

Lexington Public Works Department

Traffic Calming Measures

I. PURPOSE

The City of Lexington recognizes that properly placed and designed traffic calming measures (TCM) can be an effective tool for reducing vehicular speeds, crashes, and discouraging cut through traffic on residential streets.

Traffic calming has helped to increase the quality of life in urban, suburban, and rural areas by reducing automobile speeds and traffic volumes on neighborhood streets. The implementation of traffic calming on residential streets is illustrative of the tools that traffic engineers and planners can use to meet broader societal needs to facilitate the safe and efficient movement of all street users. TCM can help to transform streets and aid in creating a sense of peace for communities.

For these reasons, this policy has been developed to regulate the procedure for when, where, and how traffic calming measures will be installed in the City of Lexington.

II. POLICY

TCM shall be installed according to this policy with the specific design criteria as listed. The Public Works Director or his designee, shall assume responsibility for traffic review, in-house approval and coordination of this policy to ensure that the proposed speed humps are compliant and installed properly on the roadway.

Installation of TCM shall be viewed as a last step in a comprehensive plan for reducing vehicle speeds and for discouraging cut through traffic movements in a residential area. Prior to the installation of any TCM, the City may address the problem through less dramatic measures such as the installation of additional signage, traditional pavement striping and markings, etc. If a TCM is installed, the City shall reevaluate their effectiveness six months after installation, and based on the evaluation, a final decision will be made on the retention of the TCM by the Public Works Director.

III. DEFINITIONS

Information received from the

- A. **Arterial Street**: Major streets or highways, many of multi-lane or freeway design, serving high-volume traffic corridor movements that connect major generators of travel, and used primarily for through traffic (example: West Church Street / North Broad / Cook Street).
- B. **Collector Street**: In urban areas, streets that provide direct access to neighborhoods and arterials; in addition, any street that connects to arterial streets from both points of entry and has a distance greater than .75 mile (example: Old Huntingdon Road / Pope Road / Airways / Ayers Street / Holly Street).
- C. **Local/Residential Street**: A Street intended solely for access to adjacent properties (example: Parkview Courts / Teakwood Drive / West Point Drive / Twin Oaks Drive / Hall Street / Pine Cone / Eastern Shores / Franklin Avenue).

- D. **Speed Cushion:** A speed cushion consists of two or more raised areas placed laterally across a roadway. The height and length of the raised areas are comparable to the dimensions of a speed hump. The primary difference is that a speed cushion has gaps (often referred to as "cutouts") between the raised areas to enable a vehicle with a wide track (e.g., a large emergency vehicle, some trucks, some buses) to pass through the feature without any vertical deflection.

Another difference between a speed cushion and a speed hump is the common practice for the top of the speed cushion to be level. Like a speed hump, the profile of a speed cushion is gentle enough to provide a comfortable ride when traversed at a speed of approximately 20 to 25 MPH.

The cutouts in the speed cushions are positioned such that a passenger vehicle cannot pass it without traveling over a portion of the raised pavement.

A speed cushion is often a preferred alternative to a speed hump on a primary emergency response route or on a transit route with frequent service.

- E. **Speed Hump:** An elongated mound in the roadway pavement surface extending across the travel way at a right angle to the traffic flow. A speed hump is no higher than 4 inches and 22 feet in length along the vehicle travel path axis.

At typical travel speeds along a residential street or in a small commercial business district, a speed hump produces sufficient discomfort to a motorist driving above the speed hump design speed to discourage speeding. It encourages the motorist to travel at a slow speed both upstream and downstream of as well as over the speed hump.

- F. **Speed Table:** A speed table is a raised area placed across the roadway designed to physically limit the speed at which a vehicle can traverse it. Like a speed hump, it extends across the travel way. Unlike a speed hump, a speed table has a flat top (typically, 10 feet) long enough to accommodate the entire wheelbase of most passenger cars. The longer longitudinal depth in the direction of travel enables comfortable and safe vehicle operating speeds that are faster than for a speed hump.

When a speed table is designated as a crosswalk through the use of striping, it is known as a raised crosswalk.

- G. **Speeding:** when 85% of the traffic on the street exceeds the posted speed limit.

- H. **Traffic Calming:** The primary purpose of traffic calming is to support the livability and vitality of residential and commercial areas through improvements in non-motorist safety, mobility, and comfort. These objectives are typically achieved by reducing vehicle speeds or volumes on a single street or a street network. Traffic calming measures consist of horizontal, vertical, lane narrowing, roadside, and other features that use self-enforcing physical or psycho-perception means to produce desired effects.

IV. APPROPRIATE APPLICATION

A. Type of Street

1. Appropriate for a residential local street or any street where the primary function is to provide access to abutting residential property.
2. Appropriate for a street that provides access to a school, park, or community center.
3. Appropriate for neighborhood or residential streets.
4. TCM will not be installed on any arterial street; however, collector streets may be considered by the Director of Public Works.

B. Intersection or Roadway Segment

1. Placed at a midblock location(s), and not within 150 feet of an intersection and 250 feet from a signalized intersection.
2. Should not be placed on a sharp curve.
3. Should be placed approximately 300-600 feet apart.

C. Roadway

1. Can be used on a single-lane, one-way street, or two-lane two-way street; should stretch across one travel lane or individually in each direction.
2. Typically placed one foot from a curb for drainage or six inches from the edge of a non-curbed roadway.
3. If the street does not have curbing, an obstruction such as signing, flexible delineator posts, or bollards may be necessary to discourage a motorist from driving around the hump. Potentially hazardous objects (e.g., rocks, boulders) should not be used.
4. A TCM can be applied on a cross-section both with and without sidewalks or bicycle facilities.

D. Speed Limit

1. Appropriate if posted speed limit is 30 mph or less.
2. Generally, not appropriate when the pre-implementation 85th percentile speed is 45 mph or more.

E. **Signage**

Regulatory signs identifying the specific street(s) in a subdivision as a residential speed control district shall be installed in a prominent location in advance of the first series of TCM's.

F. **Vehicle Traffic Volume**

Appropriate if daily traffic volume is relatively low, such as 750 vehicles daily or less.

G. **Emergency Route**

1. Generally, a speed hump is not appropriate for a primary emergency vehicle route or a street that provides access to a hospital or emergency medical services; speed cushion and speed table are similar vertical measures that could be appropriate.
2. An emergency vehicle can cross a properly designed TCM but at a slow speed.

H. **Transit Route**

1. Generally, a speed hump is not appropriate for a bus transit route but examples of speed humps on bus routes do exist; a speed table and speed cushion are similar vertical measures that could be appropriate.
2. Access route not appropriate along the primary access to a commercial or industrial site.

I. **Grade**

1. Can be installed on, or beyond, a crest vertical curve only if there is adequate stopping sight distance or warning signs are provided.
2. The eligible street must be no greater than 8% in grade and have a designated speed limit of 30 mph or less.

V. PROCEDURE

A. Selection of Installation

1. Formal request
 - a. From a City Resident, in writing to the Public Works Director for a comprehensive study, or
 - b. Directed from a City Official, or
 - c. Public Works Director

2. Once a request has been made the following criteria and actions may be considered:
 - a. The Public Works Director will determine whether the eligible street is designated as arterial, collector, or local/residential street.
 - b. The Public Works Director may review and place additional signage or request additional patrol from the Lexington Police Department.
 - c. The Public Works Director shall coordinate with the Lexington Police Department for a traffic study as to determine the vehicular volume, crash statistical data, and vehicle speed. In addition, Public Works Director may coordinate with the City of Lexington Planning Commission for future projections of long-range development plans for the area requested.
 - d. The Public Works Director will determine if 35% of the cut through traffic is originated or terminated within the subdivision or neighborhood.
 - e. Roadway must have a projected daily average traffic count not to exceed 750 vehicles per day at the time of full development of the area.
 - f. No TCM shall be installed on any street with a current average vehicle count of less than 125 vehicles per day in one direction, within a 7-day period.
 - g. Speed humps may be removed by the Public Works Director at any time in the future if the traffic count for the street exceeds an average of 750 vehicles per day within a 7-day period.
 - h. An exception will be for certain priority streets that have a higher density of housing (example: lots that are less than 1 acre with front yard setbacks less than 75 feet, thereby creating more potential conflicts with residents and pedestrians).
3. The TCM must be engineered and designed to be removed for relocation as needed or as a permanent design.
4. The Public Works Director will consult with the City CFO to ensure that funds are available for the implementation of the TCM(s).
5. Prior to installation, the Public Works Director will then advise the Mayor and Committee Chairman of the proposed speed hump location(s).
6. If the request is denied, the Public Works Director will contact the requester and advise them of the reason and will maintain any data collected for future studies.

B. Maintenance and Replacement

The Public Works Director, or his/her designee will:

- a. Inspect speed humps annually
- b. Repair damage material
- c. Ensure adequate signage and warnings are visible
- d. Maintain an inspection and request log

C. Documentation

All studies and requests will be maintained on file with the Public Works Director.

D. Notification

Two (2) weeks prior to any speed humps being installed, the Public Works Director shall notify the following:

1. Emergency Services
2. Local newspaper
3. Local radio

VI. REFERENCES

- A. *Five field studies of 51 speed humps measured crash reductions between 33 and 48 percent (Source: FHWA, Engineering Speed Management Countermeasures: A Desktop Reference of Potential Effectiveness in Reducing Crashes, July 2014)*
http://www.safety.fhwa.dot.gov/speedmgt/ref_mats/eng_count/2014/reducing_crashes.cfm
- B. *Seven field studies of 199 speed humps measured reductions between 6 and 13 mph for 85th percentile speeds (Source: FHWA, Engineering Speed Management Countermeasures: A Desktop Reference of Potential Effectiveness in Reducing Speed, July 2014)*
http://www.safety.fhwa.dot.gov/speedmgt/ref_mats/eng_count/2014/reducing_speed.cfm
- C. Traffic Calming ePrimer (Source: FHWA, Speed Management Safety, 2018)
https://safety.fhwa.dot.gov/speedmgt/ePrimer_modules/module3pt2.cfm