

ANNUAL MEETING OF CCV, APRIL 16, 2018

REPORT OF THE TRAFFIC COMMITTEE

The Traffic Committee is charged to provide analysis and recommendations to the Board based on objective data, best practices in the industry, and the expertise of Committee members. The Committee's activities in 2017/2018 fell into three main areas: (1) speed hump policy and specific requests, (2) pedestrian crossing on Connecticut Avenue, and (3) informal consultation to residents on specific local matters.

SPEED HUMPS

A long-standing request of residents in the western-most block of Grafton Street provided the focus of Committee and Board consideration and actions with respect to speed hump policy for the Village. In its May 2017 meeting, the Board removed vehicle speed as a consideration in determining whether a speed hump petition should be considered by the Board. The Traffic Committee's representative expressed the Committee's view that speed should not be eliminated in such deliberations and offered the Committee's willingness to help identify other means of addressing the residents' concerns.

Village Police collected data on vehicle speed and volume over a multi-week period in summer 2017. With that information, the petition to install a speed hump was taken up by the Board in its October 2017 meeting. The Traffic Committee prepared a detailed analysis of the pros and cons of speed humps and alternative traffic calming measures for such a situation and presented its report in advance of the Board's meeting. A copy of that report is attached to this Annual Report. In preparing the report, the Committee benefitted from an extensive literature on speed humps, two recent reports by nearby jurisdictions (Martin's Addition and Silver Spring), and site-specific data on the relevant segment of Grafton Street. The Committee found that a speed hump in this situation was unlikely to change traffic speed or volume significantly and that the negative consequences of a speed hump (chiefly reduced effectiveness of emergency vehicles—with consequent increased risk to Village residents—and negative environmental impacts—chiefly air pollution) substantially outweighed any potential benefits of a speed hump. The Committee unanimously recommended that a speed hump not be installed.

The Board initiated a period of additional data collection during which a temporary speed hump was installed and traffic volume and speed were to be collected at the proposed site. A multi-week trial was conducted in fall 2017 and a summary of the data

was presented for the Board's December 2017 meeting. Comparing summer vs. fall data, the trial data showed that average traffic speed and volumes were not reduced by the temporary speed hump, although there was a slight reduction in the number of vehicles travelling faster than 32 MPH (fewer than 50 vehicles out of more than 12,000 vehicles recorded in this period). The Committee reviewed and analyzed the new information and concluded that there was no reason to change its original conclusion that the negative effects of a speed hump substantially outweigh the potential benefit and the Committee recommendation that a speed hump not be installed in this segment of Grafton Street. Based on the findings of the trial, the Board approved a speed hump in its December 2017 meeting.

Pedestrian Crossing on Connecticut Ave.

The Ad Hoc Committee on Pedestrian Safety played a critical role in securing a pedestrian-activated flashing signal for pedestrians who wish to cross Connecticut Ave. at Lenox Street. Since its installation, a number of Village and nearby residents have contacted the Village Manager to express the concern that the present situation is not adequate and may increase hazard to some pedestrians. The Village Chief of Police conducted a number of trials in which he attempted to cross the street using the flashing light and numerous vehicles failed to yield as required by the law (citations were issued). The Ad Hoc Committee is Chaired by a Board Member (Mr. Crockett) and the Traffic Committee provides two representatives (Acton and Wheeler) to assist the analysis of current conditions and to consider any further actions that may be superior to the flashing signal system presently in use. Specific information about the Ad Hoc Committee's work should be available from that Committee.

Informal Consultation

The Village Chief of Police has referred a small number of Village resident inquiries to the Chair of the Traffic Committee for informal discussion and potential action. So far, these consultations appear to have addressed these highly-local concerns and have not required formal consideration by the board.

Future Activities

The Traffic Committee does not presently have any active initiatives and will continue to be responsive when called upon by the Board regarding traffic issues.

MEMORANDUM

To: Board of Village Managers, Chevy Chase Village

From: Village Traffic Committee

Subject: TRAFFIC COMMITTEE RECOMMENDATIONS REGARDING GRAFTON STREET REQUEST FOR SPEED HUMPS AND THE NEED FOR A BROADER ASSESMENT OF TRAFFIC CALMING AND RELATED TRAFFIC POLICY MATTERS

Date: October 5, 2017

Executive Summary of Findings and Recommendations

1. In accordance with the amended Village Speed Hump Policy (adopted May 8, 2017), the Traffic Committee (TC) is to advise the Board of Village Managers when a petition for speed hump is to be presented to the Board for action. This Memorandum is presented in response to this policy.
2. The amended Village speed hump policy does not consider speed as a criterion for qualifying for a speed hump. The policy does consider traffic volume as a criterion (along with other necessary factors) to qualify for a speed hump). TC finds that objective data confirm that traffic volume exceeds the threshold of 300 vehicles per day on average in the 100 block segment of Grafton St. and thus is not automatically disqualified from further consideration.
3. TC also finds, however, that installing a speed hump will have little or no effect on traffic volume in this road segment. The speed hump will also have little or no effect on vehicle speeds, which already average less than the traffic calming speed of the hump.
4. TC finds that installing a speed hump will likely create more negative impacts than any potential benefits, both for the residents of Grafton St. and for residents of the Village as a whole. Speed humps reduce response times of emergency vehicles, and speed humps substantially increase air pollution. These negative effects increase harm to health and survival of residents.
5. TC finds that installing a speed hump will have effects that extend beyond the single road segment on Grafton St., which is an arterial road for the entire western half of the Village and also serves the eastern half of the Village. Thus, installing speed humps will affect the access of Village residents to and from their homes on a regular basis.
6. TC recommends that the Board consider these Village-wide impacts of a speed hump, rather than its effect on only a single road segment, and that the Board delay installation of a speed hump on Grafton St. until a more comprehensive investigation of alternative traffic calming and traffic volume reduction measures can be examined and presented to the Board. The fact that additional speed

hump petitions have been submitted to the Village emphasizes the importance of taking a Village-wide approach.

Preamble

The Traffic Committee (TC) consists of Village residents who serve as a resource for the Board of Managers. The TC has spent years studying and debating vehicle traffic matters in CCV.¹ The committee strives to address all issues from the perspective of the entire Village in the hope that recommended actions are consistent across the Village.

The need for Village-wide consideration of speed hump policy is made acute by the fact that an additional petition has been submitted to the Village for speed humps on another segment of Grafton St. in the western half of the Village.

Members of the Traffic Committee recognize and share the desires of Grafton Street Petitioners (petitioners) to have a safe, livable community.

In line with the TC mandate, TC draws upon professional assessments, objective research, and situation-specific facts in its analysis and recommendations.

TC seeks to identify best practices for CCV by drawing upon the input and concerns of Village residents, the experience and advice of the Village Chief of Police, the diversity of perspectives and professional expertise of its members, and the extensive, published academic and governmental analysis that is available on this subject.

Analysis, Findings, and Recommendations

In reviewing the Grafton St. Petition, TC offers these observations:

There is a risk in moving quickly to a convenient, low cost “solution” that does not address the real problem.

This action not only may waste resources and delay opportunities for undertaking an effective measure it may actually cause unintended negative consequences.

A recent Takoma Park report notes that speed humps are often used to respond to a perceived citizen problem because they are inexpensive and can be quickly

¹ Important documents in the history of Village deliberations may be found on the Village website. They include policy documents going back to September 2012 as well as the more recent documents in 2017 beginning in February 2017 and running through the May 8, 2017 Board Meeting in which speed hump policy was amended.

implemented. The report identifies a number of traffic calming measures that are more effective and less harmful than speed humps.²

Recent Traffic Studies by Nearby Jurisdictions May Help Inform CCV's Deliberations.

Nearby jurisdictions face many of the same traffic problems as CCV and they operate under the same county and state laws and regulations as CCV. These other jurisdictions have recently undertaken serious reviews of traffic issues that are similar to those of CCV. These studies and reports may help inform CCV's deliberations about a speed hump on this segment of Grafton St., as well as future requests.

These studies—by both Takoma Park and Martin's Additions--are very professional, thoughtful, objective, and fact-based.³

TC members feel that the Village should take account of the analysis and thoughts of these other jurisdictions in developing CCV policy.

The new information opens the possibility for a more informed and appropriate approach to speed hump and other traffic calming measures.

Are Speed Humps Effective in Reducing Traffic Volume?

The Traffic Committee has not been able to identify persuasive evidence that speed humps reduce traffic volume.

Local residents are understandably unhappy with heavy traffic volumes in front of their residences.

Whether the traffic is cut-through to another non-Village destination or a CCV resident using the roadway for personal access and exit, a CCV resident on an arterial roadway feels the effect of traffic volume.

The Washington Post has published articles regarding these "local vs. outsiders" tensions and impacts—including specific reference to the speed humps that have been installed on Dorset Ave.⁴

² See Takoma Park Safe Roadways Report, pp. 1-2.

³ See Takoma Park Agenda Item 2 and attached report: Takoma Park Safe Roadways Committee's Traffic Calming Recommendations Report, March 22, 2017. http citation to be added. Referenced below as "Takoma Park Safe Roadways Report". See also Jean Sperling, Manager of Martin's Additions and Joseph Cutro, P.E. Traffic Engineering Consultant, Cummings Lane and Shepard Street Summary and Analysis of Traffic Counts May 31, 2017. See also memorandum Cutro to Sperling, Subject: "Further Information about chicanes/bumpouts", June 21, 2017.

⁴ "Neighborhoods Use Broad Palette to Deter Traffic Short-Cut Artists," http://www.washingtonpost.com/wp-dyn/content/article/2008/7/25/AR2008072503528_2.html?sid=ST2008072503556

In cases of an arterial roadway—such as Grafton St.—with few alternative routes, the speed humps do not produce documented reductions in traffic volume.

To the extent that effects are observed, they seem to be to adjacent roadways. In the case of the Village, this means at best some traffic would be diverted to Oliver St., although Oliver St. is a less convenient route for traffic that is turning from Wisconsin Ave. into the Village. Therefore, any decision to calm or reduce traffic volume on Grafton St. should take into account the shift to Oliver or other streets in the Village.

What Does Traffic Survey Data Reveal About Traffic Speeds and Volume on This Segment of Grafton St.?

The most recent traffic study of West Grafton St. (July 2017) determined that speed is not the defining characteristic of vehicular traffic on this road segment.

The speed limit is 25 MPH in this segment.

Average speeds are below 20 MPH (almost identical the finding of the 2014 study of this road segment)

Only 8.6% of vehicles exceed the posted speed limit of 25 MPH. The average speed of vehicles exceeding the speed limit is 27.2 MPH

Of the approximately 13,000 vehicles recorded in the July 2017 traffic study, 55 had speeds about 31 MPH and 2 had speeds above 37 MPH

Extensive academic research and in-the-field experience demonstrates that speed humps (of the design the Village uses) achieve an average vehicle speed of about 20 MPH. Thus, speed humps are not expected to change average speeds on this road segment.

The Traffic Committee concludes that traffic speed alone does not justify a speed hump on this segment of Grafton St.

Speed Humps Have Many Unintended and Negative Effects.

The decision to adopt and install speed humps often focuses only on the perceived benefits without considering drawback and negative effects.

In many circumstances, the negative effects outweigh the benefits—sometimes by a very wide margin.

The negative effects that are frequently not taken into account include:

- Reduced response time by emergency vehicles (fire and medical) that lead to higher likelihood of harm to victims,
- Increased air pollution and consequent harm to the health of residents in the immediate vicinity of a speed hump,
- Increased noise pollution in the immediate vicinity, and
- Diversion of traffic to nearby streets (“burden shifting”) in many circumstances.

Speed Humps Slow Emergency Vehicles.

Reduced travel and response time for emergency vehicles (both fire and medical) is caused by speed humps.

Traffic calming measures that cause vehicles to slow and then resume speed also reduce the response time of fire and medical responders, to the detriment of residents throughout a community. Each speed hump adds up to 10 seconds, which can cumulate to significant delay in life-threatening situations such as sudden cardiac arrest, where timely intervention is critical to survival.

The Takoma Park report cites an Austin, TX, analysis of the impact of speed humps (designed to achieve 20 MPH) that compares (a) reduced fatalities to pedestrians from lower speeds with (b) increased fatalities in the community due to slower response times. It summarized as follows:

“According to an Austin, Texas, statistical model, traffic-calming measures save only one pedestrian, while the emergency vehicle delays they create cause the deaths of 37 people. The speed bumps’ harm was 37 times greater than their benefit.”⁵

The Takoma Park report notes that heart disease, including sudden cardiac arrest, is the number one cause of death for people over 40 years of age. Delays in providing medical intervention increase fatality rates.

The Takoma Park report notes:

“In order to address this problem [increased death due to delay by emergency vehicles], consider that some forms of traffic calming do not substantially affect emergency-vehicle response times. These include speed limit reductions, sidewalk installation, street narrowing, and most choke points.”⁶

⁵ Takoma Park Safe Roadways Report, p. 6.

⁶ Takoma Park Safe Roadways Report, p. 7.

Speed Humps Cause Increased Air Pollution.

Speed humps cause vehicles to slow down and then speed up to resume speed. This interruption of steady speed increases air pollution substantially from tailpipe and brake linings. These increased levels affect asthma, lung function, and cardiovascular disease in both children and adults in a negative manner.

Slow down and resumption of speed at speed humps causes increased air pollution even at 20 MPH. In particular, academic research has proven that nitrous oxide (NOX) carbon dioxide (CO₂), and particulates (PM) are increased between 47 and nearly 100 percent.

“Researchers have found that when drivers brake for speed bumps, their cars release tiny particulates from brake pads and tires, and when they speed up again, their vehicle exhaust releases large amounts of air pollution. [citation footnote omitted] The researchers found on a street with speed bumps and a speed limit of 20 mph, a gasoline-powered car produced 64% more Nitrogen Dioxide (NO₂), 47% more Particulate Matter (PM), and nearly 60% more Carbon Dioxide (CO₂) emissions. Diesel vehicles are even worse, producing 98% more NO₂, 64% more CO₂, and 47% more PM.”⁷

Speed Humps Cause Increased Noise Pollution.

The Takoma Park report states that:

“Noise levels measured before and after speed bumps produced considerable increases of noise levels near speed bumps. The average, maximum and minimum noise level measurements at 20 meters (65.6 feet) were 74.3, 84.0 and 67.2 decibels, respectively. These noise levels exceeded the standard limits recommended for noise levels in school areas (50 dB(A) day time at the boundaries).”⁸

Speed Humps Frequently Cause Traffic Diversion to Other Streets (“burden shifting”)

Adjacent streets may experience increased traffic volume.

⁷ Takoma Park Safe Roadway Report, p. 8.

⁸ Takoma Park Safe Roadway Report, p. 8.

Since the only alternative entry to the westernmost portion of the Village from Wisconsin Ave. is Oliver St., it is likely that any diverted traffic will use Oliver St. or the more time-consuming route of Western Ave. in combination with Kirkside St.

Access to Hesketh St., Kirkside, Park, Belmont, Montgomery, Center, and other westernmost street segments may also be affected by changes to Grafton St.

Village policy calls for a survey of residents on the segment of the roadway where a speed hump is requested. CCV's current policy does not call for a survey of other residents on roadways that may be affected by a speed hump, although these residents are to be notified that a speed hump has been requested in a road segment that may affect them. The TC was not presented with any information indicating that input from other residents was collected and there is a question about whether or not these residents were notified.

What Non-Speed Factors Have Been Invoked to Justify Speed Humps? Are Such Factors Able to Justify Speed Humps in This Segment of Grafton St.?

The literature identifies a number of factors that may be considered in addition to speed when determining whether or not a traffic calming measure is warranted. These include such factors as

1. Lack of sidewalks
2. Traffic Volume
3. Schools
4. Unusual traffic patterns
5. Cut-through traffic
6. Traffic injuries or deaths due to speed.

Such factors are either absent or insufficient to justify a speed hump on this segment of Grafton St. in TC judgment:

1. There are sidewalks on both sides of Grafton in this segment. TC members have not observed children playing in the street in this segment of Grafton St.
2. Traffic volume is substantial in this segment, averaging nearly 700 vehicles daily. However, as discussed below, traffic humps have little or no effect on traffic volume and are ineffective in providing added safety in these circumstances. See the discussion below about the TC recommendation to undertake a more comprehensive analysis of traffic in CCV

3. Schools are not nearby in this segment of Grafton St.
4. There are no unusual traffic patterns, other than volume discussed below.
5. Cut-through traffic. Village residents and non-residents alike use Grafton St. to access the Village and points beyond. It appears that a substantial fraction of the traffic volume on this segment of Grafton is due to cut-through traffic (notably from Dorset Ave. or from southbound traffic on Wisconsin Ave. Grafton St. offers one of only two entries to the western side of CCV from these streets. The alternative, Oliver St., is very inconvenient to southbound drivers, because it requires a U-turn from southbound Wisconsin Ave., followed by a right turn onto Oliver St. To the extent that a speed hump affects volume at all on Grafton St., we anticipate that some or most of the diverted traffic would attempt to use Oliver St., representing a burden shifting that has not been addressed so far in deliberations.
6. Injuries or death due to speed. We are fortunate that CCV has not experienced injury or death due to speed on Village streets, including Grafton St. While TC members certainly share the viewpoint that past success in avoiding injury or death does not justify complacency, TC members conclude that there are alternatives that are considerably more effective in providing increased safety than speed humps in most circumstances—including this one on Grafton St.

There Are Better Traffic Calming Measures Than Speed Humps

The Takoma Park Safe Roadways Committee undertook an extensive review of traffic calming methods. While the Chevy Chase Village Traffic Committee has not reviewed each of these alternatives, and TC understands that CCV may have different priorities, TC nevertheless provides this list as illustrative of a number of potentially superior traffic calming methods that CCV should consider. Takoma Park recommends that a rank order of measures should be adopted by the Council and only if a higher ranked measure fails to achieve the desired level of safety should a lower ranked measure (or combination of measures) be adopted.⁹ The rank order of measures is:

1. Lower speed limits

⁹ Takoma Park Safe Roadways Report, p. 4.

2. Additional police enforcement
3. Sidewalk installation
4. Choke-points
5. Overall street narrowing
6. Chicanes
7. Speed tables
8. Raised crosswalks
9. Intersection bulb-outs

A traffic engineering consultant retained by Martin's Additions came to a similar conclusion when considering traffic calming measures and recommended installing chicanes in two segments of its streets in lieu of speed humps.

There Are Only Limited Policies and Measures That CCV Can Undertake on Its Own to Reduce the Volume of Traffic

Almost all of the measures that the TC has identified to date require the actions of other governmental entities.

For example, if traffic from Dorset or Wisconsin were to be encouraged to make its turn eastward on Western Ave., as opposed to via Grafton, it would require actions by both the State Highway Administration and the government of the District of Columbia (and perhaps Montgomery County).

Historically, achieving cross-community and cross-governmental cooperation and action is a time-consuming (and sometimes frustrating) undertaking.

Although it is possible to change speed limits below the current 25 MPH, it would be challenging and expensive because the current Maryland guideline is 30 MPH and detailed traffic studies are required to lower that value.

TC Recommends That a More Comprehensive Analysis of Traffic Calming and Traffic Volume Reduction Be Undertaken

Systematic analysis of viable alternative will require serious study, as well as time and resources.

TC does not underestimate these challenges, but members feel that the potential benefits from avoiding poor choices, and instead moving toward possibly better ones, make it worthwhile for the Board of Village Managers to consider seriously the undertaking.

The experiences of the nearby jurisdictions of Takoma Park and Martin's Addition should be examined and perhaps other experiences will be identified in the process.