



CITY OF ESCALON TRAFFIC CALMING PROGRAM



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DEVELOPMENT AND COMMUNITY SERVICES DEPARTMENT



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EXECUTIVE SUMMARY

This program is intended to help address speeding, cut through traffic and other expressed traffic concerns brought to the City of Escalon's attention by residents.

The Traffic Calming Program (TCP) outlines the process for residents to formally submit traffic concerns for City staff to evaluate, and details the information needed to ensure a complete and viable application. The program further outlines the available traffic calming tools, which represent the industry best practices, including physical improvements and non-physical strategies to slow traffic and calm the roadway/neighborhood.

Finally, the program identifies a funding source to better ensure any approved project can be completed. Cities in California nearly universally experience fiscal deficits in transportation funding and have significant deferred maintenance obligations. Prioritizing available Measure K monies for the City's traffic calming program may decrease the overall transportation related funding for the City, but is aimed to help prioritize safety in our community, especially in our neighborhoods.

Chapter 1 Introduction

1.1 What is Traffic Calming

Traffic calming uses physical design and signage/striping to improve safety for motorists, pedestrians and cyclists on our roadways, and is typically used to address speeding and other unsafe behaviors of drivers. The measures fall into four (4) categories:

Non-Physical Measures	Vertical Design Measures	Horizontal Design Measures	Intersection Modifications
Speed Enforcement	Speed Hump	Chokers	Traffic Circle
Signage	Speed Cushion	Corner/Curb Extensions	Roundabout
Crosswalk Striping	Speed Table	Median Islands	Partial Closure
Edgeline Striping	Raised Intersection	Chicanes	Diagonal Diverter

1.2 Background

The City receives periodic requests from residents regarding excessive traffic volumes or speeds in neighborhoods throughout the community. Therefore, the City has developed a Traffic Calming Program (TCP) to establish a process and approach to address these requests, with the goal of improving safety and the quality of life of neighborhoods by reducing the impacts of speeding vehicles, cut-through traffic and careless drivers.

The program will provide a guide to the selection and implementation of the appropriate traffic calming measure for each situation. This program outlines: 1) the various techniques which are available to the City to address traffic issues, 2) the process for residents to bring a project forward, and 3) how projects may be funded.

1.3 Measure K

Voters first approved Measure K in 1990 for a 20-year period. That measure produced more than \$735 million in transportation improvements in San Joaquin County. Subsequently, San Joaquin voters renewed the sales tax in November 2006 for an additional 30 years. The City of Escalon receives an annual allocation of Measure K funding to go towards safety improvement projects.

The City intends to use approximately \$40,000 of its annual Measure K allocation to support this program.

1.4 Program Intent

A primary intent of the TCP is to outline all available traffic calming measures. Many residents provide direct requests to install speed bumps or stop signs to slow or divert

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traffic. All measures are not universal and may only be effective in alleviating a portion of the experienced traffic issues. If incorrectly applied these measures can, over time, lead to unintended consequences, and can further reduce the ability of emergency vehicles to maintain adequate response times.

Effective traffic management requires a balance between the need to provide an efficient transportation system and maintaining a livable and safe environment for the neighborhood. The challenge of traffic calming is selecting the appropriate measures and locations to maximize this balance.

This TCP will:

1. Provide an opportunity for residents to submit traffic concerns to the City to be considered and potentially funded. To that end, the City has established a TCP request log (attached) which will include all requested improvements or areas of concern.
2. Identify all available traffic calming measures and outline the City's process to select and implement the preferred traffic calming measure in your neighborhood.
3. Outline the process for Traffic Calming project prioritization and selection, and
4. Outlines the available funding and use of funds to install selected improvements. The City has set aside \$40,000 in available Measure K funds to future improvements. Due to limited transportation funding, the City is unlikely to be able to fund all requested projects.

Chapter 2 Program Guidelines

2.1 Applying to the Program

A resident or neighborhood that is experiencing excessive traffic or high speeds, and intends to submit a traffic calming request application, should ensure there is broad support for any proposed measure used, and provide one point of contact for the group to make communication and decision making as efficient as possible. Please note, a requirement of the application is to obtain neighborhood backing from at least 60% of the households within the block or area where the traffic calming is proposed. A traffic calming program application and supporting materials are included in the Appendix and is available on the City's website.

2.2 Preliminary Review of the Application

As applications are received, City staff and the consultant City Engineer will review and cross reference with any traffic accident data and prior concerns raised. Depending on the situation, the City may collect additional data through observations, the radar trailer or other tools.

The City will review based on the following criteria, which are intended as guidelines and not requirements.

1. Roadway segment should be at least 500' in length between traffic control and/or a curve with less than a 250' radius.
2. The street only has one travel lane in each direction
3. Posted speed limit must be 30 MPH or less
4. Roadway segment must include mostly residential land uses
5. Speed survey should indicate that 10% of motorists are driving more than 10 MPH over the speed limit.
6. 60% of residents in the area must support the project.

2.3 Project Selection

Upon the City's review and determination that the project is eligible, City staff will review the parameters of the concern and evaluate the best traffic calming measure with the input of the Escalon Fire Department. If the City is evaluating multiple projects in any given year, and depending on the funding available, the city will prioritize projects based on the methodology outlined later in this document.

The City will first prioritize safety, including number of collisions and risk of injury, vehicle speeds and counts and number of pedestrians in the area. The City will next prioritize location—next to sensitive uses like schools or youth sports fields. Lastly, the City will use extent of neighborhood support and cost to prioritize submitted projects.

City staff will communicate and coordinate with the applicant point of contact to ensure all experienced issues are evaluated and that the proposed measure will be acceptable to the neighborhood.

2.4 Project Implementation

After the City's has reviewed a request, identified the best traffic calming measure, identified available funding, if available, City staff will notify the applicant of the project approval. City staff will then begin design of the project and will work toward project construction as soon as it possible.

Chapter 3 – Traffic Calming Measures

The following traffic calming measures describe the available tools to City staff and residents when developing traffic calming solutions. The City will explore four categories of traffic calming measures as outlined in the rest of this chapter, including Non-Physical Measures, Vertical Design Elements, Horizontal Design Elements, and intersection modifications.

3.1 Non-Physical Measures

Non-physical measures include traffic calming measures that do not require the construction of physical modifications to the roadway. This can include speed enforcement, signage, crosswalk striping and edge line striping.

3.1.1 Speed Enforcement

In coordination with the Escalon Police Department (EPD), targeted speed enforcement may be an initial measure to help reduce speeding in a specific area. Based on survey results, a request is submitted to the EPD for the desired enforcement in an area. EPD would then deploy an officer in the area in hopes to fix driver behavior by enforcement. Due to the limited resources, enforcement would not be continued indefinitely. Targeted enforcement may be used in conjunction with other measures to help drivers become more aware of the new restrictions on a roadway.

3.1.2 Signage

Traffic signs can be installed to make roadway users aware of a roadway condition, to fully utilize parking capacity or to restrict vehicular traffic. Although signage can sometimes be viewed as a short-term fix and often ignored by drivers, advancements have been made to make the signs more visible. LED lights can be added to the perimeter of signs to make motorists aware of certain road conditions or help enforce regulatory signage.



Radar feedback signs can also be used to inform road users of their speed compared to the posted speed limit. There are standard warning signs (from the Manual of Uniform Traffic Control Devices) that advise motorists to slow down for curves, pedestrians, stop signs, signals, and schools. For traffic calming purposes, signage may be more effective when combined with other traffic calming measures. The photo above includes examples of signage (source: Field photo, Google Street View).



3.1.3 Crosswalk Striping

A marked crosswalk helps guide and channelize pedestrians to a preferred crossing location. Marked crosswalks are most appropriate near schools, recreational facilities and other pedestrian generators. Crosswalks increase driver awareness of pedestrians, and are easy to install. The photo to the left shows typical crosswalk striping.

3.1.4 Edgeline Striping



Edgeline striping is used to create narrow travel lanes which give the impression of a narrow street, which may help reduce overall speeds. Striping can be placed near the curb, center of roadway, or midblock to create the appearance of a constricted roadway. Edgeline striping is effective on long, wide residential streets with speeding traffic, although it may result in loss of street parking.

Edgeline striping is relatively easy to install and lower cost to modify when compared to other types of installations. This kind of striping can be highly effective when used as a temporary measure to test effectiveness and neighborhood acceptance of traffic calming prior to committing to full construction. The photo above shows typical edgeline striping.

3.2 Vertical Design Elements

Comprehensive traffic calming uses physical design features and warning systems to enhance safety, slow traffic or divert traffic from residential neighborhoods.

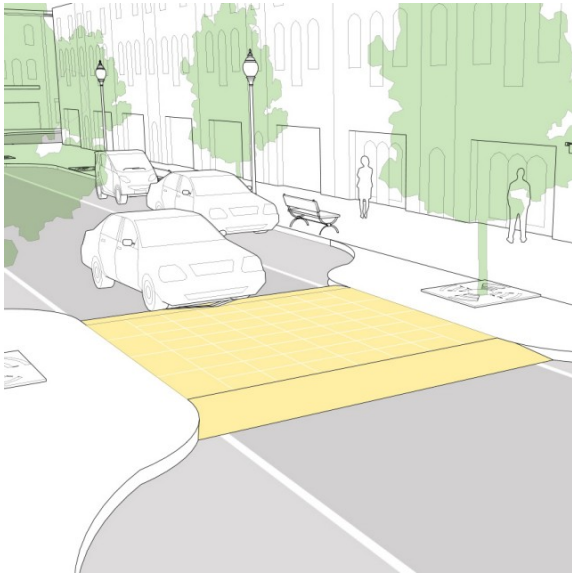
3.2.1 Speed cushions



Speed cushions are similar to speed humps or speed tables that include wheel cutouts to allow large vehicles to pass unaffected, while reducing passenger car speeds. They can be offset to allow unimpeded passage by emergency vehicles and transit buses, and are typically used on key emergency response routes. Speed cushions extend across one direction of travel from the centerline, with a gap to allow wide wheelbase vehicles to avoid going over the hump.

Speed Cushion are asphalt mounds, parabolic in shape, covering 12 to 14 feet of street with a height between 3 and 3 ¾ inches. The center mound or cushions, has a width of approximately 6 feet to 7 feet to accommodate the wheelbase of fire trucks and transit buses. The cushion adjacent to the center cushions vary in width to accommodate the street width. Depending on the street width, additional cushions may be placed in each travel lane.

3.2.2 Speed Table



Speed Tables are midblock traffic calming devices that raise the entire wheelbase of a vehicle to reduce traffic speed. Speed tables are longer than speed humps and flat-topped (10 feet length) with a height of 3 - 3 ¾ inches and a total length of 22 feet. Vehicle operating speeds for streets with speed tables range from 25 – 40 mph. Speed tables have been installed on streets in Escalon. They can be used on residential and collector streets with park or school frontage and posted speeds of 35 mph, however the advisory speed is 20 mph.

3.2.3 Raised Intersections

Raised intersections create a safe, slow-speed crossing and public space at minor intersections. Similar to speed humps and other vertical speed control elements, they reinforce slow speeds and encourage motorists to yield to pedestrians at the crosswalk.

3.3 Horizontal Design Elements

3.3.1 Chokers



Chokers are raised islands in the parking zone that can be detached from the curb-line to allow for drainage. Mid-block chokers narrow the roadway and are most applicable on wide streets with long blocks which experience issues with speeding and cut-through traffic. Chokers can have the same narrowing effect as parked vehicles on streets where there is little or no on-street parking. Chokers may be installed with either landscaping or hardscape treatment. The resulting narrowed travel lanes can slow vehicle speeds, while increasing the visibility between pedestrians and motorists. Chokers may result in loss of parking, and

force bicyclists to use more of the vehicular travel lane.

3.3.2 Corner/Curb Extensions/Bulb-outs

Curb extensions are often applied at the mouth of an intersection. When installed at the entrance to a residential or low speed street, a curb extension is referred to as a “gateway” treatment and is intended to mark the transition to a slower speed street.

Bulbouts narrow the street width at intersections, creating a shorter and safer pedestrian crossing

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while encouraging drivers to slow down. These may contain special paving or landscaping and are generally used at intersections where parking is already restricted. Detached bulbouts may be striped or raised islands containing special paving or landscaping while maintaining existing drainage patterns. Attached bulbouts require altering the curb, gutter and sidewalk. These installations also affect the existing drainage patterns, possibly requiring installation of additional storm drains. They may reduce parking, and may increase emergency vehicle response times. Transit bus stops may be located near bulbouts to remove

buses from the flow of traffic and not impede vehicle passage.

3.3.3 Medians and Islands



A median is the portion of the roadway separating opposing directions of the roadway, or local lanes from through travel lanes. An island is defined as an area

between traffic lanes used for control of traffic movements. They can provide traffic calming and aesthetic benefit, but the addition of medians alone may also cause an increase in vehicle speeds by reducing friction between opposing directions of traffic.

Where no median is present, raised islands can be used as traffic calming features to briefly narrow the traveled way, either in mid-block locations, or to create gateways at entrances to residential streets and make it more difficult for drivers to “cut the corner”.



3.3.4 Medians with Pedestrian Refuges

Medians can be used on wider streets to improve safety by allowing pedestrians to cross one direction of traffic at a time. The narrow travel lanes can slow vehicle speeds, and provide a shorter distance for pedestrians to cross travel lanes. They may interrupt driveway access, and reduce parking.

3.3.5 Chicanes

Chicanes create a curved street that can be incorporated into new developments or retrofitted in existing rights-of-way.



The curvilinear alignment requires additional maneuvering and shortens sightlines for drivers, resulting in lower speeds. Large, landscaped chicanes increase the amount of public space available on a corridor and can have enough room for benches, bicycle parking, and other amenities. They require extensive design and have higher implementation cost compared to some other traffic calming options, and may result in loss of street parking.

3.4 Intersection Modifications

There are multiple ways to improve the safety and flow of complex intersections: they can be broken up into multiple compact intersections; streets can be realigned or “bent” so that they meet as close as possible to a right angle; stop signs can be aligned at all legs of an intersection to be perpendicular to the travel lanes which enhances overall clarity and visibility for vehicles and pedestrians. As previously discussed, intersections can be re-sized through the addition of curb extensions and medians. Vehicle turning speeds can be reduced using medians, realignment, and tight curb radii.

3.4.1 Traffic Circles

Traffic Circles are raised circular medians that direct traffic counterclockwise within an intersection. Vehicles must change direction of travel to maneuver around the circle. Traffic circles are controlled by “Yield” signage on all approaches, and can help manage speeds, reduce volume and improve side street access. Traffic circles may include low growth landscaping and/or a tree for visual impact.



Benefits of traffic circles include reduced vehicle speeds, increased access to main street from a side street, breaking up sightlines on a straight street, and making it more aesthetically pleasing.

3.4.2 Roundabout



Like traffic circles, roundabouts require traffic to circulate counterclockwise around a center island. Unlike circles, roundabouts are used on higher volume streets to allocate right-of-way among competing movements. They are found mainly on arterial and collector streets, often substituting for traffic signals or all-way STOP signs. They are larger than neighborhood traffic circles and typically have raised splitter islands to channel approaching traffic. By reducing the speed of approaching vehicles, roundabouts typically have fewer severe injury collisions than signalized intersections, and are less expensive to operate.

They may require major reconstruction of existing intersections, and can result in loss of on- street parking.

3.4.3 Partial closures

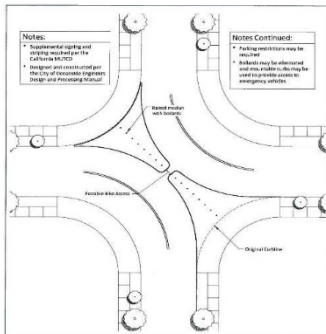
Where traffic volume data shows excess vehicle capacity, the number of vehicle lanes can be reduced to “Right Size” the corridor, consolidate excess turn lanes and eliminate slip lanes as appropriate. The space can be reallocated to medians, bicycle and/or pedestrian facilities.



A partial closure is a physical barrier that restricts vehicles from turning into a street, while still allowing for bicycle access. The adjacent lane is left open to allow vehicles to exit, while two-way traffic is maintained for the remainder of the block. Partial closures can be considered on local streets with cut-through traffic. Partial closure restricts movements into a street while maintaining full access and movement within the street block for residents while reducing cut-through traffic into street. They also provide shorter distance for pedestrians to cross travel lanes. Partial closures may increase trip length for local drivers, and may redirect traffic to other local streets.

3.4.4 Diagonal Diverter

Diverter are raised areas placed across a four-way intersection that prohibit through movements and force turns for approaches. Diverter can be considered on local streets where cut-through traffic is a major problem, and can be designed to accommodate emergency vehicles. A diagonal diverter is either a raised median, bollards, or another type of treatment placed diagonally across an intersection to restrict through traffic movements. Diagonal diverters split a four-way intersection into two L-shaped turns. Bicycle and pedestrian access may be maintained by providing breaks in the treatment. The use of diverters interrupt traffic flow on a street reducing or eliminating through traffic, but maintains traffic circulation. Diverter are barriers placed across four-legged intersections, interrupting through traffic flow. These barriers can be used to create a maze-like effect in the neighborhood.



Section 4 – 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 Escalon Traffic Calming Program.

The form must be filled out in its entirety and submittal to:

City of Escalon
Engineering Department
2060 McHenry Ave
Escalon, CA 95320

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. All persons signing this petition do hereby certify that they reside within the impacted area, which is hereby defined as the street segment of:

3. Please describe the nature of the neighborhood traffic problem you are concerning with (attach additional sheets or maps if necessary):

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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 Escalon 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

1. Name (print)	Address and Phone #	Signature
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City of Escalon Traffic Calming Program (ETCP)

ONLY ONE SIGNATURE PER ADDRESS

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