



CITY OF ELK GROVE

SPEED CONTROL PROGRAM GUIDELINES

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City of Elk Grove

Public Works Department

1. INTRODUCTION

BACKGROUND

In 2002, the Public Works Department developed the Neighborhood Livability Program (NLP) in response to a multitude of citizen requests for neighborhood traffic calming. The NLP was modeled after successful programs in other cities that combine Education, Enforcement, and Engineering techniques, commonly referred to as the Three E's. The NLP was comprehensive in that it treated an entire neighborhood. This is beneficial in creating coordinated plans and minimizing the chances of pushing the problem from one street to another. However, treating an entire neighborhood takes substantial time and resources.

Since the adoption of the NLP program, Public Works staff has identified the need for a streamlined process that quickly responds to resident's traffic calming requests. The "revised" Speed Control Program will reduce residents' wait time while efficiently using staff time to oversee the program. This program is to operate in lieu of the NLP.

GOAL

The Speed Control Program will provide City staff and residents with a streamlined program to address neighborhood speeding in established neighborhoods within funding availability.

OBJECTIVES

The Speed Control Program utilizes the best practices in traffic calming and lessons learned from the NLP to efficiently address neighborhood speeding. To truly be effective, the program will:

- Determine eligibility based on clearly defined and easily measured parameters
 - Level One Program includes non-vertical devices which may resolve concerns and can be readily implemented
 - Level Two Program includes vertical devices and are for streets where Level One Program calming has been implemented and traffic speeds are still well above the minimum thresholds
- Use a priority ranking system to determine the order in which requests will be addressed
- Focus on localized traffic issues on individual streets
- Offer a limited number of traffic calming devices that require little design time, are effective at reducing speed, and yet cost effective

Through these objectives, the program is anticipated to reduce the timeframe from a resident's request for traffic calming to actual implementation. However, timeframes are dependent on competing demand, priority ranking, available funding and timing of construction.

FUNDING

The City of Elk Grove will fund the planning, design, and construction of speed control measures through this program. Funding for the Speed Control Program is anticipated to come from Gas Tax and be reauthorized annually from the City approved Capital Improvement Program based on the amount of available funding citywide. The amount of annual funding will determine the number of speed control requests that can be responded to.

Residents whose street qualifies for speed control may also elect to fund the devices. The resident or group of residents must enter into a memorandum of understanding (MOU) with the City of Elk Grove, wherein they agree to pay for all costs associated with the installation of speed control devices on their street (construction, inspection, administration, etc.) Once a MOU is executed, the location to receive speed control shall be included in the next City construction project rather than competing against other requests. Private payment for speed control does not relieve a location from the public survey requirement (see Chapter 4) or any other criterion set forth in these guidelines.

2. INITIAL QUALIFYING CRITERIA

The Speed Control Program begins when a resident submits a request for traffic calming treatment.

Public Works staff will review the request and initiate a traffic investigation to determine whether the street in question satisfies a series of requirements. The series of requirements are necessary to rule out more appropriate traffic engineering and maintenance solutions (e.g., signage changes or trimming vegetation to improve sight distance). In addition, vertical traffic calming measures are not appropriate on every street even when basic qualifying criteria are met. Signing, striping and traffic control options will be evaluated prior to the recommendation of vertical speed control devices. Staff reserves the right to approve or reject speed hump requests on a case by case basis.

The initial qualifying criteria are shown in Table 1.

TABLE 1: SPEED CONTROL PROGRAM INITIAL QUALIFYING CRITERIA	
Criteria	Requirement
1. Street Classification	2-lane Local Residential Street
2. Minimum Street Length	750 feet between traffic controls
3. Average Daily Traffic Volume ¹	500 – 2,000 Vehicles per Day
4. Posted Speed Limit	25 mph or less
5. 85 th Percentile Speed	≥ 5 mph over the posted speed limit
6. Adjacent Land Use	≥ 75% Residential, Park or School
7. Fire Department Review	Review primary emergency response route map to determine device eligibility; Eligible streets will be forwarded to the Fire Department for review, emergency response time impact analysis and comment.
Notes:	
1) Alternative traffic calming measures may be available for streets which exceed the average daily traffic threshold of 2,000 but serve less than 7,500 vehicles per day and meet all other criteria.	

Public Works staff will evaluate each request based on the initial qualifying criteria shown in Table 1 and in accordance with procedures set forth in Chapter 4. If a street satisfies the minimum requirements and is a candidate for the program, Public Works staff will notify the individual who submitted the request in writing. Staff will also notify applicants of non-qualifying streets and provide an explanation in writing as to why. If the street fails to meet the necessary requirements, the street may not be considered for the program for another two years. Based on the needs of the City and continued improvements to the program, qualifying criteria and the priority ranking system are subject to change at any time. Streets, which may have qualified for the program previously, shall be reevaluated in accordance with the most current set of qualifying criteria and ranking system established in subsequent revisions to this document.

3. TOOLBOX

This chapter presents the “toolbox” of traffic calming devices available for use in City of Elk Grove’s Speed Control Program. Speed control requests typically begin as a traffic investigation in response to a perceived traffic issue. Public Works staff will perform routine investigations to assess if non-physical (i.e., signing, striping, sight distance improvements) will address the concern before recommending the Speed Control Program. Traffic calming devices applicable to the City of Elk Grove are categorized as one of the following:

LEVEL ONE

- Non-Physical Measures - Any measure that does not require physical changes to the roadway. Non-physical devices are intended to increase drivers’ awareness of surroundings and influence driver behavior without physical obstructions.

LEVEL TWO

- Vertical Deflection Measures – Physical devices designed to create vertical deflection in order to slow vehicles. Vertical deflection devices such as speed humps or speed tables are the most effective at reducing vehicle speeds. These types of devices also pose the greatest potential to slow emergency response vehicles, buses, and delivery trucks.

4. IMPLEMENTATION PROCEDURES

PROJECT INITIATION

Speed Control Program Petition

The process is initiated after the Public Works Department has reviewed and determined that no Level One calming tools would be effective, or if Level One calming has been implemented and the 85th speed is still 35 mph or greater. When a resident or group of residents express interest in addressing speeding on their street and obtain a petition from City staff, the applicant completes the petition which requires the signatures from 75% in favor on the subject street, indicating they perceive a significant problem and would support installation of vertical measures. If the minimum number of signatures cannot be obtained, then the process does not continue due to a lack support for action. A sample petition form is provided at the end of this document. Public Works will consider a speed control request without supporting signatures from only a school, house of worship, park or other City Department.

After a completed petition is submitted to the Public Works Department, staff reviews the petition and defines the appropriate limits for the street segment. A speed control project should consider the full length of the street and whether or not the treatment should extend beyond the block(s) specified in the petition.

Define Study Area

During the investigation, Public Works staff will define the limits of the study area. The study area may be limited to the segments(s) identified in the petition or enlarged to encompass the full length of the street. Public Works staff may find it reasonable to extend the study area on roadways that serve a higher number of vehicles or to combine two or more separate requests for the same street. Logical study areas are commonly defined by physical features such as an arterial roadway, creek, traffic control device (e.g., stop sign) or transition in land use. By defining an appropriate study area, the program will employ a more comprehensive approach than addressing requests on a limited segment by segment basis. It is important to look at the cumulative impact of installing a series of vertical deflection measures and the unintended consequence they may have on trip diversion and emergency response time.

Qualifying Criteria

Staff will initiate a traffic investigation to determine whether the street in question satisfies a series of requirements. These qualifying criteria are necessary to rule out more appropriate Level One traffic engineering and maintenance solutions (e.g., signage changes or trimming vegetation to improve sight distance). In addition, vertical traffic calming measures are not appropriate on every street even when basic qualifying criteria are met. Staff reserves the right to approve or reject speed control requests on a case by case basis.

The initial qualifying criteria listed in Table 1 (Chapter 2) are described in greater detail below.

1. Street Classification

The Speed Control Program is applicable only on two-lane residential streets designated as local residential streets. Local residential streets provide direct access to residential properties and facilitate short neighborhood trips.

2. Minimum Street Length

The street segment in question must be at least 750 feet long between traffic controls. This requirement typically ensures that streets have at least two speed humps to slow traffic. The distance requirement also prevents over use of speed control measures in a relatively short distance.

3. Average Daily Traffic Volume

The street segment in question must serve at least 500 vehicles per day. This requirement ensures that speed humps are used discriminately on residential streets with a moderate level of traffic. Average daily traffic volume must be less than 2,000 vehicles per day. Higher volumes typically suggest roadway functionality greater than that of a local residential street.

Placing devices on any street with volumes greater than 2,000 should be evaluated for traffic diversion potential to other roadways (including low-volume residential streets) which may offer unimpeded traffic flow or the perception of a shorter travel time.

4. Posted Speed Limit

The posted or prima-facie speed limit on the street segment in question must be 25 mph. Streets with posted speed limits higher than 25 mph are not eligible for this program due to the difference in prevailing vehicle speeds and the design speed of traffic calming devices.

5. 85th Percentile Speed

The 85th percentile speed must be at least 5 mph over the speed limit, and ideally over 35 mph in order for vertical devices to be effective. The 85th percentile speed is the speed at which 85 percent of vehicles are traveling at or below. The 85th percentile speed shall be determined from a 24-hour speed survey. If the bi-directional 85th percentile speed is equal to or more than 5 mph over, this criteria is satisfied.

6. Adjacent Land Use

The street segment frontage must consist of a minimum of 75 percent residential, parks or school uses. If the adjacent properties are not built out and functioning as intended, these streets will be evaluated on a case by case basis.

7. Fire Department Review

The presence of a primary fire response route presents another factor in selecting the most appropriate, if any, traffic calming devices. Fire apparatus are more sensitive to vertical and horizontal shifts than passenger vehicles. A reduction in travel speed equates to a slower emergency response times.

The Fire Department has a response goal of 6 minutes or less, 90% of the time, as measured by the first arriving unit to the scene of the emergency. The longer it takes the Fire Department to respond to an incident, the higher the probability of the severity of a situation. Depending on the design, vertical deflection measures may slow most vehicles, including fire trucks, paramedics, ambulances and police.

The following measures will be taken before installing traffic calming measures on a street as part of this program:

- Public Works staff will review primary emergency response routes identified by the Fire Department.
 - Street must not be a primary response route and meets qualifying criteria 1 through 6, to qualify the street for the program. Public Works will prepare a list of streets for Fire Department to review quarterly. Speed humps, lumps, tables will be considered only on non-primary response routes.
- Public Works will supply the Fire Department with an initial map that identifies the proposed placement and frequency of the devices under consideration.
 - At the Fire Department's discretion, they may choose to conduct analysis and document response time impacts in relation to response time goals.
 - In the event where response time goals are anticipated to be exceeded as a direct result of device placement, Public Works will disclose the Fire Department's findings in the staff report presented to City Council for construction project approval.

8. Additional Considerations

Trip Diversion

Public Works staff will estimate the potential for a specific traffic calming proposal to create trip diversion. In some instances placing vertical deflection measures on one street may cause vehicles to change routes for convenience or a perceived travel time advantage. Staff will consider the cumulative impact of installing a series of vertical deflection

measures and the unintended consequence they may have on trip diversion to adjacent residential streets. Public Works may deny a speed hump request on the basis of probable trip diversion.

Site Review

Public Works staff will review the street for other installation constraints and challenges. Engineering judgment will determine the suitability of traffic calming within horizontal curves or where sight distance may be compromised.

Priority Ranking System

A priority ranking system allows City staff to quantitatively assign a numerical value to every candidate street. This process will prioritize the requests based on the amount of traffic, speed of traffic, and adjacent land use. The following point allocation method will be used in order to rank streets qualifying for the program:

TABLE 2: PRIORITY RANKING SYSTEM	
Criteria	Point
Vehicle Traffic (Daily)	1 point for every 50 vehicles
Vehicle Speed (Daily 85 th percentile)	1 point for every mile per hour over the posted limit
- Land use -	1 point for every residential unit adjacent to the Street
	1 point for every 25 feet of apartment frontage
	1 point for every 25 feet of school frontage
	1 point for every 25 feet of park or playground frontage

Public Works staff will collect, investigate, and rank requests throughout the year. Staff will publish the score and rank of qualifying street segments annually. Public Works will advertise a deadline by which requests need to be submitted for consideration in the next construction project. Staff will determine the number of areas that can be treated in the upcoming year based upon budget and staff resources. Staff will publish a draft implementation list annually based primarily on the priority rating system.

Response to Applicant

If a street satisfies the minimum requirements and is a candidate for the program, Public Works staff will notify the individual who submitted the request in writing. Staff will also notify applicants of non-qualifying streets and provide an explanation as to why the street was declined. If the street fails to meet any of the necessary requirements, the street may not be considered for the program for another 2 years.

Based on the needs of the City and continued improvements to the program, qualifying criteria and the priority ranking system are subject to change at any time. Streets, which may have qualified for the program previously, shall be reevaluated in accordance with the most current set of qualifying criteria and ranking system established in subsequent revisions to this document. Public Works staff will keep applicants abreast of changes to the program which may impact the viability of program applicability for their street.

PROJECT SUPPORT

After the draft implementation list is developed, Public Works staff will identify local support through a survey sent via regular mail or hand-delivered. Only properties with land adjacent to the subject street(s) will receive a survey. Current residents will receive the survey regardless if they are owners or tenants. Surveys will be sent far enough in advance to reach recipients two and one half (2 ½) weeks prior to the response deadline. The survey will include a description of the proposed project indicating the type and approximate location of device(s) being proposed.

A minimum response rate and support rate must be met for the project to move forward. For implementation to be considered, a minimum of 75 percent of all surveys must be returned in favor. If a street fails to receive the necessary 75 percent majority approval, the street may not be considered again for the program for five years at which time a new

petition must be submitted. Apartments present a unique situation because residents may be less likely to respond. For this reason, surveys from apartment units are not counted toward the minimum response rate, but will be counted in favor or against the proposed plan. Public Works will present City Council with a final implementation list consisting of surveyed, community-supported (three-fourths majority) streets for approval. Residents will be informed of the survey results, Council approval and construction schedule, if applicable, by mail.

PROJECT IMPLEMENTATION

Public Works will prepare final construction documents for the approved implementation list and solicit bids for the annual project. Specific device location will be finalized in accordance with location selection guidelines presented below. Devices shall be constructed in accordance with device design standards and specifications set forth in the construction documents.

Location Selection Guidelines

To finalize the precise location for device installation, the following guidelines are recommended:

- Devices shall not be located over manholes, water valves and survey monuments.
- A minimum distance of 250 feet from a traffic signal or stop control should be maintained.
- Devices should be located a minimum distance of 100 feet from uncontrolled street intersections.
- Devices should be located at least ten feet away from driveways and 25 feet away from fire hydrants.
- Devices should be located near street lights to enhance night visibility.
- Installation near property lines is desirable to minimize impacts on a single parcel.
- Parking restrictions are not required at devices locations but drivers may prefer not to park on the raised device.
- Care should be taken when placing devices within horizontal or vertical curves and on roadways with grades greater than 5 percent. Adequate sight distance to device or advanced warning shall be maintained.
- Speed humps and lumps should be placed at a minimum interval of 300 feet and a maximum interval of 600 feet to maintain effective mid-block speed control. Speed tables should be used discriminately at a minimum interval of 500 feet. The number of devices placed on a street is determined by the street length, interval spacing, and engineering judgment.

5. PROCEDURES FOR DEVICE REMOVAL

In the event that residents desire removal of existing devices, a process similar to the installation process will be required. The following section provides guidance for the removal of devices once installed. The process for removal requires demonstrated resident support and may require funding by resident(s) if the devices have been in place for less than two years. Device removal may be considered when all of the criteria listed below are met:

- A petition must be submitted identifying the location of speed humps (or similar device) to be removed and the motivation for removing them. The petition requires signatures from 75% of the residents on the subject street in favor of removal. If the minimum number of signatures cannot be obtained, then the process does not continue due to a lack support for action.
- Vertical measures are found to be ineffective at reducing speed based on a speed survey conducted over a 24-hour period. The mid-block speed must be less than 2 mph lower than the speed demonstrated prior to installation in order to be considered ineffective.
- Devices were placed in a location conflicting with the adopted guidelines, and another location exists which does not conflict with the adopted guidelines.
- A community meeting is held to discuss device removal, but device removal is subject to City Council approval.

SPEED CONTROL PROGRAM PETITION FORM

CITY OF ELK GROVE

Resident Support

Signatures from 75% of the households in support of the Speed Control Program are required. (Only 1 signature per household) Signatories must be legal residents 18 years and older living on the requested street.

We, the undersigned residents of _____(street) between _____(street) and _____(street), do hereby request the City of Elk Grove, to install vertical measures on our street to attempt to slow speeding drivers. By signing below, we understand that a speed humps, lumps, tables, etc. with related signing and pavement markings may be installed in front of our property. We also understand that installing these vertical measures may produce some noise and slow emergency vehicle response time to our home.

	Signature	Printed Name	Address	Phone Number
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____