



**SPEED CUSHION POLICY  
AND INSTALLATION PROCEDURES  
FOR RESIDENTIAL STREETS**

**CITY OF GRAND PRAIRIE  
TRANSPORTATION SERVICES DEPARTMENT**

## **SPEED CUSHION INSTALLATION POLICY**

### **A. GENERAL**

Speed cushions are an effective and appropriate device for safely reducing vehicle speeds on certain types of streets when installed in accordance with the provisions of this policy.

In order for speed cushion installations to be effective, they should be located selectively in accordance with defined transportation engineering criteria for the purpose of mitigating documented speeding problems. Proper installation will also minimize driver frustration and encourage safe driving practices.

This policy promotes reasonable opportunities for residents and property owners most affected by a proposed speed cushion to participate together in the process that leads to its installation. It also provides for a sharing of the speed cushion installation cost between the City and the neighborhood under certain conditions.

### **B. DEFINITIONS**

For the context of this policy only:

**SPEED CUSHION** is a geometric design feature of a roadway, consisting of a raised area in the roadway pavement surface extending transversely across the travel way, whose primary purpose is to reduce the speed of vehicles traveling along that roadway;

**SPEED** refers to the 85th percentile speed, which is the speed that 85% of the drivers using that roadway are traveling at or below.

**LOW DENSITY RESIDENTIAL DWELLING** would typically include single family houses, town homes, duplexes, triplexes, and fourplexes. It would not include mobile home parks, apartments, condominiums, and other similar land uses.

**STREET** refers to the residential minimum street length that must be petitioned for the installation of speed cushions. It is a 500 foot segment generally centered on the location of the cushion, or the length of the block, whichever is greater. If the 1000 foot segment extends into any part of an adjacent block, it includes the entire length of the adjacent block, unless separated by an intervening thoroughfare, traffic signal or offset intersection.

### **C. ELIGIBILITY REQUIREMENTS**

All of the following criteria must be satisfied for a street to be considered eligible for the installation of speed cushions.

#### 1. Petition

A petition must be submitted which documents that a minimum of three-fourths (75%) of the residential dwellings on the street support the installation of speed cushions. A minimum of one-half (50%) of the residents on the street must authorize placement of the speed control humps in front of or adjacent to their property.

The sponsor of the petition is required to contact every resident of the abutting properties on the subject street. If a resident is against the speed cushions, the word "**OPPOSED**" will be noted on the petition signature space. If the sponsor is unable to contact a resident, "**NO CONTACT**" will be noted on the petition signature space with the days and times that contact was attempted. It is required that the sponsor make at least two attempts on separate days to contact a resident.

## 2. Location Of The Street

The adjacent land use along the street where the speed cushion is proposed must be composed primarily of low density residential dwellings.

## 3. Operational Characteristics Of The Street

- a. The street must be used to provide access to abutting low density residential properties (local residential streets) and/or to collect traffic for such streets (residential collector).
- b. The street cannot be wider than 38 feet from back of curb to back of curb.
- c. There must be no more than one moving lane of traffic in each direction.
- d. Traffic volumes must be more than 500 vehicles per day but less than 1500 vehicles per day.
- e. Vehicle speeds must exceed the Speed Criteria of 30 miles per hour (mph).
- f. The street must have a speed limit of no more than 30 mph as determined in accordance with State Law.

## 4. Geometric Characteristics Of The Street

- a. The street must have adequate sight distances to safely accommodate the hump as determined by the Transportation Services Department.
- b. The street must not have curves or grades or drainage limitation that prevent safe placement of humps. Humps may not be located on streets that have a vertical grade greater than 5% or on their immediate approaches.
- c. The street must be paved and be at least 1000 feet in length and no more than ½ mile.. If there are no curbs, a special design must be used to prevent vehicle run-arounds.
- d. The street must not be scheduled for resurfacing within the next two years.

## 5. Drainage Considerations

Streets are an integral part of the City's Storm Drainage System. Streets convey storm waters not contained in underground pipes, channels, swales, etc. Speed cushions will be installed with breaks in the middle and at least two feet of spacing between the cushion and the curb allowing the gutters to flow fully. The cushions will not be installed in a way that will obstruct the normal storm water flow through the gutters when installed per this policy.

**D. COST RESPONSIBILITY**

The cost for the Speed Cushion installation (including signs, pavement markings and, if necessary, special design features such as curbing or guard rail) may be shared between the City and residents according to how much the measured speed on the street exceeds 30 mph. This cost sharing is defined as follows:

COST SHARING TABLE

85 <sup>TH</sup> PERCENTILE SPEED	RESIDENTS' COST SHARE
31 mph	95%
32 mph	90%
33 mph	80%
34 mph	70%
35 mph	50%
36 mph	30%
37 mph	20%
38 mph	10%
39 mph	5%
>39 mph	0%

The cost for transportation engineering studies and maintenance of the speed control hump is the responsibility of the City. The term resident, when used in cost sharing, does not necessarily refer to the petitioners. It is used to define the share of the cost that is not the responsibility of the City and could be paid by one or more of the residents or from other private sources. Notwithstanding the provisions of the foregoing cost sharing table, residents may be able to expedite hump installation by voluntarily paying the full installation cost.

**E. SPEED CUSHION REMOVAL AND ALTERATION**

The process for speed cushion removal or alteration by residents is the same as the process for installation, except that there is no City participation in cost sharing. All associated cost for the removal must be borne by the residents requesting the removal.

## **F. SPEED CUSHION LOCATION**

Many factors must be considered in locating speed cushions for optimal effectiveness. If not placed correctly, isolated cushions provide only localized speed reductions and do not achieve an overall speed reduction effect. Site details should be the dominant consideration in determining the actual location for each set of speed cushions rather than an exact separation distance. In addition to engineering judgment, the following guidelines will be considered when determining speed cushion location and spacing:

- A. A speed cushion will not be located in front of a property if the occupant objects to its placement or, in the case of a property containing multiple dwellings, if a majority of the households on the property object to its placement.
- B. Speed cushions must not be located in front of driveways.
- C. Speed cushions must not be located over manholes, water valves, or be located within 15 feet of a fire hydrant.
- D. Speed cushions must not be located within 300 feet of a controlled approach, or within 75 feet of a cross street.
- E. Speed cushion must not be located within 200 feet of a small radius curve.
- F. Speed cushions will, if possible, be located downstream of an existing drainage inlet.
- G. Speed cushions must not be located in front of drainage inlets or within 10 feet of any inlet opening and/or gutter transition.

## **G. SPACING**

Based on engineering studies and site characteristics, speed cushions typically will be placed from 300 to 500 feet apart. A longer spacing between the cushions leads to higher speeds between the cushions and also a greater speed differential. Speed differential is defined as the average vehicle speed between cushions minus the average vehicle speed at the cushions. A large speed differential will usually be undesirable as it may lead to increased exhaust emissions, increased noise nuisance, and increased passenger discomfort, particularly if it is associated with rapid acceleration and deceleration. The following guidelines will be considered when determining speed cushion spacing:

- A. On single blocks of 1000 feet, two sets of cushions are usually adequate.
- B. On very long blocks, greater than 1000 feet, three or more sets of cushions may be necessary.

## **H. DESIGN STANDARDS AND PROCEDURES**

The Transportation Services Department shall prepare and maintain current design standards and installation procedures for speed cushions in accordance with this policy.

## **I. REASSESSMENT**

The City staff will reassess this Policy on an annual basis for three years. The first reassessment is due one year after the installation of the first speed control hump under provisions of this policy.

## PROCEDURES FOR SPEED CUSHION INSTALLATION

1. The initial request for the installation of speed cushion must originate from the residents living on the street. The request from a resident or representative must be directed to:

City of Grand Prairie  
Transportation Services Department  
P.O. 534045  
Grand Prairie, Texas 75053-4045  
(972) 237-8139

2. A preliminary determination of eligibility based on available traffic data will be made in a timely manner.
  - A. If the street is determined not to be eligible, the applicant(s) will be notified, giving the reason. This decision may be appealed in writing to the Transportation Services Director within 15 days of the notification date. The Director will review the determination and respond to the applicant(s) within 30 days of the appeal request.
  - B. If the street is determined to be eligible for consideration, a meeting will be arranged between the applicant(s) and staff to define the petition area and the approximate speed control hump location range. The applicant(s) will be instructed to submit a petition indicating that a minimum of three-fourths (75%) of the residents and/or property owners residing on the street and within the petition area are in support of the installation of the speed cushions as provided in the Speed Cushion Policy. Only petition forms supplied by the Transportation Services Department or exact duplicate may be used for this purpose.
3. After verification of the petitions, the Transportation Services Department will conduct the necessary transportation engineering studies and solicit comments and recommendations of other departments. A determination of the street's eligibility for speed control hump installation will be made in a timely manner, based on the Speed Cushion Policy.
  - A. If the street is determined not to be eligible for speed cushion installation, the applicant(s) will be notified giving the reason for denial. The decision may be appealed in the same manner as in Section 2.
  - B. If the street is determined to be eligible, the street will be placed on a list of streets eligible for speed cushion installation.
4. The Transportation Services Department will make a determination of the total installation cost and the cost sharing responsibility of the residents, if applicable, according to the Speed Cushion Policy.
5. Once eligible for speed cushion installation, owners of real property lying within the affected area will be notified of the action by the Transportation Services Department. The affected area is the neighborhood area most directly affected by daily/routine travel on the roadway and will be determined by the Transportation Services Department.. The notice will include a return form to indicate support or objection to the proposed installation.
6. If owners of 20 percent or more of the real property within the affected area object to the installation within 30 days of the notice, then the street will be removed from the list of

streets eligible for speed cushion installation and a public hearing will be scheduled at the City Council. Notification of the hearing will include the applicant(s) and owners of real property within the affected area. In addition, a reasonable effort will be made to notify each residential household along the street and area neighborhood associations of the public hearing.

7. If less than 20 percent of the property owners object to the installation of the speed cushion or the City Council approves the installation after a public hearing, then the Transportation Services Department will place the street on a list of streets approved for speed cushion installation.
8. Depending on the method used to pay for the cost of the speed cushion installation, either Section 8A or Section 8B will apply. Section 8A will apply if there is no City participation in the cost (i.e. the cost will be fully paid with voluntary private funding). Section 8B will apply if the residents request any City participation paying for the cost of the speed cushion installation if that option is available under Section D of the Speed Cushion Installation Policy.
  - A. Once a street is placed on the list of streets approved for speed cushion installation, the City will submit a statement to the representative of the residents for the cost of the speed cushion installation. Upon receipt of payment of the cost, the humps will be installed as scheduling permits. If full payment has not been received within one year from the statement date, the street will be removed from the list of streets approved for speed cushion installation and all monies received, if any, returned to the payer.

-OR-

- B. (1) The Transportation Services Department will submit a report on an annual basis containing a list of streets approved for speed cushion installation that require City funding, either in whole or part, in a request for funding to the City Council. The report will rank the requests in an order of priority determined by the following calculation:

#	RANKING ITEM	VALUE
1	% vehicles exceeding Speed Criteria x daily traffic volume =	
2	Number of schools, parks, churches or institutions on street (maximum of 2) x 50 =	
3	% of petitioning households on street requesting humps x 15 =	
4	Number of reported accidents in previous 12 month period x 100 =	
	RANKING SUM (1+2+3+4) =	

- (2) The street yielding the highest numerical value from the above summation will be considered to have the highest priority. The street with the earliest application date will have the highest priority among streets with the same summation value. The report will contain the above ranked list of streets approved for speed cushion installation, together with the speed, vehicles per day, ranking sum, estimated installation costs, City's cost share, residents' cost share, application date, payment due date and cumulative City cost share.

The report will additionally list all speed cushion requests subsequently denied by the Transportation Services Director under provisions of Section 2A and 3A, in addition to pending requests. A street that does not receive speed cushion installation funding approval will automatically be considered in the following years, for a maximum of 3 additional years. After that time period, a new request and petition are required.

Representatives of the applicants for all approved speed cushion installations will be notified of which requests have been funded for the coming fiscal year. Installations not included in the group to be funded can be approved if their full installation cost (including the City's share) is voluntarily paid, as provided in Section 8A.

- (3) If City funds remain after the determination of which installations will be funded from the budgeted amount, or if allocated City funds become available by non-payment of invoiced amounts under provisions of Section 8, these funds can be applied towards the highest ranked non-funded installation on the ranking list. Should these funds be insufficient to cover the City's portion of that installation, and the applicant(s) do not want to voluntarily pay the difference, these funds can then be made available towards the second highest ranked non-funded installation on the ranked list; then the third highest; and so forth.
- (4) The City will submit a statement to the representative of the residents for any cost based on the provisions of the Speed Cushion Policy. It will list the total cost, portion to be paid by residents and the portion to be paid by the City. Upon funding approval and receipt of payment of the residents' share, the humps will be installed as scheduling permits. If payment of the residents' share, if any is required, has not been received within one year from the statement date, the street will be removed from the list of streets approved for speed cushion installation and all monies received, if any, returned to the payee.