



## ARLINGTON COUNTY, VIRGINIA

**County Board Agenda Item  
Meeting of September 13, 2008**

**DATE:** August 22, 2008

**SUBJECT:** Adoption of the New Neighborhood Traffic Calming Manual and Revision to the Charter for the Neighborhood Traffic Calming Committee (NTCC)

### **C. M. RECOMMENDATIONS:**

1. Adopt the revised Neighborhood Traffic Calming manual titled "Neighborhood Traffic Calming-Process, Criteria and Measures" dated September 2007, (Attachment 8) with modifications shown on the attached Appendix, and for projects with speed tables and speed cushions to address speeding problems on neighborhood streets, the minimum level of support is increased from 60 percent of households in the affected area to 75 percent.
2. Adopt the revised Neighborhood Traffic Calming Committee Charter to reflect changes in membership composition and changing responsibilities.

**ISSUES:** Should there be changes to the procedures for the Neighborhood Traffic Calming program and changes to criteria for certain traffic calming measures?

**SUMMARY:** The Neighborhood Traffic Calming Committee (NTCC) and staff have completed a review of the Neighborhood Traffic Calming (NTC) program and submitted a new manual to the County Board for adoption. The manual went through a public review process that involved posting the manual on the DES website and soliciting public comment. Staff also made presentations to five County advisory groups, and their comments on the NTC program and manual are attached. The NTC program was created by the County Board in 1999, and the original manual was adopted in 2000. After some experience had been gained with the NTC program procedures and projects had been implemented, the program was to be reviewed to determine if modifications needed to be made.

Since 2001, the NTC program has planned and implemented nearly 80 projects throughout the County. Nearly 80 more qualified projects await selection by the NTCC. Data collected after project implementation show a significant reduction in travel speeds on streets where projects have been implemented.

The revised manual clarifies some of the issues that have developed since the adoption of the original manual in 2000. It clarifies the definition of a speeding problem, proposes to address the

County Manager: \_\_\_\_\_

Staff: Jeffrey Sikes, DES, Division of Transportation

issue of high traffic volumes through a new option called “Excessive Traffic Volume”, provides a Toolbox of measures with details and graphics, and improves the definition of the area of impact or affected area of a traffic calming project. A petition circulated in the affected area of the traffic calming project is the primary means of demonstrating support for the project.

Staff recommends that the Board adopt the new manual and continue to consider speed tables to address speeds on streets that meet criteria. Staff also recommends that the support threshold for traffic calming projects involving speed tables be increased from 60 percent to 75 percent of the households in the affected area.

**BACKGROUND:** The Neighborhood Traffic Calming (NTC) Program manual was originally adopted by the County Board in March 2000. The program is intended to address speeding and traffic safety issues on streets classified as “neighborhood” on the County’s Master Transportation Plan. Although they may have residential frontage, streets classified as “arterial” are not eligible for the NTC program.

Streets are selected to receive traffic calming assistance by the Neighborhood Traffic Calming Committee (NTCC), a County Board–appointed committee tasked with working with County staff and overseeing the program. Requests for traffic calming can come from residents, civic associations, the County Board and as a result of development proposals. When staff receives a request, traffic data are collected on the street. If the data indicate there is a speeding problem and the street qualifies for the NTC program, a problem-severity ranking score is developed. The ranking score takes into account such factors as travel speed, daily traffic volume, the number of reported crashes, whether the street is a transit route, whether it is a bike route, the presence (or absence) of sidewalks, and any presence nearby of pedestrian generators such as schools, churches, community centers, or parks. Points are assigned for these factors. A problem-severity ranking score is computed and the street is added to the list of qualified streets. Streets with the higher problem-severity ranking scores become high priorities for traffic calming assistance.

In the past, the NTCC selected a set of streets to receive traffic calming assistance twice yearly, selecting 10 to 12 projects per year. When a street segment is selected, NTCC members and staff work with residents in the affected area to form a working group that develops a traffic calming plan appropriate to address the level of problem identified, share the proposed plan with the affected residents through working group meetings and by an “open house”, and determine the level of neighborhood support for the project by a petition. If support is obtained, the NTCC conducts a public meeting where the public is encouraged to comment on the project. The outcome of this meeting may be a recommendation to the County Board to approve and to fund the project.

Since the program was adopted in 2000, the NTCC has selected over 80 projects in 43 neighborhoods for implementation, with construction complete on all but five projects. Of the projects selected for traffic calming assistance, only three have failed to obtain the minimum support threshold needed to move forward to funding and implementation. Demand remains strong for traffic calming measures in Arlington, with approximately 80 qualified streets on the ranking list awaiting traffic calming assistance.

Before-and-after studies indicate that the projects implemented have resulted in the lowering of 85<sup>th</sup> percentile speeds about to the posted speed limit of 25 mph. (The 85<sup>th</sup> percentile speed is the speed at which or below 85 percent of motorists travel, with 15 percent travelling above that speed. It is the high-end of “regular” speeds, eliminating about 15 percent because of bad data and wanton disregard.) Studies conducted after completion of the project and compared with pre-construction data indicate a reduction in 85<sup>th</sup> percentile speeds ranging from three to nine miles per hour, with speed reduction greatest on projects containing speed tables or speed cushions.

Also, as a part of the program review, to determine resident satisfaction with the NTC program, staff conducted a customer feedback study in 2007. Surveys were sent to 1100 households in the affected areas of 12 recently completed traffic calming projects, and the rate of return was 33 percent. Among the findings of this survey are that:

- 74% of respondents thought that traffic, speeding and pedestrian safety were a problem prior to the project,
- 67% of respondents felt the installed traffic calming measures reduced speeds and improved pedestrian safety,
- 62% of respondents were very or somewhat satisfied with the traffic calming measures, and
- 57% of respondents stated they would consider speed humps, or speed humps under certain conditions.

**DISCUSSION:** When the NTC program was adopted by the County Board in March 2000, it was envisioned that the program would be reviewed after some experience with the program procedures and measures, so that modifications to the program could be made as necessary.

Over the past two years, the NTCC and staff have worked closely together to develop a new neighborhood traffic calming program manual that reflects what has been learned in the past and what has worked well for the program.

The new traffic calming manual and transmittal letter from then Chairman Stephen Sockwell were delivered to the County Board and County Manager’s Office late last year. Mr. Sockwell’s letter of transmittal is Attachment 1.

To allow the public to review and comment on the proposed manual and Neighborhood Traffic Calming Program, the manual was posted online at the DES website and comments were accepted from late February to May 1, 2008. During the comment period, five comments were received from the public. Four of these had to do with speed tables, with two comments supporting the use of speed tables and two comments against.

In addition, staff presentations were made to the advisory groups which provide representation on the NTCC. These groups include the Neighborhood Conservation Advisory Committee (NCAC), Transportation Commission, Bicycle Advisory Committee and Civic Federation.

Although not currently sending a representative to NTCC meetings, the Pedestrian Advisory Committee was also provided a presentation.

### **Advisory Group Comments:**

- Neighborhood Conservation Advisory Committee (NCAC): The NCAC received a staff presentation in April. The NCAC was generally supportive of the program, and recommended that the County Board restore full funding to the program and adopt the revised manual as presented. A letter from the NCAC is Attachment 2.
- Transportation Commission: The Transportation Commission was provided a briefing on the new manual in February, June and August. At the August 28 meeting the Transportation Commission voted to recommend to the Board to adopt the manual. See Attachment 3.
- Bicycle Advisory Committee (BAC): The BAC was provided a staff presentation on the new manual in May. The BAC has indicated support for the NTC program and new manual. In the attached letter of support, the committee noted that traffic calming measures reduced speeds on neighborhood streets which encouraged biking and walking, and found that speed tables had little effect on bicyclists. The BAC also encouraged the Board to restore funding for the NTC program. The letter is Attachment 4.
- Civic Federation: Copies of the revised manual were provided to the Transportation Committee of the Civic Federation for their review and comment. Personal comments from the chair of this committee were provided to staff and the NTCC, but no formal action by the Civic Federation has taken place. Some of the chair's comments and suggestions are substantially different than what is proposed in the new manual. The chair attended the NTCC meeting in June to discuss his concerns with the NTCC. Based upon the lengthy discussion at the NTCC meeting, it is fair to say that there are philosophical differences between the chair of the Civic Federation transportation committee and the other County Board advisory groups on the issue of neighborhood traffic calming. The comments are Attachment 5.

### **Proposed Changes and New Material in the Manual:**

The new NTC manual is intended to replace the original manual adopted in 2000. The new manual makes the neighborhood traffic calming process and procedures easier to understand, has an expanded toolbox of measures with improved graphics and presents options clearly for residents to consider to address neighborhood traffic problems. With County Board approval changes in the Appendix will be incorporated into the manual and the revised manual will be published and distributed to interested groups and residents.

The notable changes to the new NTC program manual are as follows:

1. **Clarification of the Definition of a Speeding Problem:** The intent and practice of the NTCC and staff for the past eight years have been to consider that a neighborhood street has a speeding problem when the 85<sup>th</sup> percentile speed is recorded at "five miles per hour,

or greater” above the posted speed limit. For a street with a posted speed limit of 25 mph, a speeding problem exists when the 85<sup>th</sup> percentile speed is 30 mph or greater. The original NTC manual stated a speeding problem exists when the 85<sup>th</sup> percentile speed is “greater than five miles per hour” above the speed limit. Traffic speed data (85<sup>th</sup> percentile speed) that are provided to NTC staff are in whole numbers rather than in decimals. Traffic counting devices record the speed of individual vehicles in tenths of a mile per hour, but report in whole numbers. For example, a speed of 31.7 miles per hour is reported as 31 miles per hour on the printed report.

2. **Excessive Traffic Volume:** While the concept of “cut through” traffic was briefly discussed in the original manual, the initial emphasis for the NTC program adopted in 2000 has been to address the travel speed of vehicles on neighborhood streets. There have been requests received by staff in the past several years to address non-local traffic using neighborhood streets, but with the emphasis on speed reduction, no projects dealing exclusively with traffic volume were undertaken.

The NTCC is proposing to deal with the issue of high traffic volumes on neighborhood streets with a new category called “Excessive Traffic Volume”. To qualify for this category of traffic calming, additional criteria must be met in addition to a documented speeding problem. If all criteria are met, the street receives an additional 10 points on the problem-severity ranking chart and becomes eligible for measures which restrict certain movements, or timed access or turn restrictions.

In addition to having a documented speeding problem, the street must have a minimum traffic volume of 1000 vehicles per day, and the “actual traffic volume” must exceed the “expected traffic volume” by a factor of two. The expected traffic volume is based upon the trip generation characteristics of the land use adjacent to the roadway and the surrounding roadway network, and is a number developed by staff. The actual volume is based upon traffic data collected on the street. If the expected value divided by the actual value is two or greater, this criterion is satisfied.

Since measures that restrict certain travel movements likely affect more residents, the affected area, or area of the community impacted by the roadway proposal would likely be greater than the affected area for speed control measures. To ensure widespread support for the measures of these types, the recommended support level is 70 percent of the affected households.

3. **Improved Definition for Affected Area or Area of Impact:** How large the affected area of a proposed traffic calming project is determined is not well defined in the original manual. Identifying the affected area is a critical part of the planning process as it defines the residents who will be invited to participate in the process (Working Group) and who ultimately will be asked to vote on any resulting project. The new manual states: “The area of impact is an important element of the planning process and consists of residents along the project street, and residents who live nearby on streets connected to the project street.” This “one block over” approach has been taken by the NTCC and staff during the past several years as projects were developed, and has worked very well.

For projects which are proposed for streets that are part of a grid system, determining the affected area is quite straight-forward. The affected area contains the households on the street of the proposed project and for one block on streets that cross the project street.

For traffic calming projects on streets where the cross streets are cul-de-sacs, determining the affected area can be more difficult since residents of the cross streets have fewer options for exiting the neighborhood. In these cases the affected area is usually larger than for projects on grid-system streets. For example, on the 35<sup>th</sup> Street North traffic calming project in the Gulf Branch neighborhood in 2006, while the measures were installed on the section of 35<sup>th</sup> Street North in Gulf Branch, because of the roadway network the affected area was expanded to include nearly 200 households.

The NTCC and staff have chosen to expand the affected area on some projects where there have been concerns expressed about the potential for diverted traffic onto other neighborhood streets, where there have been past controversies about neighborhood traffic issues or when residents have only one way to exit their neighborhood and are required to cross measures such as speed tables. The new manual includes no changes to how the affected area is determined.

4. **Use of Petitions vs. Post Card Surveys:** The original manual stated that to assess community support for a traffic calming project, a letter would be sent to each household in the affected area explaining the project and asking that residents return a post card showing their support or opposition to the project. While post card voting was tried on some earlier projects, the rates of return were low and required working group members to make follow up visits to households that did not return the post card. This prolonged the process for determining project support.

For the past several years, the NTC program has used a petition process to determine support for traffic calming projects. Staff prepares the petition, provides maps and plans for the proposed project and gives these to working group members who have volunteered to go door-to-door to ask for signatures on the petition. Volunteers are instructed not to pressure residents to sign the petition. Staff believes that having neighborhood residents go door-to-door to speak to their neighbors about the project promotes project buy-in and ownership of the project and the planning process. The petition process is also used in other County programs such as the Neighborhood Conservation Program to determine support for street improvement projects and the Residential Permit Parking Program to request that a staff survey be conducted to determine if a block qualifies for the program. In each case, these petitions are circulated by residents of the community.

Staff recommends that the petition process continue as it has in the past, but that residents who feel uncomfortable signing the petition in the presence of the petition carrier be presented a post card that would be mailed to staff with their position on the traffic calming plan. The post cards would be prepared by staff and given to the petition carriers

for these individuals. If these households do not respond, they would be contacted again by working group members.

5. **Improved Traffic Calming Toolbox:** The new Traffic Calming Toolbox offers several improvements to the original manual. Graphics of the measures, criteria for installation and locations where these features have been implemented are provided. Some measures shown in the original manual are not included. For example, a European measure, the Woonerf (shared travel and pedestrian space), is no longer included because there may be few locations in Arlington for this type of measure. The full street closure has been removed as this is contrary to the policy of connectivity of the street network as adopted in the new Master Transportation Plan. Also, multi-way stop signs were removed since these are generally not elements of traffic calming plans.

Staff recommends that the Woonerf be retained in the Toolbox as there may be some innovative way to include this or a similar measure in future projects. Also, multi-way stop signs should be included as an appendix, although these measures are used primarily as safety enhancement measures on neighborhood streets.

6. **Speed Tables (Flat top speed hump and speed cushion):** The most effective traffic calming measure in the Toolbox, in terms of effectiveness at reducing travel speeds on neighborhood streets has been the speed table. Speed tables are designed to lower travel speeds close to the posted speed limit of 25 mph and are designed to be driven over comfortably at 25 mph. Under current policy, speed tables are reserved for streets with higher travel speeds. That is, the 85<sup>th</sup> percentile speed must be at least 32 miles per hour before speed tables can be considered, compared to an 85<sup>th</sup> percentile speed of 30 miles per hour for measures such as traffic circles or nubs. Since the NTC program is a problem-severity driven program for which streets with the highest speeds tend to receive traffic calming assistance before streets with lower speeds, as the number of completed projects increase, fewer projects will qualify for speed tables, and as a result, fewer will be constructed. For example, the set of traffic calming projects most recently approved by the County Board in February included no speed tables.

To determine if the current Arlington speed table criteria should be adjusted, staff compared ours with those of other localities around the country which use speed tables or speed humps as part of a traffic calming program. (See Attachment 6.) Staff compared the Arlington criteria such as threshold speed needed to qualify for speed humps, percentage of support required from the residents on the street, hump design, spacing criteria and how support for the speed tables are determined, with the criteria of other localities.

The most significant finding was that the Arlington criteria for level of support from the affected area is low compared to what most other localities use. Our current requirement is that at least 60 percent of the homes in the affected area must support the project. **The support levels of other localities vary, but the range was from 60 percent to 80 percent, with most closer to 75 percent.**

Another significant finding of the study was that the Arlington threshold speed for a street to qualify for speed humps is very similar to what a number of the other localities use to qualify streets for speed hump installation. The current Arlington criterion for speed table consideration is when the 85<sup>th</sup> percentile speed is at least seven miles per hour above the posted speed limit. Of the other localities surveyed, the minimum threshold speed to qualify ranged from five to ten miles per hour above the speed limit, **with many other localities using five miles per hour above the posted speed limit.**

It is also significant to note that localities with higher posted speed limits on residential streets (30 to 35 mph) have a different physical layout of neighborhood blocks and tend to have a more suburban street pattern than in Arlington. The blocks tend to be longer and have wider street cross sections than the traditional streets that exist in much of Arlington. The physical street layout could support higher posted speed limits. Based upon the character of most of Arlington's neighborhood streets, it is appropriate to keep the current threshold speed at seven miles per hour, as the criterion above the posted speed limit that must be met to qualify for speed tables as a traffic calming measure.

### **Revised Charter for the Neighborhood Traffic Calming Committee (NTCC)**

The current charter of the NTCC was last amended by the County Board in January 2002, and is attached (See Attachment 7-A). A recommended new charter (Attachment 7-B) has been updated to reflect a change in membership and to more accurately reflect the activities and responsibilities of the Committee. The old Charter indicates there are two representatives from the Transportation Commission, while the new charter recommends one representative from the Transportation Commission and one from the Pedestrian Advisory Committee, since most NTC projects have a pedestrian component.

The old Charter states that the committee should advise the Transportation Commission on a regular basis on appropriate actions regarding specific requests (#4). This is deleted from the proposed Charter as there has been little need to advise or to confer with the Commission in the past six years. Also, #5 in the old Charter indicates the committee will collaborate with the County Manager or County Board on the "Streamlined" process. The "Streamlined" process for installation of speed tables was abandoned several years ago at the direction of the County Board. Item #10 of the old Charter indicates the NTCC will be involved in the Master Transportation Plan (MTP) revisions as it relates to traffic calming. This is not reflected in the proposed Charter since the sections of the new MTP dealing with traffic calming have already been adopted by the County Board.

The proposed Charter would facilitate coordination of NTC projects and traffic calming measures with other County programs such as the Neighborhood Conservation Program and the WalkArlington Program

**FISCAL IMPACT:** There are no fiscal impacts as a result of the proposed changes to the NTC Program and manual.

## Appendix to the Neighborhood Traffic Calming Manual

The following are proposed changes to the traffic calming manual “Neighborhood Traffic Calming Program-Process, Procedures and Measures” dated September 2007.

1. On page 5 under “Forming a Working Group”, in the second paragraph after the sentence beginning “The area of impact...”, add the following sentence: “Residents who have only one way to exit their neighborhood and are required to cross traffic calming measures are also included in the affected area.”
2. On page 6 under “Obtaining Project Support”, in the second paragraph after the sentence beginning “Speeding solutions, which are non-restrictive...”, add the following sentence: “Projects containing speed tables, speed cushions and raised crosswalks must obtain support from 75% of households.”
3. On page 7 under “Obtaining Project Support”, in the third paragraph after the sentence beginning “Petition carriers are to be respectful...”, add the following sentence: “If residents feel uncomfortable signing the petition in the presence of the petition carrier, they may request the staff-prepared post card to register their opinion of the project.”
4. On page 11 under “Traffic Calming Measures”, in the second paragraph after the last sentence, add the following sentence: “These are provided in Appendix 7.”
5. On page 20 of the “Traffic Calming Toolbox”, under “Flat-Top Speed Cushion”, “Raised Crosswalk” and “Raised Intersection”, change the Minimum Support Needed from 60% to 75%.
6. On page 21 of the “Traffic Calming Toolbox” under “Speed Table”, change the Minimum Support Needed from 60% to 75%.
7. On page 30, “Flat-top Speed Cushion”, change the second bullet under Criteria from 60% of households in affected area to 75%.
8. On page 35, “Raised Intersection”, change the second bullet under Criteria from 60% of households in affected area to 75%.
9. On page 39, “Speed Table”, change the second bullet under Criteria from 60% of households in affected area to 75%.
10. Add the measure known as the Woonerf to the Toolbox. (Appendix 6)
11. Add a new Appendix 7 on Multi-way Stop Signs to include warrants and procedures on how residents can request.