CITY OF MANTECA TRAFFIC CALMING PROGRAM

Citywide Guidelines for Neighborhood Traffic Management 2018





CITY OF MANTECA TRAFFIC CALMING PROGRAM (MTCP)

DEPARTMENT OF PUBLIC WORKS

Approved by City Council on November 20, 2018



Prepared by:

Koosun Kim, PE, QSD, Deputy Director of Public Works Department

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Section 1 – Introduction

1.1 Background

The City of Manteca has had a Neighborhood Traffic Calming Program since September 2000. However, since the first traffic calming program was initiated, the number of neighborhoods, local streets, traffic volumes, and residents have all increased as the City has continued to grow. During that time, the Public Works Department has completed several successful traffic calming projects, but the demands and requests from Manteca residents and business owners have been increasing significantly. Staff resources have been a historic limitation that has limited the responsiveness to the community demands and the success of further traffic calming efforts will depend upon maintaining appropriate staffing levels.

Early in 2018, multiple public requests led to a brief investigation and study of the current traffic calming issues. On September 18, 2018, Public Works provided City Council with a presentation that included: a summary of the most frequent traffic complaints, an outline of a potential new Manteca Traffic Calming Program (MTCP), pros and cons of MTCP, several new traffic calming measures for consideration, and a traffic calming case study. Following this presentation staff completed a more thorough review of similar programs that have been developed and adopted by other local agencies.

As part of City Council's direction on public outreach and education procedures, Public Works hosted a Public Meeting on November 1, 2018 at which it presented the proposed MTCP info as follows:

- 1. A brief overview of the New MTCP
- Pros and Cons of Traffic Calming
- 3. Summary of the available Traffic Calming Measures
- 4. Procedures for implementing the new Traffic Calming Measures
- 5. Public Notification, Participation and Consensus as part of the New MTCP
- 6. Question and Answers

The comments, suggestions and recommendations from the participants were reviewed and incorporated into the new MTCP. The proposed MTCP was also circulated for review and comments to multiple departments including Administration, Police, Fire, Parks, Community Development, and City Attorney. The new Manteca Traffic Calming Program was submitted for approval by the City Council on November 20, 2018.

1.2 Definition of Traffic Calming

As defined by the Institute of Traffic Engineers (ITE), July 1997, Traffic Calming is "The combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users."

The City of Manteca also expands this definition to include non-physical measures such as educational programs and enhanced enforcement.

The City's General Plan, City of Manteca General Plan 2030, specifies the following policies and implementation programs related to traffic calming in Chapter 4.8. Traffic Calming as well.

Traffic speed is a concern where local and collector streets are relatively straight and there are few intersections. Within the developed portions of the city, in residential and school areas, and where there are substantial numbers of pedestrians, it is desirable to maintain traffic flow at safe speeds. This may be accomplished through "traffic calming" measures. These may include modified signing and striping, roundabouts and traffic circles, bulb-outs, and other physical improvements that cause drivers to slow and be more aware of other vehicles and pedestrian or bicycle traffic. To assist in determining where and what type of traffic calming measures are appropriate, the City of Manteca has a Neighborhood Traffic Calming Program that is based on public participation. This "bottom up" approach is common throughout California and relies on neighborhood participation to identify issues and solutions.

The new MTCP now expands its Traffic Calming measures to include Speed Humps, Speed Lumps, Speed Tables, Raised Crosswalks, and Pedestrian Islands.

1.3 Program Goals and Objectives

City staff frequently receive requests from residents to install traffic calming measures such as speed bumps or stop signs to slow or divert traffic.

While such measures may be effective in alleviating one type of problem, consequences of improperly placed measures can result in increased traffic problems on adjoining streets and reduce the ability of emergency vehicles to maintain adequate response times. Additionally, the City does not currently have abundant funding to plan and install such measures throughout Manteca.

The MTCP goals are summarized as follows:

- 1. Define a process for neighborhoods to sponsor traffic calming plans and identify funding sources for specific streets, areas or neighborhoods
- Provide guidance for the types of traffic calming measures that may be considered, both as part of the neighborhood process and during the City's review of new development applications

The objectives to achieve through the MTCP are summarized as follows:

- 1. Maintain 85th percentile travel speeds within seven (7) miles per hour (mph) of the appropriate speed limit
- 2. Reduce cut-through traffic where existing levels are inappropriate and where the remedy will not create a problem on the adjacent streets
- 3. Maintain adequate access for emergency vehicles
- 4. Alter driver behavior and improve conditions for non-motorized street users

The MTCP provides a set of systematic and fair methodologies to resolve current and future residential traffic problems. The major elements of the program include; the establishment of traffic calming guidelines, public participation, education and enforcement, strategies, and recommended traffic calming measures/devices and criteria for their use.

1.4 Comments and Questions

Comments and questions on Manteca Traffic Calming Program can be directed to:

City of Manteca Public Works Department - Engineering 1001 W Center Street Manteca, CA 95337 Phone: (209) 456-8425

Attn: Director of Public Works

Section 2 – Traffic Calming Process

This section describes the process for neighborhoods to request traffic calming solutions. For a brief overview of the process, see the Flowchart for the Traffic Calming Program process (Section 4).

The process for neighborhoods to request traffic calming measures requires that residents play an active role in the development of a Traffic Calming Plan for a particular street, area or neighborhood. Key elements of each Traffic Calming Process are summarized as follows:

2.1 Step 1 – Project Initiation: Report the Problem

If neighborhoods experience speeding and/or traffic problems on residential streets, the first step to initiate MTCP is to report the problem(s) to the City of Manteca Public Works Department.

City staff will note requests and provide a Traffic Calming Request Form. This form will also be available at the City's website at http://www.ci.manteca.ca.us/pwt.

When the form is submitted, City staff will evaluate the request to determine the nature of the problem, and make sure that the location should be categorized as "Residential Streets."

The City will not implement traffic calming measures or conduct traffic calming studies on "Arterial Roads" or "Collector Roads." MTCP will be applicable only to "Residential Streets."

In order to clarify the MTCP eligibilities, the roadway classification and definitions are summarized as follows:

- Arterial roads are major roadways collecting traffic from the collector roads.
- Collector roads are roadways collecting traffic from residential streets and discharging them onto arterial roads.
- Residential streets for MTCP serve primarily to provide access for traffic emanating from adjacent residential properties.

If an exception to the program is necessary due to unusual situations and special circumstances, a brief explanation of the exception shall be noted on the Traffic Calming Request form and exception approval must be obtained from the Director of Public Works. City staff will evaluate the request for each new project on a case-by-case basis.

City staff can work with residents to identify other actions if the proposed streets for MTCP do not meet the above criterion.

2.2 Step 2 - Community Survey or Meeting

After the initial report, City staff will provide a list of affected properties and owners. The requesting party will be responsible for circulating a petition to the residents in the neighborhood to verify that there is a widespread concern for the speeding or traffic issue and support for potential traffic calming measures.

The signed petition must be supported by two-thirds (2/3) of the households in the defined neighborhood area. This step for neighborhood consensus is the most important component for MTCP initiation.

After the petition is received, a community survey for a small size project and/or community meeting(s) for a medium or large size project will be conducted accordingly.

2.3 Step 3 - Data Collection for New Project

When it is determined that a representative number of residents perceive the problem and support potential measures, City staff will collect traffic volume and speed data for the street and observe traffic patterns.

(1) Speeding Problem Threshold

If 85th percentile motor vehicle speeds exceed the posted speed limit by more than seven (7) miles per hour (mph) on a specific street then the street would be eligible for Traffic Calming.

(2) Cut-through Problem Threshold

In some cases, the reported problem is related to the volume of traffic on the residential street instead of the speed. If the street carries more than 1,000 vehicles per day, then the street would be eligible for Traffic Calming.

(3) Other Traffic Issues

Some traffic problems do not fit neatly into the speeding or cut-through "boxes". City staff will evaluate on a case-by-case basis if a unique issue warrants Traffic Calming.

2.4 Step 4 – Stage 1 Traffic Calming

If the trouble location exceeds the thresholds identified above, City staff will first suggest possible solutions that do not involve the use of physical controls or impediments on the roadway system. These are primarily Education and Enforcement based measures called Stage 1 Traffic Calming.

The examples of the Stage 1 Traffic Calming the City can implement are summarized as follows:

(1) Traffic Enforcement

This is a traditional enforcement increase whereby the Police Department provides extra attention to the neighborhood in question. The intent is to modify behavior to result in a safer situation for all motorists, neighbors, and non-motorized activities.

(2) Speed Radar Trailer

Solar powered speed radar trailers can be used to educate motorists of their driving speed and encourage speed limit compliance.

(3) Traffic Signs and Pavement Markers

The City's traffic engineering staff will review all of the traffic signing and pavement markings in the neighborhood. If necessary, staff will install additional signing or striping. When appropriate, changes and additions will be reviewed with interested neighbors.

2.5 Step 5 – Data Collection for Stage 1 Traffic Calming

If one or more of the Stage 1 Traffic Calming measures is implemented in the neighborhood, City staff will wait approximately three to six months and conduct another speed and/or volume data collection. The data will be analyzed to determine if the Stage 1 Traffic Calming measure was successful.

- If the Stage 1 Traffic Calming measure was successful, and the thresholds identified in Step 3 are not exceeded, the traffic calming process will end at this point.
- If the neighborhood continues to exceed the thresholds for speed and/or volume on a residential street, City staff will move on to analyze possible Stage 2 Traffic Calming measures.

2.6 Step 6 - Stage 2 Traffic Calming

When resources are available, City staff will conduct a focused Traffic Calming Study to identify appropriate alternative solutions to the traffic problem persisting even after the Stage 1 Traffic Calming activities. The solutions could involve physical modifications of the street intended to control traffic speeds and/or volumes as part of the Stage 2 traffic calming measures. Not all measures are appropriate for all streets, and some streets may not be appropriate for any measure. Results of the study will be presented to the affected parties and neighborhood involvement and public outreach will be a large part of the Stage 2 Traffic Calming process.

The traffic calming measures and criteria applicable to Stage 2 MTCP are listed in Section 3.

2.7 Step 7 – Applicable Traffic Calming Measures

The following general criteria must be met to consider the installation of any Stage 2 traffic calming measures:

- (1) Installation must not result in traffic diversion to other neighborhood streets.
- (2) At least two-thirds (2/3) of the impacted residents and 100% of the residents within 100 feet of the proposed device shall support the installation.
- (3) Devices shall be installed only where a minimum safe stopping distance can be provided.
- (4) The City of Manteca Fire Department must approve the applicable traffic calming measures to assure that emergency response times or access for the neighborhoods are not affected negatively.
- (5) Funding for all improvements must be identified and available.

2.8 Step 8 – Community Notification or Meeting

After the petition and the Stage 2 Traffic Calming measures are approved, a community notification for a small size project and/or a community meeting for a medium or large size project will be conducted accordingly.

2.9 Step 9 – City Council or Department Approval

If City staff and the neighborhood agree on an appropriate Stage 2 Traffic Calming measures and solutions, the proposal will be brought to the City Council for final approval and funding allocation.

Traffic calming measures consisting of minor improvements including striping, bicycle lanes, installing markers, installing speed limit radar, and/or installing speed signs can be approved by the Director of Public Works.

2.10 Step 10 – Implementation and Analysis

Once Traffic Calming measures are implemented, City staff will perform an effectiveness assessment gathering the same data conducted during the initial Traffic Study to evaluate "before" and "after" conditions. This follow-up performance measure would allow the City to gauge the success of the implemented measures on the particular street or neighborhood in which it was installed. In this way, fine-tuning of the traffic calming features could be done to ensure effectiveness of the future projects.

Section 3 – Traffic Calming Measures

The following traffic calming measures constitute the standard toolbox of devices available to City staff and residents when developing traffic calming solutions.

The list of the traffic calming measures reflects what would be possible, doable, or potentially available throughout MTCP. Sufficient funding should be developed for implementation and long-term maintenance.

3.1 Lane Striping

Lane striping can be used to create formal bicycle lanes, parking lanes, or simple edge lines. As a traffic calming measure, they are used to narrow the travel lanes for vehicles, to encourage drivers to lower their speeds.





3.2 Speed Limit Sign

Solar powered speed radar trailers and speed limit signs can be used to educate motorists of their driving speed and encourage speed limit compliance.

Stop signs are considered Traffic Control Devices and not Traffic Calming Measures. Stop signs are intended to control the flow of traffic and assign right-of-way. It is common for residents in many communities to request installation of stop signs at specific locations to slow travel speeds or discourage cut-through traffic. However, stops signs should be used only when warranted by traffic



engineering standards. They may encourage higher mid-block speeds to compensate for time lost, and increase noise and air pollution.

The City of Manteca supports the following provisions from the Caltrans Traffic Manual:

- Stop signs should not be used for speed control
- Care should be taken not to install too many signs.
 Regulatory and warning signs should be used conservatively because these signs, if used to excess, tend to lose their effectiveness



3.3 High-Visibility Crosswalks

High-visibility crosswalks use special marking patterns and raised reflectors to increase the visibility of a crosswalk at night. Although the effectiveness of this traffic calming measure in school zones are high, it requires more maintenance than normal crosswalks.



3.4 Centerline Treatments

Residential streets with curves may benefit from the installation of enhanced centerline treatments such as raised pavement markers, reflectors or intermittent grind patterns. This traffic calming measure can help keep drivers in the appropriate travel lane on curves and under low-visibility conditions and encourages reduced speeds.



3.5 Speed Enforcement

When appropriate, the Department of Public Works will work with the Manteca Police Department to target specific areas identified during the data collection process to enforce speed limits and other traffic laws in neighborhoods. By sharing key traffic data, officers can focus their patrols on the times and places where speeding most often occurs. Long-term periodic daytime speed enforcement on certain problem corridors may result in driver changes over time. This traffic calming measure can be used in areas that do not qualify for engineering solutions to traffic challenges.

3.6 Speed Humps

Speed humps are rounded raised areas placed across the street approximately 3 inches high at their center and extending the full width of the street, tapering near the drain gutter to allow unimpeded bicycle travel. The traditional hump ranges from 14 feet to 22 feet in length. The longer humps, also known as speed tables, are much gentler for larger

vehicles. This raised pavement serves to physically force motorists to reduce their speed. This measure shall not be approved on Emergency Response Routes.

Speed humps are different from speed bumps, which are commonly used in parking lots or on private streets. The City of Manteca does not allow speed bumps on public streets.



3.7 Speed Lumps

Speed lumps are a variation on the speed hump, adding two wheel cut-outs designed to allow large vehicles, such as emergency vehicles and buses, to pass with minimal slowing. The design limits passenger cars and mid-size SUVs from fully passing through the cutouts, but allows one set of wheels to pass through the cut-out while the other set is required to travel over the lump.

The magnitude of reduction in speed is dependent of the spacing of speed lumps between points that require drivers to slow. Speed lumps have a similar reduction in speeds when compared to speed humps. Speed lumps shall be carefully considered in order to avoid impacts to emergency vehicles and bus routes.



3.8 Speed Tables

Speed tables are flat-topped speed humps with a long flat section that are generally used at crosswalk locations and can be used on streets with posted speed of 30 mph or less. These are typically long enough for the entire wheelbase of a passenger car to rest on top. Their long flat fields and ramps that are sometimes more gently sloped than speed humps, give speed tables higher design speeds than speed humps.

An "offset" speed table as shown in the photo may be approved for Emergency Response Routes.

Both speed humps and speed tables require signing and roadway markings to make their presence known to motorists and other roadway users.



3.9 Raised Crosswalks

Raised crosswalks are speed tables striped with crosswalk markings and signage to channelize pedestrian crossings, providing pedestrians with a level street crossing. By raising the level of the crossing, pedestrians are also more visible to approaching motorists. The magnitude of reduction in speed is dependent of the spacing



of raised crosswalks between points that require drivers to slow. This measure shall not be approved on Emergency Response Routes.

3.10 Traffic Circles

Traffic circles are raised islands, placed in intersections, around which traffic circulates. Stop signs or yield signs can be used as traffic controls at the approaches of the traffic circle. Circles prevent drivers from speeding through intersections by impeding the straight-through movement and forcing drivers to slow down to yield. Depending upon the size of the intersection and circle, trucks may be



permitted to turn left in front of the circle. This measure could potentially affect emergency response times and bicyclists must merge with traffic around traffic circle

3.11 Bulbouts

Bulbouts are raised curb extensions that narrow the travel lane at intersections or midblock locations. Bulbouts "pedestrianize" intersections by shortening the crossing distance and decreasing the curb radii, thus reducing turning vehicle speeds. Both of these effects increase pedestrian comfort and safety at the intersection.



3.12 Pedestrian Islands

A pedestrian island is a raised section of pavement between minimum two lanes of traffic moving in opposite directions. While pedestrian islands may be used on both wide and narrow streets, they are generally applied at locations where speeds and volumes make crossings prohibitive, or where three or more lanes of traffic make pedestrians feel exposed or unsafe in the intersection.



The cut-through or ramp width should equal the width of the crosswalk.

3.13 Chicane

Chicanes consist of a series of curb extensions that narrow the street at selected points and force motorists to slow down to maneuver between them. They alternate from one side of the street to the other to form S-shaped curves. Chicanes create a park-like environment and encourage additional greenery and plantings, but must be designed carefully to avoid drivers from deviating out of the appropriate lane.



3.14 Partial Street Closure

Partial street closures are barriers that block travel in one direction for a short distance on otherwise two-way streets.

This measure is often used in sets to make travel through neighborhoods with gridded streets circuitous rather than direct. Partially closing access to a neighborhood street will certainly increase traffic on



surrounding streets. These should be used as measures of last resort and only considered if other less restrictive physical measures have failed.

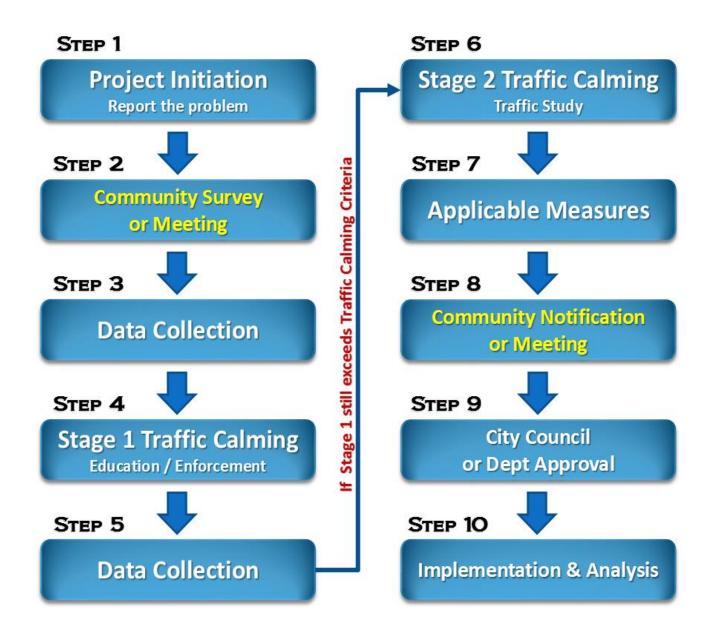
3.15 Full Street Closure

Full street closures are barriers placed across a street to close the street completely to through traffic, usually leaving only sidewalks or bicycle paths open. The barriers may consist of landscaped islands, walls, gates, side-by-side bollards, or any other obstructions that leave an opening smaller than the width of a passenger car.



Fully closing access to a neighborhood street will certainly increase traffic on surrounding streets. These should be used as measures of last resort and only considered if other less restrictive physical measures have failed.

Section 4 – Flowchart for Traffic Calming Program



Section 5 – Traffic Calming Request Form

The purpose of this form is to enable neighborhoods to request the possible initiations of a traffic calming project in accordance with the City of Manteca Traffic Calming Program.

The form must be filled out in its entirety and can be submitted by email to MantecaEng@manteca.gov, or in person or by mail to:

City of Manteca Engineering Department 1001 W. Center Street, Suite E Manteca, CA 95337 Attn: Traffic Engineering Team

Feel free to attach additional sheets containing photos, maps, or additional texts if the space provided is insufficient.

1.	Requesting Individual's Contact Information:			
	❖ Name:			
	Address:	_		
	Phone Number:	_		
	Email Address:	_		
2.	Section of street you are requesting traffic calming (example: A Street between 1st Avenue and 2nd Avenue).			
3.	Please describe the nature of the neighborhood traffic problem you a concerning with (attach additional sheets or maps if necessary):	ıre		

4. All persons signing this petition to hereby agree that the following person(s) represent the neighborhood as facilitator(s) between the neighborhood and the City of Manteca staff in matters pertaining

1. Name	Address	Phone # and Email Address		
2. Name	Address	Phone # and Email Address		
3. Name	Address	Phone # and Email Address		
	ONLY ONE SIGNATURE	PER ADDRESS		
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