



RICHMOND
EST. **TEXAS** 1837

Guidelines for Speed Hump Program

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I. INTRODUCTION

The program's mission is to enhance neighborhood safety and livability by working closely with neighborhoods to develop and implement innovative and effective transportation solutions in our residential areas. The City of Richmond (City) provides a process for identifying and addressing problems related to speeding and cut through traffic on residential streets.

The City receives periodic complaints regarding speeding vehicles on residential streets. Residents in such areas are concerned about the potential for personal injury and property damage as a result of speeding traffic. Some such "traffic calming" devices include traffic circles, speed humps, diverters, and cul-de-sacs. These alternative traffic management measures have been effectively used to address residential area traffic problems in many cities.

The City recognizes the potential usefulness of alternative traffic control measures in solving some neighborhood traffic problems. Working toward program objectives, this policy focuses on speed hump installation on neighborhood streets experiencing frequent speeding problems. Statistics from cities which have installed speed humps in residential areas show that this device is successful in reducing speeds on local streets without affecting the safe operation of motor vehicles traversing the device. The speed hump program guidelines which are outlined in this report provide a basis for establishing the installation criteria for speed humps.

II. SPEED HUMP INSTALLATION POLICY

1. General

The purpose of this policy is to provide guidelines for the application of speed humps, a relatively new approach to control vehicular traffic speeds along a roadway. A speed "hump", or roadway undulation, is a gradual rise and fall of pavement surface across the width of the roadway. A speed hump differs from a speed "bump", which is more abrupt, having a height of three to four inches over a length of one to three feet. Figure I compares the two types of speed humps and a speed bump. Due to gentle vehicle rocking, speed humps cause some driver discomfort and result in most vehicles slowing down at humps and between properly spaced successive humps.

Research has shown that speed humps are effective in safely reducing speeds along a roadway. There is, however, a potential for traffic diversion onto neighboring streets as a result of motorists avoiding the speed hump street.

In order for speed hump installation to be effective, their provision should be in accordance with established transportation engineering criteria and documented facts. As is the case with all traffic control devices, proper installation will encourage compliance and safe driving practices. This policy provides criteria and procedures for installation of safe and effective speed humps.

As this is a new program, the City reserves the right to change any or all of the criteria and procedures in these guidelines if deemed necessary.

2. Eligibility Requirements

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

A. Petition

1. A petition from the residents and business owners documenting that at least two-thirds of all households and businesses adjacent to the project street support the installation of speed humps (refer to attached sample petition).
2. A verification statement from the contact person confirming that the signatures on the speed hump petition are valid and represent at least two-thirds of the

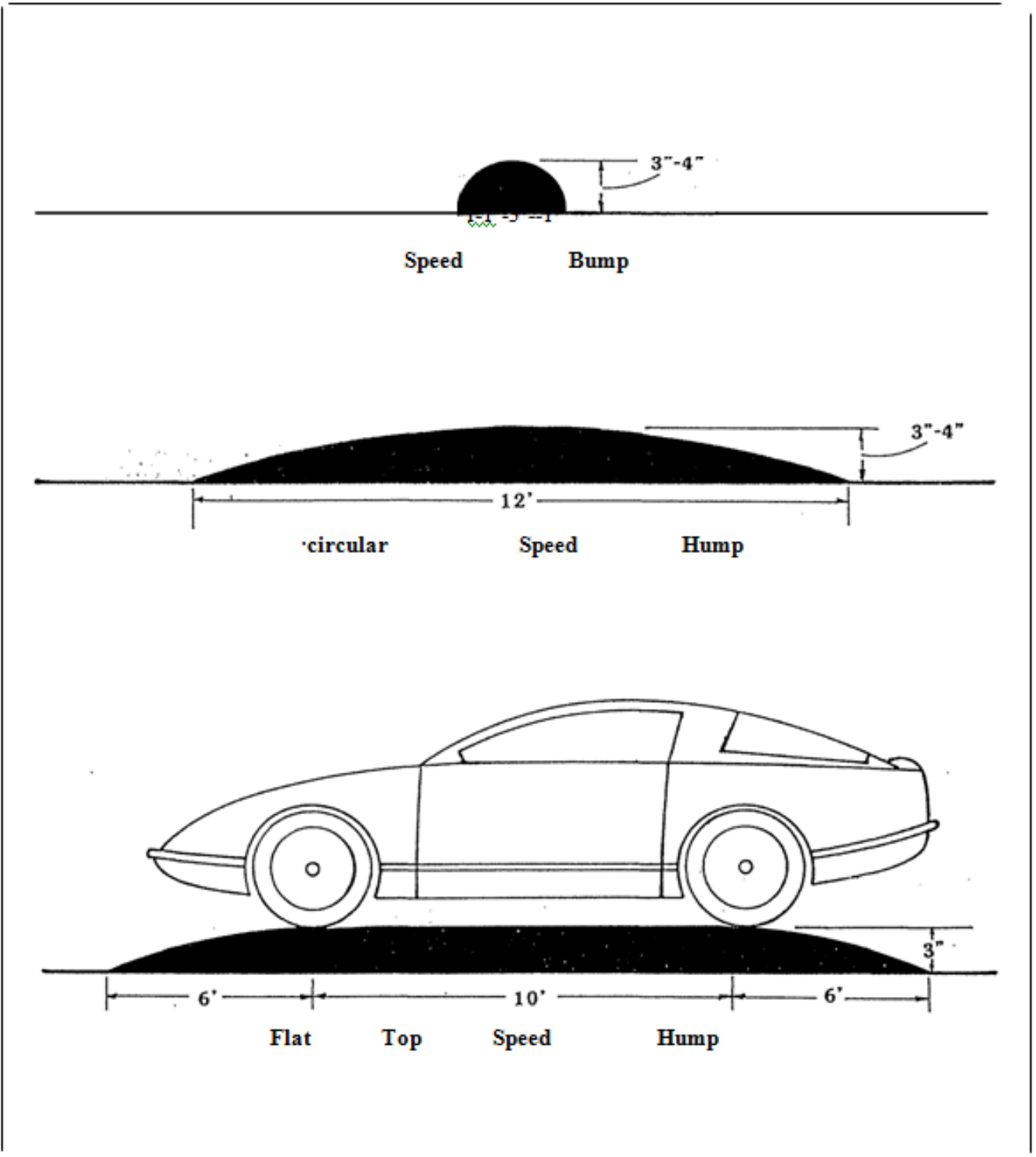


Figure 1

households/businesses adjacent to the project street (refer to attached verification statement).

3. A statement from the neighborhood association endorsing speed hump installation on the project street (refer to attached sample endorsement letter). In the absence of a neighborhood association, the petition area may be extended to include nearby streets which may see an increase in traffic as a result of this project. This petition area will be determined by City staff

B. Operational and Geometric Characteristics of the Street

1. The street shall provide access (via a driveway or on-street parking) to abutting residential and/or commercial properties (residential local or collector streets). Residential properties include multiple dwellings such as apartment complexes.
2. The street shall not have more than one traffic lane in each direction.
3. The street shall have a regulatory speed limit of 30 mph or less as determined in accordance with the State Law.
4. The 85th percentile speed on the street section must be at least 35 mph or 5 mph over the regulatory speed limit.
5. The speed humps should not be located in a horizontal curve, on vertical curves where visibility of the hump is restricted, or on the approaches to these curves.
6. The street should have curb and gutter. Consideration may be given to streets without curb and gutter. In such cases, special care should be used to accommodate drainage and prevent vehicle run-arounds.
7. The street must be approved by the emergency services departments for installation of speed humps.

3. Project Prioritization

Speed hump projects are prioritized on a citywide basis. This would ensure proper allocation of the City's resources. The projects will be ranked according to the criteria developed by the Public Works Department (Refer to Appendix A).

4. Cost Responsibility

The cost for speed hump installation (including humps, signs, pavement markings, and if necessary, special features) may be shared between the City and the residents according to the cost share criteria (Refer to Appendix B).

The residents' cost share is that percentage of the total cost which is not the City's responsibility. One or more residents may pay this share or it may come from other private sources. Residents may be able to expedite hump installation by voluntarily paying the full installation cost.

5. Speed Hump Location

A speed hump shall not be located in front of a property if the occupant objects to its placement or, in the case of multiple dwellings if majority of the households on the property object to its placement. Fulfillment of this requirement is the responsibility of the applicant(s).

6. Design, Construction, and Maintenance

Design standards and installation procedures for speed humps and related features such as signs and pavement markings shall be prepared by the Public Works Department (Refer to Appendix C). Construction of speed humps will be administered by the Department of Public Works. The Department will maintain the speed humps and all related features.

7. Speed Hump Removal and Alteration

The process for speed hump alteration or removal requested by the residents is the same as the process for installation, except that there will be no City participation in the cost incurred. A petition approved by the neighborhood association, documenting that at least two-thirds (2/3) of all the households and businesses adjacent to the speed hump street are in favor of speed hump removal, will be required.

In case the Public Works Department determines that an unforeseen problem exists due to the hump, it may be redesigned or removed by the City. In such case, the City will bear the full cost of speed hump removal.

III. SPEED HUMP INSTALLATION PROCEDURE

Following items describe the procedure to be followed for speed hump installation. A flowchart of the speed hump installation process is presented in Appendix D.

1. Project Request

Request for speed hump installation can be initiated by individual residents or neighborhood associations. A request may be made verbally or sent in writing to:

City of Richmond
Public Works Department
600 Morton
Richmond, Texas 77469

2. Preliminary Review

- a. After a request for speed humps has been received, City staff will conduct an initial investigation and collect data to determine the street's eligibility in regards to the operational and geometric characteristics. This eligibility process includes approval from the emergency services department.
- b. If the operational and geometric requirements for eligibility are not met, the street will not be considered for speed humps and the requester(s) will be notified.
- c. If after the initial study it is determined that the street qualifies for speed hump installation, a petition packet consisting of the speed hump petition, a verification statement for the contact person, and an endorsement statement for the neighborhood association will be mailed to the requester(s). The project requester(s) will be responsible for circulating the petition in the petition area.
- d. Signatures representing two-thirds of all the households and businesses within the petition area must be in favor of speed hump installation for the study to proceed further.
Multi-family dwellings with more than four units will be counted as one household, with the property owner or manager representing the household.
- e. The cut-off date for receiving requests for speed hump projects to be undertaken during a particular fiscal year will be February 1 of the preceding fiscal year for budgeting purposes.
- f. If the approved petition, completed verification statement, and endorsement statement from the neighborhood association (if applicable) is received by the specified date, the street will be placed on the list of streets eligible for speed hump installation. A priority ranking will be assigned to the street according to Project Prioritization Criteria (Appendix A).

3. Funding

- a. City funds will be allocated once a year, immediately after the Public Works budget is received. City funding will proceed in descending order from the top of priority list. Cost sharing criteria (Appendix B) will be used to determine the residents' share of the installation cost.
- b. City staff will submit a statement to the requester(s) of each approved project indicating the estimated total speed hump installation cost, City's cost share (if any), residents' cost share (if any), and the project's ranking on the priority list. If the project does not receive high enough priority to receive City funding, residents have the option to voluntarily pay for the full installation cost.
- c. For projects eligible for partial City funding, it will be the responsibility of the requester(s) to ensure the residents' cost share is paid to the City within three months of the statement date. If the City does not receive the residents' cost share within three months, the project will not be considered for that fiscal year.
- d. Once the project is listed on the priority list, it will be considered for funding up to three consecutive years. If after three years a project has not received high enough priority to justify City funding, it will no longer be considered eligible.

4. Speed Hump Installation

Upon receipt of residents' share (if any) and allotment of City's share (if any), speed humps will be installed as scheduling permits. The construction of humps and the placement of signs and markings will conform to the applicable traffic safety standards.

APPENDIX A - PROJECT PRIORITIZATION CRITERIA

Speed hump projects will be ranked according to the criteria established in this section. Projects will be assigned points on the basis of existing speeds and volumes, average number of speed related accidents reported to the Richmond Police Department (RPD), and presence of schools and/or other special pedestrian considerations in the area. The project accumulating the greatest number of points will be considered to have the highest priority. Among projects with the same rank, higher priority will be given to the one with the earliest application date.

1. Accident Criteria

All accidents considered for point assignment must be **speed related** accidents within the RPD data base and on the project street, either at intersections or at mid-block locations.

Total Number of Reported Accidents Over a Period of 3 Consecutive Years	Points Assigned
3	1
4-6	2
7-9	3
10- 12	4
13 or more	5

2. Speed Criteria

The speed criteria considers the difference between the 85th percentile speed during the entire 24-hour period and the regulatory speed limit (85th percentile speed is the speed at or below which 85 percent of the drivers are traveling).

Speed Difference Between 85th Percentile Speed and Regulatory Speed Limit (mph)	Points Assigned
5-7	4
8- 10	6
greater than 10	8

3. Traffic Volume Criteria

Traffic volumes (two-way) during the peak hour are considered.

Hourly Volume (veh/hour)	Points Assigned
<50	0
50-225	1
226-300	2
301 - 375	3
376-450	4
greater than 450	5

4. Type of Neighborhood Criteria

Points will be assigned to the project if there are schools and/or special pedestrian generators (such as parks, elderly housing, community center, shopping areas).

1. Schools within a 1/2 mile radius of the project street. 1 point

2. Special pedestrian considerations within a 1000 ft radius of the project street. 1 point

3. Absence of sidewalks on the project street. 1 point

APPENDIX B - COST SHARING CRITERIA

The cost for speed hump installation shall be shared between the City and the residents according to the following criteria. Points considered for cost share are based on points assigned for priority ranking.

Points from Priority Ranking	City's Cost Share
greater than 9	100%
8-9	75%
6-7	50%
5	25%
4	0%

APPENDIX C - DESIGN STANDARDS

1. Dimension and Cross-Section

Two types of speed hump designs, circular or flat-topped, may be considered. The circular speed hump will be 12 feet long and have the cross-section of a segment of a circle with a maximum height of 3.5 inches at the center. The flat-topped speed hump will be approximately 22 feet long consisting of a 10-foot long plateau with 6-foot long circular arc approaches on either side. This flat-topped speed hump will be 3.5 inches in height.

On streets with barrier curbs, humps should extend fully across the road from curb joint to curb joint. A 12-inch minimum taper may be considered for drainage. For humps installed on non-curbed roadways special treatment such as delineator posts should be considered to prevent vehicle run-arounds.

2. Spacing and Location

Speed humps will usually be placed between 200 feet to 600 feet apart. Other spacing may be used based upon engineering judgment. The following guidelines will be considered when determining speed hump spacing.

1. On single short blocks (300ft. to 500 ft.) a single hump positioned near mid-point is usually sufficient.
2. On single blocks of moderate length (500ft. to 1000 ft.) a two hump configuration is usually adequate.
3. On very long blocks (1000 ft. to 1600 ft.) three or more humps may be necessary.
4. On lengthy continuous street segments or for humps provided over a series of blocks, interior humps may be placed 400 ft. to 600 ft. apart.

The following points should be considered when locating speed humps:

1. A speed hump should not be located in front of a driveway or within an intersection. Speed humps should not be located within 250 feet of a traffic signal or within 50 feet of an intersection.
2. Speed humps should not be located over, or contain, manholes, or be located adjacent to fire hydrants.
3. For humps located near drainage inlets the hump should be placed just downstream of the inlet. If this is not feasible, special treatment should be considered for drainage.

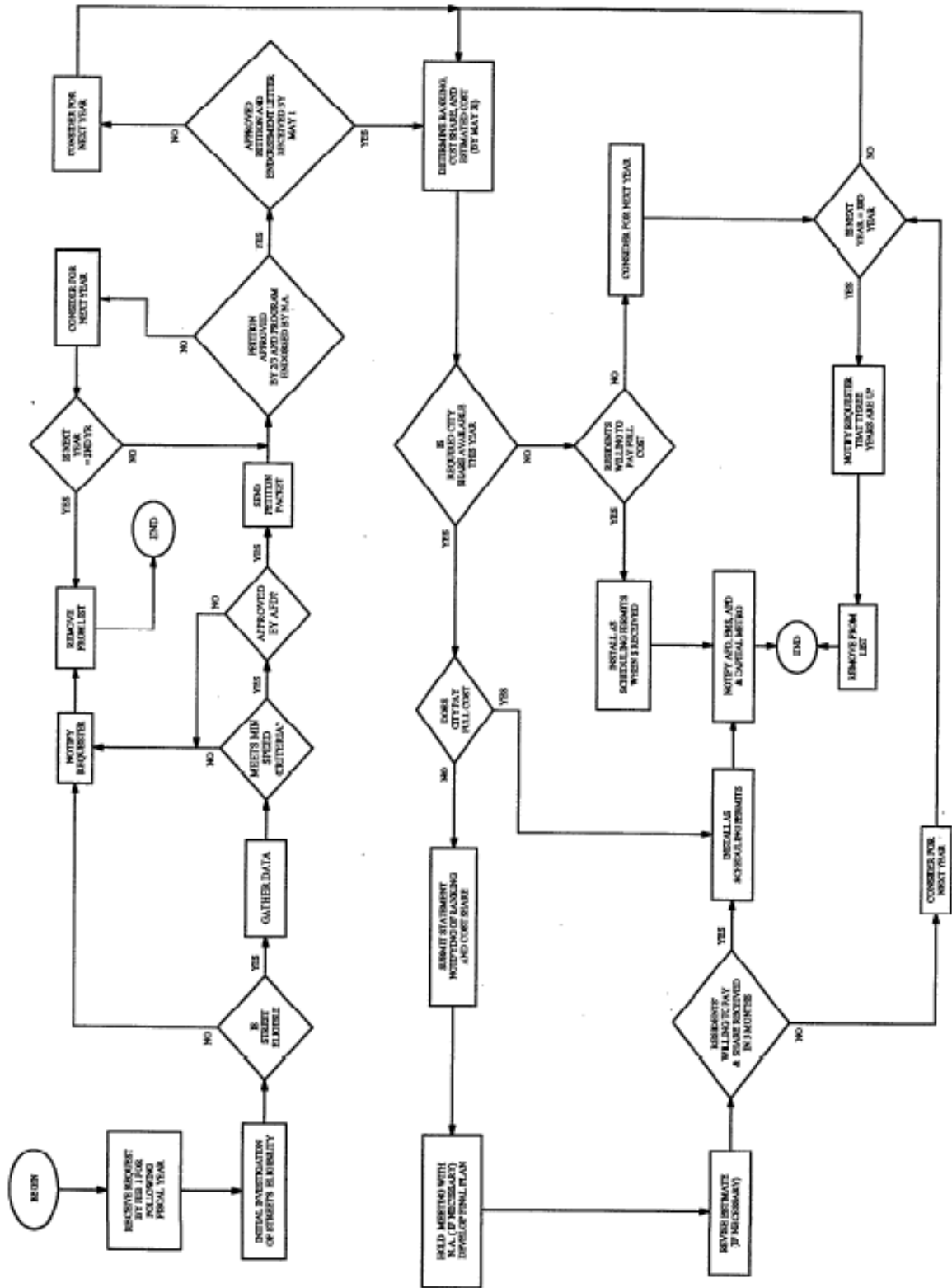
4. If possible, humps should be located on property lines rather than directly in front of a residence.
5. The advantage of existing or planned street lighting should be taken when determining hump locations.

3. Traffic Control

Traffic control consisting of signs and markings should be provided to advise roadway users of a speed humps presence and to guide their subsequent action. Traffic signs and pavement markings should conform to Manual of Uniform Traffic Control and Devices (MUTCD) standards.

APPENDIX D – SPEED HUMP PROGRAM FLOWCHART

APPENDIX D
SPEED HUMP PROGRAM FLOWCHART



Sample Petition

SAMPLE SPEED HUMP PETITION

Location:	
Contact Person:	
Address:	
Phone No. Home:	Work:

We, the undersigned hereby petition for the installation of speed humps on _____ between _____ and _____ according to policies and procedures established by the Department of Public Works and Transportation.

Note: The street mentioned above will be considered for speed hump installation only if the signatures below represent **two-thirds or more** of all the households/businesses adjacent to the street. Only one signature from each household/business will be considered.

Address	Name (Please Print)	Signature	Phone Number		Whether Owner or Renter	Ok if Installed in Front of My Residence (Please Initial)
			Home	Work		

Sample Verification Statement

There are a total of _____ properties adjacent _____ to between _____ and _____. There are _____ valid signatures on the speed hump petition which represent _____ percent of the properties adjacent to the street within the section mentioned above. I verify that the signatures on the speed hump petition are valid and only one signature per household/business has been considered in the above mentioned percentage.

Date: _____

(Signature of Contact Person)

Name: _____

(Signature)

Address: _____

Phone: _____

Position: _____

Sample Endorsement Statement

In a meeting held on the _____ day of _____, 2017 the _____ Neighborhood Association approved and endorsed the speed hump project on _____ from _____ to _____. The association acknowledges that because of installation of speed humps on the above mentioned street there may be an increase in traffic on nearby streets.

The contact person has confirmed that signatures on the speed hump petition are valid and represent two-thirds of the households/businesses adjacent to the speed hump street within the section mentioned above.

Date: _____

Name: _____

(Signature)

Address: _____

Phone: _____

Position: _____

Name: _____

(Signature)

Address: _____

Phone: _____

Position: _____