2/LTAP$  Center.

Except where noted, all content herein, including photographs and tables, were developed and produced by the Delaware  $T^2/LTAP$  Center and may not be reprinted or otherwise used without written permission.

