

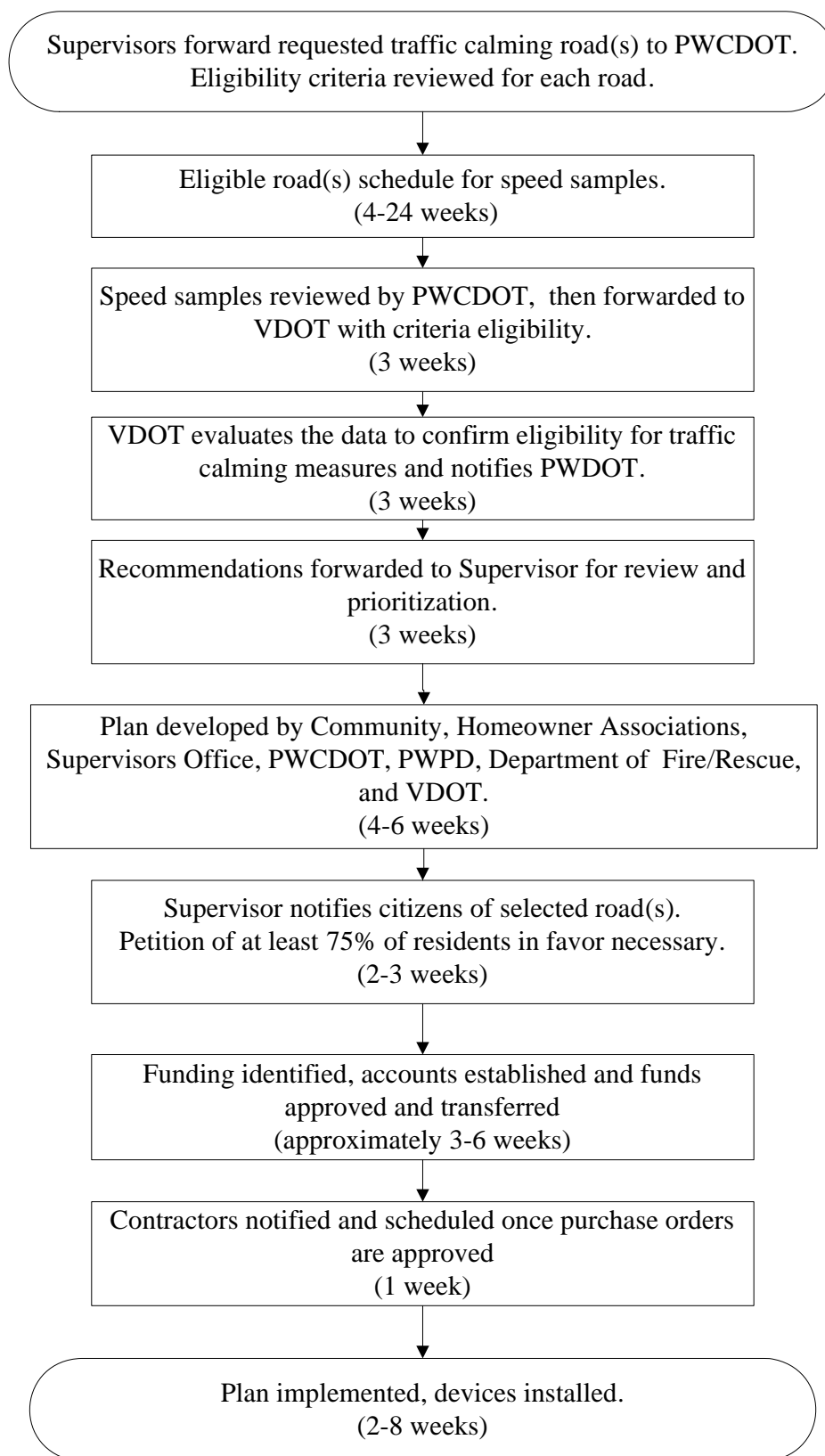
Prince William County Residential Traffic Management Guide

2012



(Traffic Calming Policy)

Traffic Calming



Traffic Calming



The Residential Traffic Calming Program focuses on slowing vehicles on local residential streets where "cut-through traffic" is not a problem. Traffic calming devices which can currently be incorporated into a traffic calming plan are as follows:

- Speeding Additional \$200 Fine
- Pavement Marking/Lane Narrowing
- Traffic Circles
- Chokers
- Raised Median Islands
- Chicanes
- Multi-way Stops
- Speed Humps
- Raised Crosswalks

There shall be no more than four traffic calming devices on any emergency response route and no devices on designated primary response routes (excluding speeding additional fines and pavement markings). This will be addressed on a case-by-case basis and coordinated with Prince William County Department of Fire and Rescue to determine response routes during the development of any traffic calming plan. Traffic calming devices are typically placed 1000 feet apart. Established criteria must be met, guidelines followed and funding will continue to be allocated via Transportation and Road Improvement Projects "TRIP".

1. Support Data Requirements

The Board of County Supervisors must forward a formal request to VDOT requesting a traffic-calming project along with the following information:

- Petition with signatures – Identified community support
- Street functional classification
- Average daily traffic volumes
- Average speeds
- Description of petition area
- Description of impacted areas

This support data provided by the County should verify that all requirements are met. Typically, the appropriate County Supervisor's office provides the petition forms to the

citizens whom in turn solicit the community support. Please refer to Documented Community Support on page 4. The PWC Department of Transportation staff will provide the other data listed to VDOT.

a. Eligible streets: Local residential streets with posted speed limits of 25 MPH can be considered for traffic calming. A local residential street provides direct access to abutting residences (driveways) and provides mobility within the neighborhood. Traffic on these streets is expected to be entering or exiting residences.

Certain residential collector streets, although classified as collector roads, have the characteristics of local residential streets. These streets may be considered for traffic calming measures, if they meet the following conditions:

- 25 MPH posted speed limit
- Two lane roadway
- Do not serve as primary access to any significant *commercial or industrial sites
- Minimum of 12 dwellings fronting the street per 1000 feet of roadway, including both sides
- Have a documented speeding problem
- Average daily traffic of 600 – 4000 vehicles per day
- Identified community support for the traffic calming plan

* Apartments are considered commercial sites.

b. Documented speeding problem: The average speed should be at least 30 mph in both directions to qualify on a road posted at 25 mph. (At least 5 mph over the speed limit). This should be reflected in the speed studies conducted by County staff. Due to limited County resources speed studies can be conducted every 5 years for a specific road or community. Speed studies are typically conducted on Tuesdays, Wednesdays, and Thursdays. Samples are typically collected over a 48 hour period, on non holiday weeks and when weather permits.

c. Petition for traffic calming: At least 75% of the total occupied households in the identified impacted area must sign a petition requesting traffic calming (one signature per household which can be a renter). The petition area encompasses residences on the proposed street section under study, and all streets that have access to it. The County, in cooperation with VDOT, will define the petition area. The impacted area typically includes the surrounding collector or arterial roads but should be defined by the County in cooperation with VDOT. The petition should not be circulated until it is verified that the street(s) in question meet the eligibility requirements. Prince William County Department of Transportation will verify that the petition is valid and forward to the VDOT District Traffic Engineer with the other necessary data. All petitions received must follow the guidelines of Documented Community Support listed on page 4, have dated signatures and will be valid for period of (12) months.

2. Traffic Calming Plan Development

A local traffic calming committee should be formed in order to develop the traffic-calming plan. It should include representatives from the petition area, impacted area, Homeowner

Associations, the Board of County Supervisors, Department of Transportation staff, Police, Fire/Rescue, VDOT, and other interested parties.

Because the impact of traffic calming measures will extend beyond the petition area, it is important to involve representatives from the entire vicinity.

The appropriate County Supervisor and Homeowners Association are responsible for scheduling and facilitating meetings. VDOT staff will provide technical support and advise the community of the potential advantages and disadvantages of calming measures. Educating participants about residential traffic management and traffic calming is important to a successful program.

The proposed plan should be presented to citizens at a public meeting or by a petition so the Board of County Supervisors can assess whether community support exists.

Petition areas are developed in coordination between Department of Transportation staff and the appropriate Supervisor's office. These petitions will be verified by Transportation staff to ensure compliance of the required percentages.

3. Approval and Implementation

The appropriate County Supervisor and VDOT must jointly approve the final plan and method of implementation. The final plan funding (which is through the TRIP Program) is a special fund outside traditional allocations which can be used for projects such as traffic calming.

4. Evaluation

A follow-up evaluation will be performed to ensure the calming measures are effective. The Board of County Supervisors, in cooperation with VDOT, will determine the method to disseminate the findings and recommendations to those involved in the plan development. The group will obtain feedback as appropriate.

If after evaluation, the County recommends to remove any traffic calming devices, then funding for the removal should come from the same funding sources as implementation. Additionally, if an unforeseen safety problem develops, VDOT may decide to remove the traffic calming devices.

Traffic Calming Measures

- Community awareness and education is an important first step. Residents should be made aware of speeding concerns and reminded about the importance of safe driving in their neighborhood. VDOT staff is available to speak to Homeowner Associations about traffic calming measures. They can help raise community awareness about advantages, disadvantages, costs and funding options.
- Enforcement is traditionally the primary means of addressing speeding problems. Local police officers monitor and enforce the posted speed limit. Enforcement efforts should be undertaken as much as possible prior to implementing traffic calming measures.
- Non-physical devices such as pavement markings to narrow travel lanes are low cost measures that do not physically restrict driver maneuvers.

- Physical devices available are designed to reduce speed by creating vertical and horizontal shifts in the roadway or travel lanes.
- Alternative actions need to be considered when traffic volumes on the study street are less than 600 vehicles per day or exceed 4000 vehicles per day. The roadway network in the area should be examined to identify potential improvements on major routes that may provide relief to the study street.

Traffic Volumes and Traffic Calming Measures

Traffic volumes on the residential street will determine the appropriate traffic calming measures which are as follows:

- **Fewer than 600 vehicles per day:**
 - Education
 - Enforcement
 - No traffic calming measures
- **600-4,000 vehicles per day**
 - Education
 - Enforcement
 - Traffic calming measures
- **More than 4,000 vehicles per day**
 - Education
 - Enforcement
 - Alternative actions only
 - No traffic calming measures

Traffic Calming Devices

1. Traffic Circle or Roundabout

Description: elevated area in the middle of an intersection that provides circular, and counter-clockwise traffic flow

Placement: street grades approaching the intersection should not exceed 10 percent and entrances should be a minimum of 100 feet away on all approaches.

Design: VDOT has adopted the FHWA 2000 Roundabouts Information Guide for the installation of roundabouts

Advantages: reduces speed, mitigates left turn accidents, and increases aesthetics

Disadvantages: reduces parking spaces and requires additional right-of-way

Estimated cost: \$5,000 - \$50,000 per circle

2. Choker

Description: a physical constriction built at the curbside of the roadway to reduce the width of the travel lane

Placement: normal turning radii should be accommodated, with advance warning signs and pavement markings

Advantages: reduces speeds, provides parking protection, and shortens pedestrian crossing distance

Disadvantages: potential drainage problems, maintenance costs

Estimated cost: \$7,000 - \$10,000 per pair

3. Crosswalk Refuge

Description: a raised median in the middle of the roadway with a cut provided for the crosswalk

Placement: where a significant number of pedestrians cross the roadway

Advantages: reduces speeds and increases safety for pedestrians

Disadvantages: increases maintenance costs

Estimated costs: \$5,000 - \$15,000 per crosswalk refuge

4. Chicane

Description: alternating constrictions built curbside to create a bend in the formerly straight street, forcing vehicles to negotiate the narrower street in a snake-like fashion

Placement: should accommodate normal turning radii, sets are to be placed 400-600 feet apart, feature advance warning signing/pavement marking, and used only on roadways divided with a median

Advantages: reduces speeds, provides parking protection, and shortens pedestrian crossing time and distance

Disadvantages: limited to divided roadways, creates potential drainage problems, and increases maintenance costs.

Estimated cost: \$5,000 - \$15,000 per set

5. Raised Median Island

Description: an elevated area in the middle of the roadway.

Advantages: reduces speeds and shortens pedestrian crossing distance.

Disadvantages: drainage problems and increased maintenance costs.

6. Speed Hump – Speed Table

Description: A raised hump in the roadway with a 10-foot flat top, extending across the road at right angles to the traffic. The PWC adopted speed hump is identical to a raised crosswalk with the difference being the signs. The specifications are a 6' approach to a height of 3" with a 10' flat top and 6' decline back down to road level.

Placement: spacing should be approximately 500-1000 feet, clearly visible for 200 feet, placed at least 200 feet from intersections, and include warning signs with appropriate pavement markings

Advantage: reduces speeds

Disadvantages: increases emergency response times, slows emergency vehicles and buses, creates potential drainage problems, impacts snow removal operations, increases noise, and increases maintenance costs – especially with repaving

Estimated cost: \$6,000 - \$8,000 per speed hump

7. Raised Crosswalk

Description: a raised hump in the roadway with a 10-foot flat top, extending across the road at right angles to the direction of traffic flow. The specifications are a 6' approach to a maximum height 2.5" to 3" with a 10' flat top and 6' decline back down to road level.

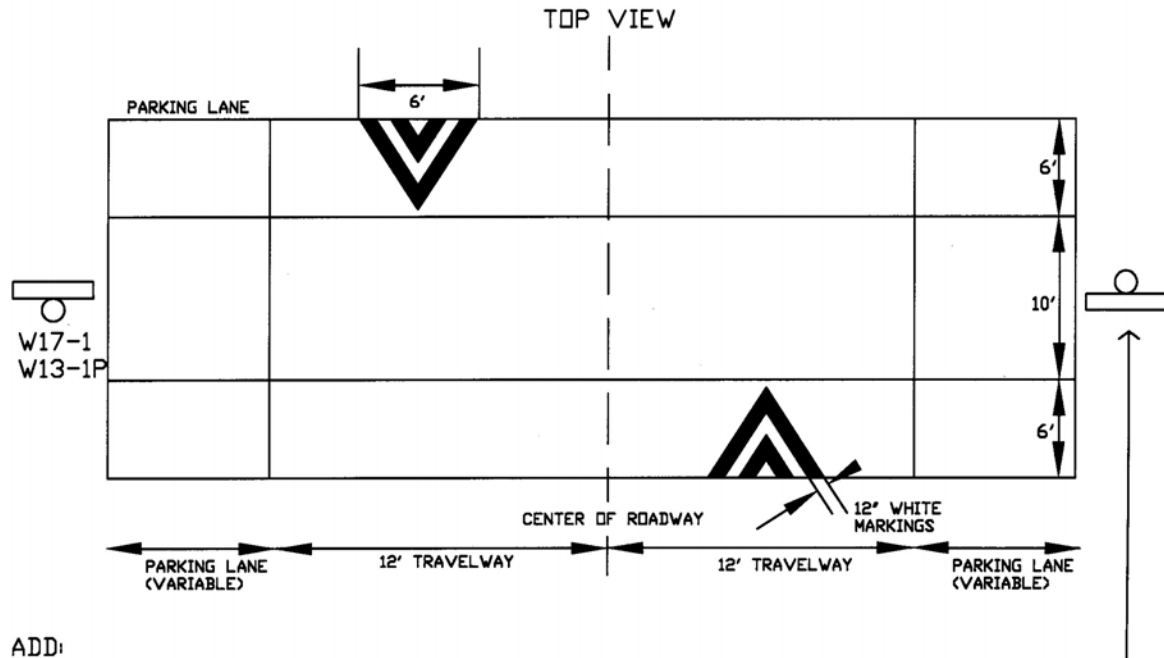
Placement: spacing should be approximately 500-1000 feet, clearly visible for 200 feet, where significant number of pedestrians cross the roadway, should include advance-warning signs and appropriate pavement markings

Advantages: reduces speeds, provides improved visibility, and increases safety for pedestrians

Disadvantages: increases emergency response times and slows emergency vehicles and buses, creates potential drainage problems, increases noise, and increases maintenance costs

Estimated cost: \$6,000 - \$10,000 per raised crosswalk

TYPICAL FOR SPEED TABLE



ADD:
IN ADVANCE OF SPEED
TABLE AT 300' +/-
IN BOTH DIRECTIONS
(2) NEW W17-1

