



**AGENDA SUMMARY
SPECIAL TRAFFIC COMMISSION MEETING
MONDAY, MARCH 28, 2016
6:00 P.M.
ARROYO GRANDE CITY COUNCIL CHAMBERS
215 E. BRANCH STREET, ARROYO GRANDE**

1. CALL TO ORDER

2. ROLL CALL

3. FLAG SALUTE

4. COMMUNITY COMMENTS AND SUGGESTIONS

This public comment period is an invitation to members of the community to present issues, thoughts, or suggestions on matters not scheduled on this agenda. Comments should be limited to those matters that are within the jurisdiction of the Parks and Recreation Commission. The Brown Act restricts the Commission from taking formal action on matters not published on the agenda.

5. CONSENT AGENDA

5.a. Approval Of Minutes

Approve the minutes of the Special Traffic Commission Meeting on January 25, 2016.

Documents: [TC 05.a. Approval of Minutes.pdf](#)

6. BUSINESS ITEMS

6.a. CONSIDERATION OF TRAFFIC CALMING WORK ON CALIFORNIA STREET.

: It is recommended that the Traffic Commission:

1. Direct staff to meet with Lucia Mar Unified School District to review data obtained and

request discussion, outreach and education of student drivers;

2. Direct staff to post Speed Limits on California Street;

3. Direct staff to increase Speed Limit enforcement on California Street; and

4. Direct staff to obtain additional vehicle speed data once all activities above are complete

and return to the Traffic Commission with the results of this work effort.

Documents: [TC 06.a. California Traffic Calming.pdf](#)

6.b. CONSIDERATION OF REMOVAL OF A MARKED PEDESTRIAN CROSSWALK ON VALLEY ROAD AT TIGER TAIL DRIVE.

It is recommended that the Commission advise the City Council to remove the marked crosswalk on Valley Road at Tiger Tail Drive.

Documents: [TC 06.b. Valley Road Crosswalk.pdf](#)

6.c. CONSIDERATION OF LOADING AND UNLOADING ZONE ON VALLEY ROAD ADJACENT TO ARROYO GRANDE HIGH SCHOOL.

It is recommended that the Traffic Commission advise the City Council to allow portions of Valley Road to be used for loading and unloading.

Documents: [TC 06.c. Valley Road Parking.pdf](#)

6.d. CONSIDERATION OF DRAFT NEIGHBORHOOD TRAFFIC CALMING GUIDELINES

It is recommended that the Traffic Commission:

1. Review and direct staff to implement any required changes to the Draft Neighborhood Traffic Calming guidelines; and
2. Recommend that the City Council adopt Neighborhood Traffic Calming Guidelines

Documents: [TC 06.d. Traffic Calming Guidelines.pdf](#)

7. DISCUSSION ITEMS

8. COMMISSION COMMUNICATIONS

Correspondence/Comments as presented by the Commission.

9. ADJOURNMENT

All staff reports or other written documentation, including any supplemental material distributed to a majority of the Traffic Commission within 72 hours of a regular meeting, relating to each item of business on the agenda are available for public inspection during regular business hours in the Community Development Department, 300 East Branch Street, Arroyo Grande. If requested, the agenda shall be made available in appropriate alternative formats to persons with a disability, as required by the Americans with Disabilities Act. To make a request for disability-related modification or accommodation, contact the Legislative and Information Services Department at 805-473-5414 as soon as possible and at least 48 hours prior to the meeting date.

This agenda was prepared and posted pursuant to Government Code Section 54954.2. The Agenda can be accessed and downloaded from the City's website at www.arroyogrande.org. If you would like to subscribe to receive email or text message notifications when agendas are posted, you can sign up online through our [Notify Me](#) feature.

ACTION MINUTES

**SPECIAL MEETING OF THE TRAFFIC COMMISSION
MONDAY, JANUARY 25, 2016**

**COUNCIL CHAMBERS, 215 E. BRANCH STREET
ARROYO GRANDE, CA**

1. CALL TO ORDER

Chair Ross called the meeting to order at 6:00 p.m.

2. ROLL CALL

Traffic Commissioners: Commissioner Kenneth Price, Vice Chair Jim Carson,
Chair Steven Ross

Commissioners absent: Commissioner Janette Pell

Staff present: Matt Horn, City Engineer, Kevin McBride, Police
Commander; and Jane Covert-Lannon, Office Assistant II.

3. PLEDGE OF ALLEGIANCE

Chair Ross led the pledge of allegiance.

4. COMMUNITY COMMENTS AND SUGGESTIONS

Chair Ross opened the Community Comments and Suggestions.

Hearing no public comment, Chair Ross closed the Community Comments and
Suggestions.

5. CONSENT AGENDA

5.a. Approval of Minutes

ACTION: Vice Chair Carson moved to approve the minutes of the November 16, 2015
regular meeting. Commissioner Price seconded the motion and the minutes were
accepted on a voice vote.

AYES: Carson, Price, Ross

NOES: None

ABSENT: Pell

6. **BUSINESS ITEMS**

6.a **Consideration of additional parking restriction adjacent to 603 Cornwall Avenue's Driveway located on Bell Street.**

Recommended Action: It is recommended that the Traffic Commission direct staff to restrict parking 16 feet on either side of an existing driveway on Bell Street for the property located at 603 Cornwall Avenue.

City Engineer, Matt Horn gave the staff presentation to the Commissioners.

Chair Ross opened the public comment on this item and the following person spoke:

- Louis Brazil – Cornwall Avenue – Thanked the Traffic Commission for reviewing the problem.

Upon hearing no further public comment, Chair Ross closed the public comment on this item.

ACTION: Commissioner Price made a motion to approve the staff recommendation to restrict parking an additional 16 feet on either side of the existing driveway on Bell Street for the property located at 603 Cornwall. Vice Chair Carson seconded the motion and the motion passed on the following vote.

AYES: Price, Carson, Ross
NOES: None
ABSENT: Pell

6.b **Consideration of parking restriction on Nevada Street from East Branch Street to East Le Point.**

Recommended Action: It is recommended that the Traffic Commission direct staff to restrict parking on Nevada Street, 70 feet on the east side and 35 feet on the west side.

Matt Horn, City Engineer, gave the staff presentation to the Commissioners.

Chair Ross opened the public comment.

Upon hearing no further comments, Chair Ross closed the public comment.

ACTION: Vice Chair Carson made a motion to approve Nevada St. be restricted by red painted curb 70 feet on the east side and 35 feet on the west side. Commissioner Price seconded the motion and the motion passed on the following vote:

AYES: Carson, Price, Ross
NOES: None
ABSENT: Pell

6.c. Consideration of traffic calming work on California Street

Recommended Action: It is recommended that the Traffic Commission:

1. Receive public input regarding vehicular traffic on California Street;
2. Direct staff to obtain vehicle speed information;
3. Direct staff to increase enforcement if warranted; and
4. Direct staff to return to the Traffic Commission with the results of this work effort.

Matt Horn, City Engineer, gave the staff presentation to the Commissioners.

Chair Ross opened the public comment.

Citizen 1 – Agree with limited right turn suggestion. Need a speed bump and striping. There are now 12 young children who live on the block under 14 years of age. Also need lighting and sidewalks. He is worried about the children.

Kristie – California Street – She wrote the letter to the City. She has lived on California Street for six years. She said that the amount of traffic and the speed going to and from the high school is alarming. She once saw a couch drug behind a truck down the street. She asks if we can work with the school for better information to the kids. Stated that the worst times are between 7:30 a.m. and 8:30 a.m.; 2:30 p.m. and 3:30 p.m.; and at 5:30 p.m.

April McClain – California Street – She believes that there is a serious safety issue on California Street. She stated that the lack of sidewalks and lighting is a safety problem and wonders if there is a grand for sidewalks. She said that there are parking restrictions with signs, but the only way they are enforced is when the police are called. She says that during the different sports season, especially football, so many cars are parked on the street that the only place to walk is in the street. With the speeds that some of these cars go, it is very dangerous.

Upon hearing no further comments, Chair Ross closed public comment.

ACTION: Vice Chair Carson made a motion to obtain vehicle speed information, increase enforcement if necessary, including information on sidewalks, lighting and involving the school district and bring back to the Traffic Commission for evaluation. The motion was seconded by Commissioner Price and the motion passed on the following vote:

AYES: Carson, Price, Ross
NOES: None
ABSENT: Pell

6.d. Consideration of Operational Changes of West Branch at East Grand Avenue

Recommended Action: It is recommended that the Traffic Commission receive an update on several alternatives that may address congestion at the intersection of East Grand Avenue and East Branch Street.

Matt Horn, City Engineer, gave the staff presentation to the Commissioners.

Chair Ross opened the public comment.

Upon hearing no comments, Chair Ross closed the public comment.

ACTION: Chair Ross made a motion to instruct the City to move ahead with the short term re-stripping of E. Branch Street adding an exclusive right-turn lane (Alternative 5) and continue to explore other options of dealing with the intersections of East Branch, Station Way, and the on and off ramps of 101.

AYES: Ross, Carson, Price
NOES: None
ABSENT: Pell

6.e. Consideration of appointing one traffic commissioner to serve as a stakeholder for the East Branch Streetscaping Project and one alternate stakeholder.

Recommended Action: It is recommended that the Traffic Commission:

1. Appoint one Traffic Commissioner as a Stakeholder for the East Branch Streetscaping Project; and
2. Appoint one Traffic Commissioner as an Alternate Stakeholder for the East Branch Streetscaping Project.

Matt Horn, City Engineer, gave the staff presentation to the Commissioners.

Chair Ross opened the public comment.

Upon hearing no comments, Chair Ross closed the public comment.

ACTION: Commissioner Price made a motion to nominate Chair Ross as the Stakeholder for the East Branch Streetscaping Project and himself as the Alternate Stakeholder. Commissioner Carson seconded the motion and the motion passed on the following vote:

AYES: Price, Carson, Ross
NOES: None
ABSENT: Pell

6.f. Consideration of Draft Neighborhood Traffic Calming Guidelines

Recommended Action: It is recommended that the Traffic Commission review and direct staff to implement any required changes to the Draft Neighborhood Traffic Calming Guidelines.

Matt Horn, City Engineer, gave the staff presentation to the Commissioners.

Chair Ross opened the public comment.

Upon hearing no comments, Chair Ross closed the public comment.

Vice Chair Carson stated that he likes the document but feels it is important to start out with two things: 1) Speed enforcement and 2) Stop signs. An introduction discussing details for both of these so the public will have a better understanding of them. Also include a mechanism for removing signs that are no longer relevant.

Commissioner Price commented that he likes the documents and feels that it is evolutionary over time. He said that it would show the public that the city is trying to solve problems.

Chair Ross said that he feels it is a good tool and a value to the city, the commissioners and to the residents. Chair Ross said that he likes the flexibility based on individual situations.

Matt Horn, City Engineer, stated that he would incorporate the Commissioners' comments, would make edits and bring the document back at an upcoming meeting and at that time the Commission could decide whether to accept it and move it forward to City Council.

7. DISCUSSION ITEMS

1. Matt Horn, City Engineer, said he is working on bringing back the LePoint/McKinley Project back to the Commission.
2. Matt Horn, City Engineer said that a circulation study was done and a student did an evaluation at the five point intersection at Huasna/Stanley near the Portugese Hall. Matt Horn said he would bring that study in for the Commissioners to see.
3. Matt Horn, City Engineer sais that the city has sent out an RFP out for Halcyon Road Complete Streets Plan which is a blueprint for Halcyon Road from 101 to the 1.

8. COMMISSION COMMUNICATIONS

Vice Chair Carson stated that after a recent meeting where red zones on East Branch were discussed, a gentleman named Steve Markowitz attended the meeting. Mr. Markowitz wrote a letter, which was published in a local newspaper thanking Matt Horn and the Traffic Commission for a job well done.

8. ADJOURNMENT

Chair Ross adjourned the meeting at 8:00 p.m.

Steven Ross, Chair

ATTEST:

**Jane Covert-Lannon
Office Assistant II**

(Approved at TC Mtg: 3/28/16)



MEMORANDUM

TO: TRAFFIC COMMISSION

FROM: TERESA MCCLISH, COMMUNITY DEVELOPMENT DIRECTOR

BY: MATT HORN, CITY ENGINEER

SUBJECT: CONSIDERATION OF TRAFFIC CALMING WORK ON CALIFORNIA STREET

DATE: MARCH 28, 2016

RECOMMENDATION:

It is recommended that the Traffic Commission:

1. Direct staff to meet with Lucia Mar Unified School District to review data obtained and request discussion, outreach and education of student drivers;
2. Direct staff to post Speed Limit on California Street;
3. Direct staff to increase Speed Limit enforcement on California Street; and
4. Direct staff to obtain additional vehicle speed data once all activities above are complete and return to the Traffic Commission with the results of this work effort.

IMPACT ON FINANCIAL AND PERSONNEL RESOURCES:

To post the roadway with speed limit signage would cost approximately \$300 for two signs and posts. Staff time will be required to obtain vehicle speed information, complete analysis of the speed data, increase enforcement efforts, and prepare future staff reports. This work effort is estimated at 20 staff hours. Traffic calming work is not included in the City's Critical Needs Action Plan.

BACKGROUND:

On September 10, 2015 the City received a letter regarding unusual vehicle activities and travel speeds in excess of reasonable limits on California Street (see Attachment 1). This letter has requested a series of speed bumps be installed on California Street to reduce or eliminate the likelihood of these activities in the future. Speed bumps are one tool used to reduce vehicular speeds or calm traffic.

California Street is a local roadway connecting Fair Oaks Avenue to West Cherry Avenue adjacent to Arroyo Grande High School. California Street provides two-way traffic with one travel lane in each direction as well as parking on both sides of the roadway. The curb-to-curb width of California Street is slightly less than 40 feet. The Speed Limit on California Street is not posted, therefore the default or prima facie Speed Limit is 25 MPH.

CONSIDERATION OF TRAFFIC CALMING WORK ON CALIFORNIA STREET
MARCH 28, 2016
PAGE 2



Location of Traffic Calming Work

On January 21, 2016, the Traffic Commission received public input on vehicular speeds on California Street and direct staff to:

1. Direct staff to obtain vehicle speed information;
2. Direct staff to increase enforcement if warranted; and
3. Direct staff to return to the Traffic Commission with the results of this work effort.

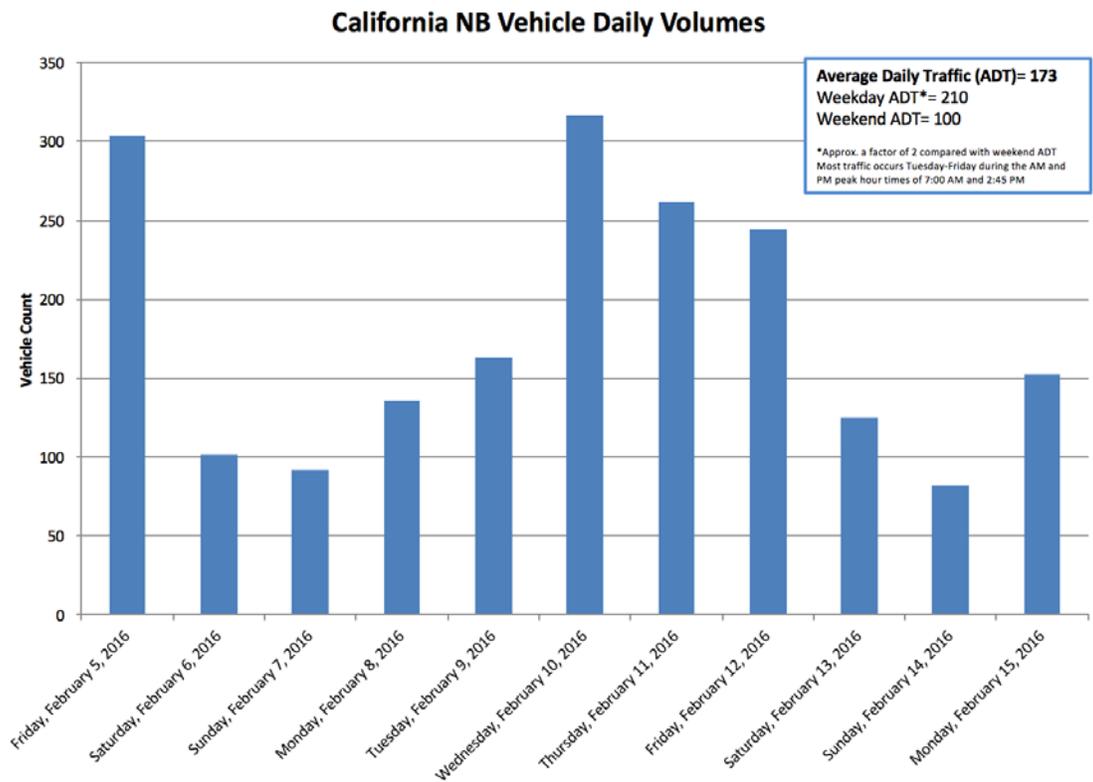
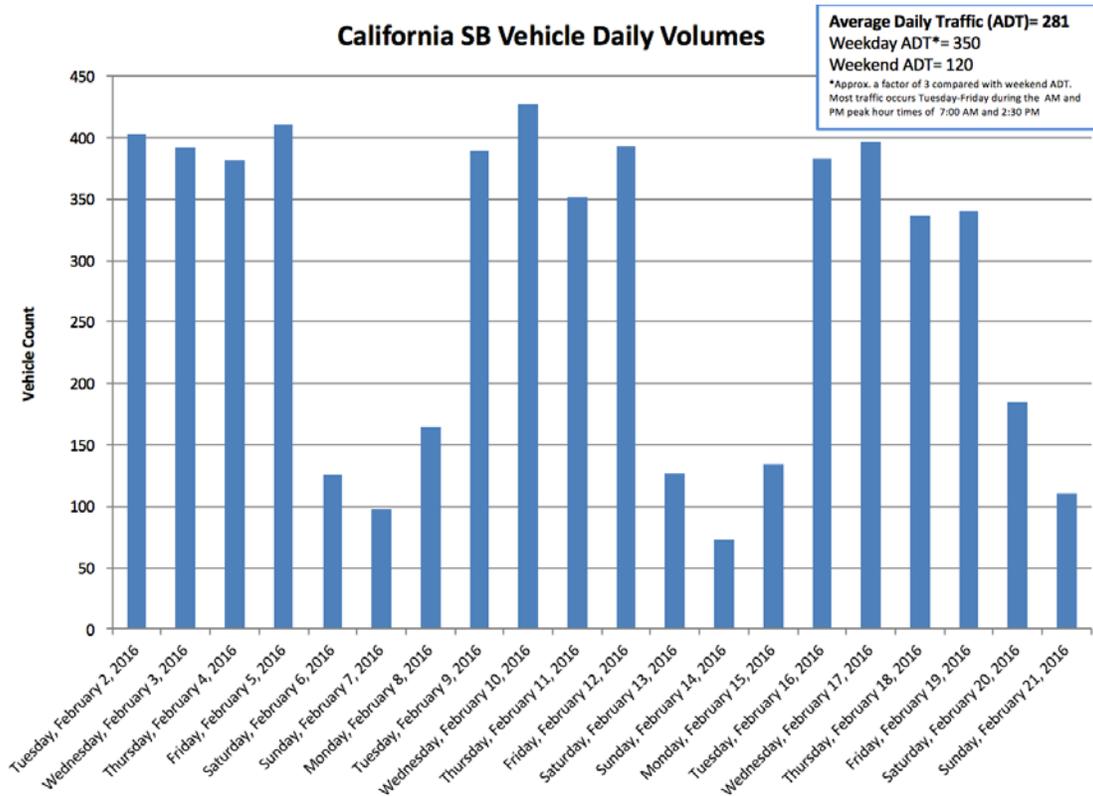
ANALYSIS OF ISSUES:

Traffic counting devices were placed on California Street on February 1, 2016 and removed on February 22, 2016.

Average Daily Trips

During the data collection process, the northbound equipment was damaged. This may explain why the northbound Average Daily Traffic (ADT) counts are less than the southbound. While it is still likely California Street has a larger southbound ADT than northbound ADT, for this analysis northbound data is considered more accurate and representative of both directions. This is a conservative assumption and typically considered acceptable. Therefore, the ADT of California Street is estimated to be slightly in excess of 500 vehicle trips per day.

CONSIDERATION OF TRAFFIC CALMING WORK ON CALIFORNIA STREET
MARCH 28, 2016
PAGE 3



CONSIDERATION OF TRAFFIC CALMING WORK ON CALIFORNIA STREET
MARCH 28, 2016
PAGE 4

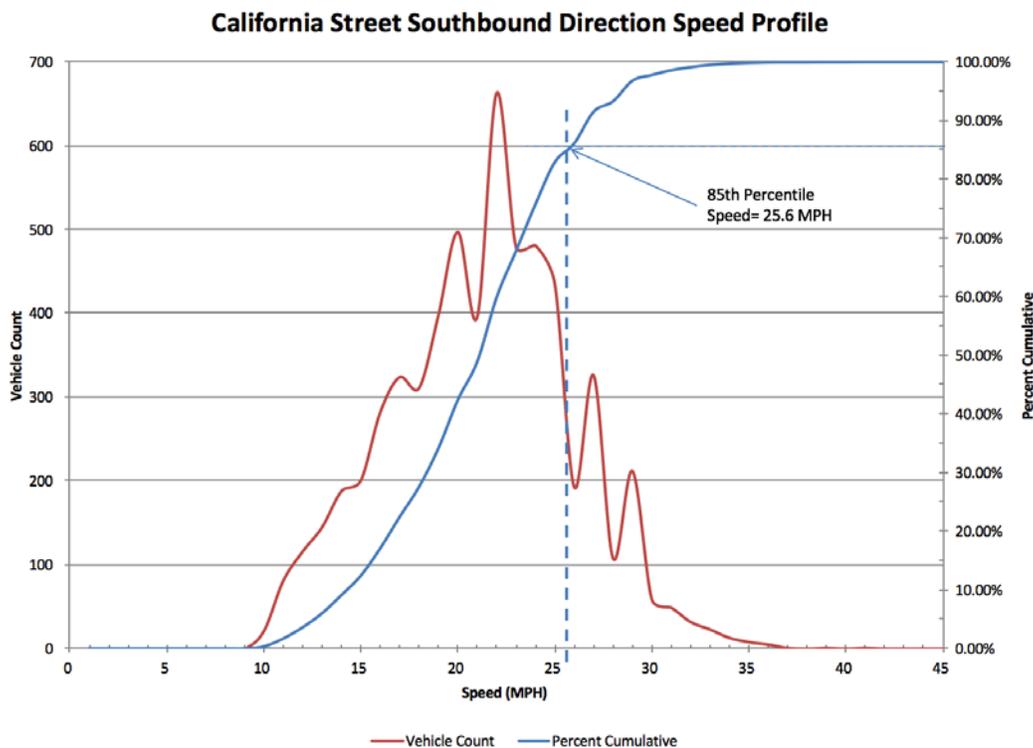
Vehicle Speeds

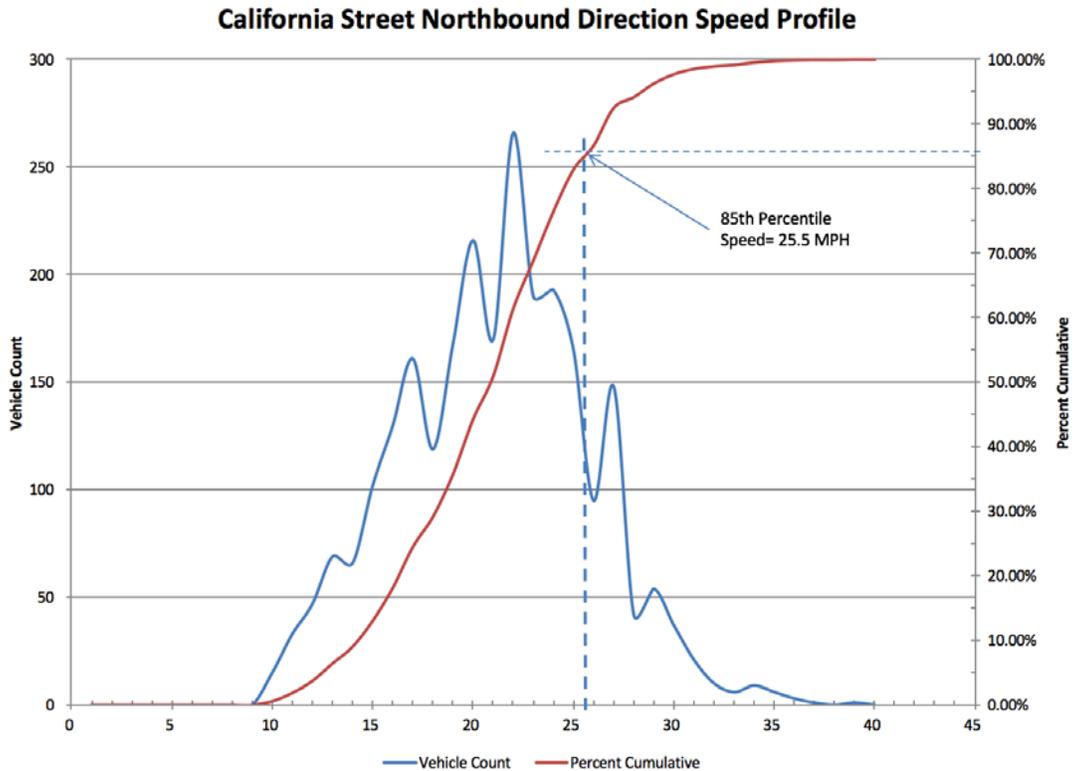
Roadway Speed Limits are set using the 85th percentile speed of traffic meaning that 85 percent of the traffic using a roadway section travels at or less than 85th percentile speed. The 85th percentile speed of California Street is roughly 25.5 MPH.

While the 85th percentile speeds are acceptable for a local roadway, the vehicle counts did record several vehicles traveling in excess of 30 MPH which is considered unacceptable for this type of roadway.

SB: Speeds and Percentage of Vehicles		
Speed	Vehicle Count	Percentage
>0 MPH	6049	100.0%
>20 MPH	3652	60.4%
>25 MPH	1220	20.2%
>30 MPH	192	3.2%
>35 MPH	8	0.1%
>40 MPH	1	0.0%
>45 MPH	0	0.0%

NB: Speeds and Percentage of Vehicles		
Speed	Vehicle Count	Percentage
>0 MPH	2543	100.0%
>20 MPH	1499	58.9%
>25 MPH	514	20.2%
>30 MPH	94	3.7%
>35 MPH	5	0.2%
>40 MPH	0	0.0%





Sense of speed is an individual determination based on willingness to accept risk. People in vehicles are assuming less risk when traveling in a vehicle compared to pedestrians and bicyclists. Pedestrians and bicyclists have more risk due to the traveling vehicle without the ability to manage this risk. Sense of speed can be further increased when pedestrians and bicycles are closer in proximally to passing vehicles.

Sidewalk

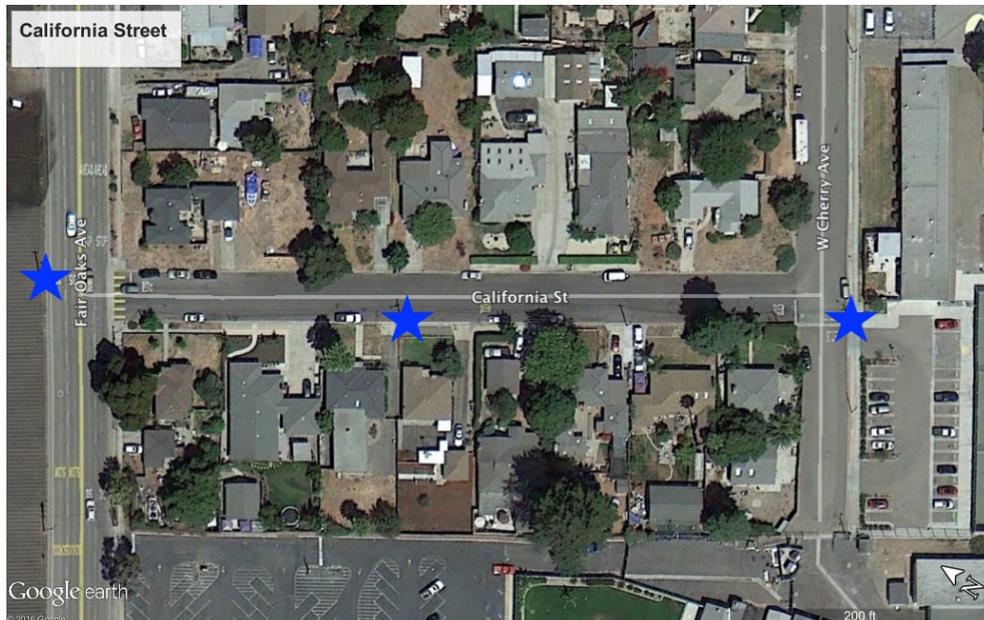
The sidewalk network on California Street is incomplete. Pedestrians on California Street are therefore required to walk in the roadway in some locations. If a vehicle is parked next to an area of roadway where sidewalk is not present that may require a pedestrians may be required to walk closer to a vehicle travel lane than is typically desirable. If pedestrians are walking in the roadway adjacent to a travel lane as a vehicle passes by this sense of speed and risk is increased for the pedestrian. Below is a schematic which shows the locations of California Street without sidewalk.

**CONSIDERATION OF TRAFFIC CALMING WORK ON CALIFORNIA STREET
MARCH 28, 2016
PAGE 6**



Roadway Lighting

While the City does not have adopted street lighting standards for lighting amounts or light spacing, with new developments and installations the spacing intervals are typical set at 250 feet. With the recent LED street light replacement work that was completed, neighborhood lighting luminaries were set at 29 watts. Below is a schematic which shows the locations of existing roadway lights on California Street. The existing lights locations are spaced at approximately 335 feet and 250 feet.



**CONSIDERATION OF TRAFFIC CALMING WORK ON CALIFORNIA STREET
MARCH 28, 2016
PAGE 7**

Recommendations

Based on the speed data obtained, the 85th percentile speed of 25.5 MPH is typical for a residential area. The speed data did record higher speeds on the upper end of the scale that is recommended for correction. It is recommended that continued work should be completed with education. Staff is recommended posting the speed limit on California Street as well as meeting with Lucia Mar Unified School District to outreach of users of the roadway the need for Speed Limit compliance. Once complete, staff recommends increase enforcement to increase compliance. After this work is complete, the final phase is recommended to collect additional speed data and return with the results to the Traffic Commission for further evaluation and correction if needed.

ALTERNATIVES:

The following alternatives are provided for the Commission's consideration:

- Approve staff's recommendation;
- Do not approve staff's recommendation;
- Provide alternate direction

PUBLIC NOTICE AND COMMENT:

The Agenda and this staff report were posted on the City's website on Thursday March 24, 2016. The staff report and a letter requesting participation in this meeting was mailed to the following addresses:

- | | |
|-------------------------|-------------------------|
| • 400 California Street | • 425 California Street |
| • 408 California Street | • 426 California Street |
| • 413 California Street | • 429 California Street |
| • 414 California Street | • 432 California Street |
| • 418 California Street | • 436 California Street |
| • 419 California Street | • 437 California Street |
| • 422 California Street | |

Attachments:

1. January 21, 2016, Traffic Commission Report

MEMORANDUM

TO: TRAFFIC COMMISSION

FROM: TERESA MCCLISH, COMMUNITY DEVELOPMENT DIRECTOR

BY: MATT HORN, CITY ENGINEER

SUBJECT: CONSIDERATION OF TRAFFIC CALMING WORK ON CALIFORNIA STREET

DATE: JANUARY 25, 2016

RECOMMENDATION:

It is recommended that the Traffic Commission:

1. Receive public input regarding vehicular traffic on California Street;
2. Direct staff to obtain vehicle speed information;
3. Direct staff to increase enforcement if warranted; and
4. Direct staff to return to the Traffic Commission with the results of this work effort.

IMPACT ON FINANCIAL AND PERSONNEL RESOURCES:

No expenditure of funds is required for this work effort. Staff time will be required to obtain vehicle speed information, complete analysis of the speed data, increase enforcement efforts, and prepare future staff reports. This work effort is estimated at 20 staff hours.

BACKGROUND:

On September 10, 2015 the City received a letter regarding unusual vehicle activities and travel speeds in excess of reasonable limits on California Street (see Attachment 1). This letter has requested a series of speed bumps be installed on California Street to reduce or eliminate the likelihood of these activities in the future. Speed bumps are one tool used to reduce vehicular speeds or calm traffic.

California Street is a local roadway connecting Fair Oaks Avenue to West Cherry Avenue adjacent to Arroyo Grande High School. California Street provides two-way traffic with one travel lane in each direction as well as parking on both sides of the roadway. The curb-to-curb width of California Street is slightly less than 40 feet. The Speed Limit on California Street is not posted, therefore the default or prima facie Speed Limit is 25 MPH.



Location of Traffic Calming Work

ANALYSIS OF ISSUES:

Neighborhood traffic calming is a term used to describe a process of Education, Enforcement, and finally Engineering.

Education

The education component typically is completed using a neighborhood meeting in which residents can share concerns and help identify the problem. Additionally, education can also include physical improvements such as speed limit signs, revised roadway striping, and speed feedback indicators such as permanently mounted signs or temporarily placed trailers to better identify what drivers should be doing.

Enforcement

After the education phase is complete, enforcement activities are typically implemented. In this phase, the drivers should now be well informed and compliance is now achieved through monetary penalties in the form of traffic tickets. Enforcement work is highly effective to calm traffic speeds when officers are present to enforce. Since it is not feasible to devote officers to one area for a prolonged duration, lasting results will vary.

Engineering

The last course of action is Engineering. This phase would incorporate physical changes to roadway geometry which might include speed humps, speed tables, chokers, and medians.

Staff recommends receiving public input and based on need as well as public input begin speed data collection and increased enforcement if warranted.

ALTERNATIVES:

The following alternatives are provided for the Commission's consideration:

- Approve staff's recommendation;
- Do not approve staff's recommendation;
- Provide alternate direction

PUBLIC NOTICE AND COMMENT:

The Agenda and this staff report were posted on the City's website on Thursday January 21, 2016. The staff report and a letter requesting participation in this meeting was mailed to the following addresses:

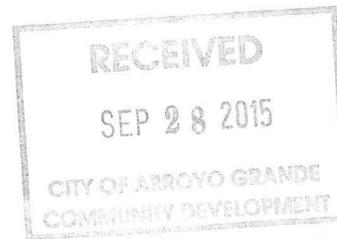
- 400 California Street
- 408 California Street
- 413 California Street
- 414 California Street
- 418 California Street
- 419 California Street
- 422 California Street
- 425 California Street
- 426 California Street
- 429 California Street
- 432 California Street
- 436 California Street
- 437 California Street

Attachments:

1. Letter from Residents of California Street

Sept. 10, 2015

City of Arroyo Grande
300 E Branch Street
Arroyo Grande, CA 93420



To the City of Arroyo Grande,

We the residents of California Street in the city of Arroyo Grande requesting that action be taken. The 20 mph traffic law within the school zone is not being followed during school hours. Furthermore, the residential speed limit is constantly being violated as well on the streets surrounding the high school.

We understand there is continual traffic due to our proximity to the school, however the high speeds at which drivers are traveling is very dangerous in a school zone that is mixed with a high volume of foot and bike traffic.

Over the years we have made countless calls to the Arroyo Grande police department. They are exceptionally good about responding. Unfortunately, their response time is usually not effective in catching the high speed drivers. We are thankful for our law enforcement officers, however this is a constant problem. We understand they can not be present at all hours of the day.

In order to correct this problem we are asking that a series of speed bumps be installed to slow traffic down near the school, specifically on California Street. The number of high school students that speed is an extremely high percentage. It is only a matter of time before a neighborhood child or a high school pedestrian is hit and injured.

Below are some of the incidents that occur on our street:

Racing down the street between the parking lot near the tennis courts and Fair Oaks intersection, using the opposing lane to go same direction for a race.

Racing down the street both vehicles in reverse using both lanes.

Vehicle with old couch being pulled behind it with a rope.

Vehicles racing multiple laps using a 2 block radius.

Thank you for your attention to this matter. We hope that you will consider a series of speed bumps on our street for the safety of everyone.

The residents of California Street.

Name

Address

Phone No.

Joist Dubberm 425 Calif St 363-3408

Annie & Chris Chabot 418 California St. 245-8929

Erin Bishop 400 California St 805-503-9031

JEANNE PETERSON 419 CALIFORNIA ST (805) 712-3235

ZACHAR MALKO DEDER 413 CALIFORNIA ST (352) 613 3412

Margaret Rodriguez 408 California St (408) 441-9177

Al Rodriguez 408 California St (408) 458-9048

ROBERT MACLEAN 422 CALIFORNIA ST (805) 459-1043

April MacLean 422 California St ⁸⁰⁵ 459-7347

Kattina Zamora 426 California St. (805) 489-6271

Mike Thomas 432 CALIFORNIA ST. (805) 431-3840

Dave Fabe 414 California St. 805 709-1633



MEMORANDUM

TO: TRAFFIC COMMISSION

**FROM: TERESA MCCLISH, COMMUNITY DEVELOPMENT DIRECTOR
GEOFF ENGLISH, PUBLIC WORKS DIRECTOR**

BY: MATT HORN, CITY ENGINEER

**SUBJECT: CONSIDERATION OF REMOVAL OF A MARKED PEDESTRIAN
CROSSWALK ON VALLEY ROAD AT TIGER TAIL DRIVE**

DATE: MARCH 28, 2016

RECOMMENDATION:

It is recommended that the Commission advise the City Council to remove the marked crosswalk on Valley Road at Tiger Tail Drive.

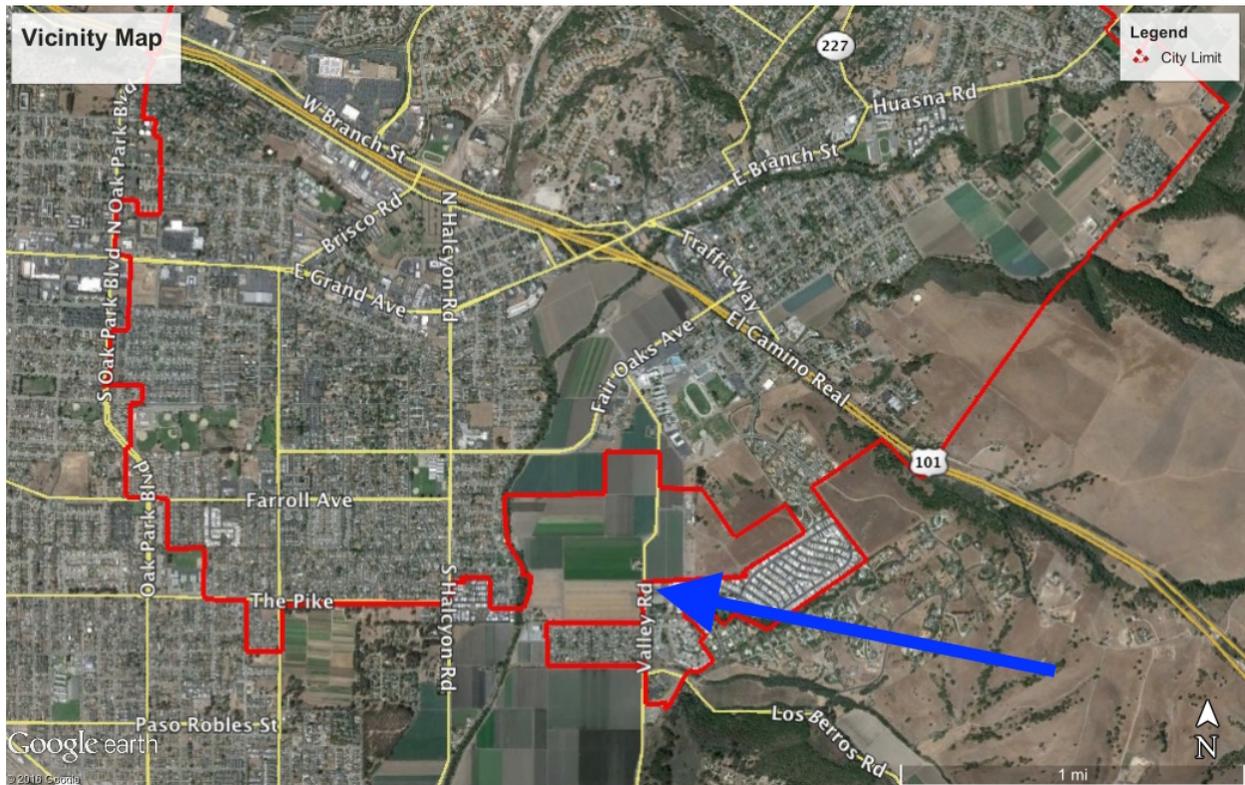
IMPACT ON FINANCIAL AND PERSONNEL RESOURCES:

Removal of the marked crosswalk is estimated to cost \$500. If the marked crosswalk is removed and reinstalled in a different location, those costs are estimated at \$2,500. An Engineering and Traffic Survey is estimated to require 10 hours of staff time.

BACKGROUND:

The City of Arroyo Grande is currently in the design process for a Capital Improvement Plan (CIP) Project to replace or install several curb ramps. These new curb ramps are designed to comply with Caltrans Standards as well as American with Disabilities Act Standards for curb ramps. The curb ramp installations will continue the City's implementation of increasing pedestrian accessibility. One location of work is Valley Road at Tiger Tail Drive.

**CONSIDERATION OF MARKED PEDESTRIAN CROSSWALK ON VALLEY ROAD AT
TIGER TAIL DRIVE
MARCH 28, 2016
PAGE 2**

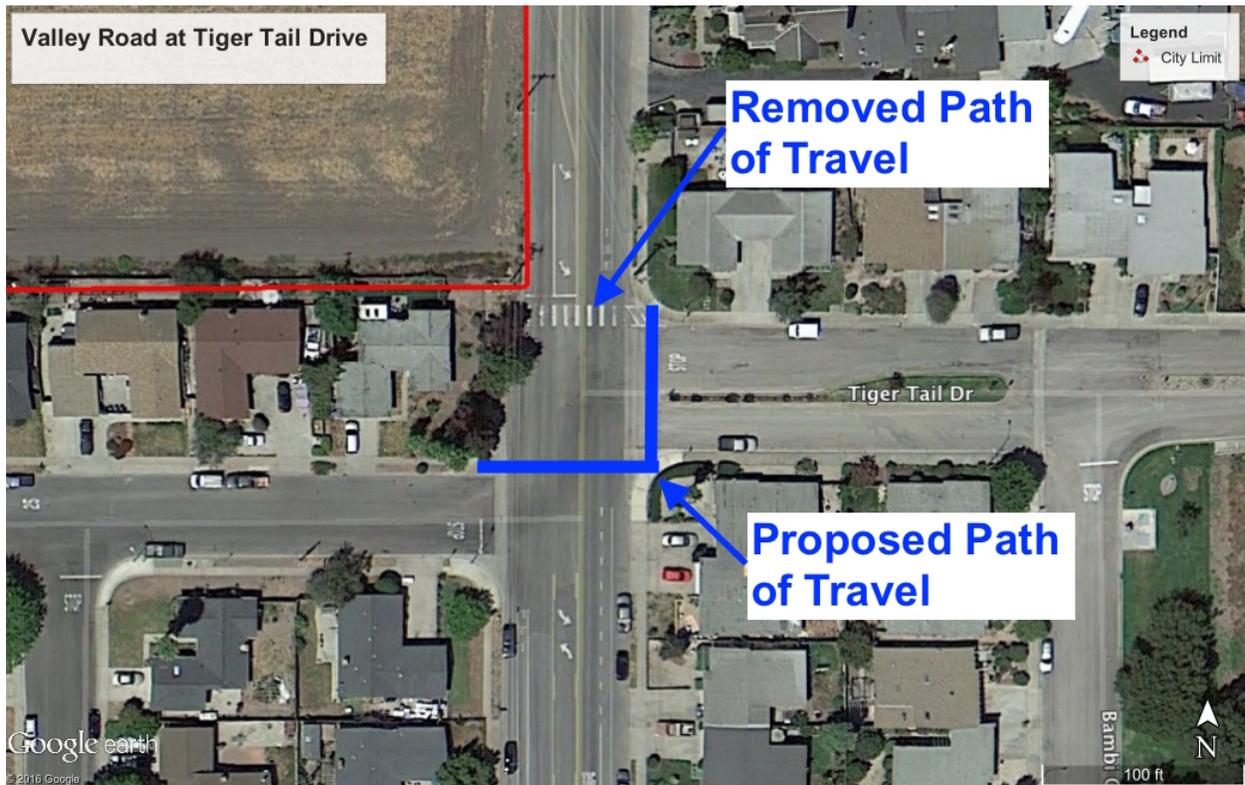


Location Map

Valley Road is an arterial roadway connecting US 1 to Fair Oaks Avenue and Arroyo Grande High School. Valley Road provides two-way traffic with one travel lane and bicycle lane in each direction as well as parking on both sides of the roadway. Valley Road also includes a two-way left hand turn lane. The curb-to-curb width of Valley Road is slightly less than 63 feet. The Posted Speed Limit on Valley Road is 40 MPH. North of Tiger Tail Drive, Valley Road includes sidewalk only on the easterly side of the roadway. The easterly sidewalk terminates just north of Sunrise Terrace before entering into the agricultural area. The Average Daily Traffic (ADT) on Valley Road is currently estimated at 5,400. The anticipated General Plan Build-out ADT is estimated at 7,700.

The location of the marked crosswalk on Valley Road at Tiger Tail Drive is not easily retrofitted to meet current accessibility guidelines. Relocating the path of travel from the north side of Tiger Tail Drive to the south side of Tiger Tail Drive makes the installation of an accessible path of travel easier to achieve at the same time as creating a more standard crossing location.

**CONSIDERATION OF MARKED PEDESTRIAN CROSSWALK ON VALLEY ROAD AT
TIGER TAIL DRIVE
MARCH 28, 2016
PAGE 3**



Detailed Location Map Showing Proposed Path of Travel Revisions

Pedestrian Crossings

Crosswalks, either marked or unmarked, exist at all intersections of streets unless specifically prohibited. Marking of crosswalks at uncontrolled intersections, should only be completed after an engineering study is performed and has determined if marked crosswalks are appropriate. The engineering study should evaluate the following:

1. Pedestrian Demand;
2. Collision History;
3. Traffic Volumes;
4. Site Geometry;
5. Sight Distance; and
6. Visibility Conditions at Night.

New crosswalk markings, modification of existing crosswalk markings, and removal of crosswalk markings may only be installed following approval by the Chief of Police in compliance the City of Arroyo Grande's Municipal Code. If it is determined that marked crosswalks are appropriate, marked crosswalk installations should include proper signage and conform to current accessibility guidelines.

Both the State and Federal government provide guidelines that should be used when determining the marking of crosswalks. Those guidelines for uncontrolled intersections

**CONSIDERATION OF MARKED PEDESTRIAN CROSSWALK ON VALLEY ROAD AT
TIGER TAIL DRIVE
MARCH 28, 2016
PAGE 4**

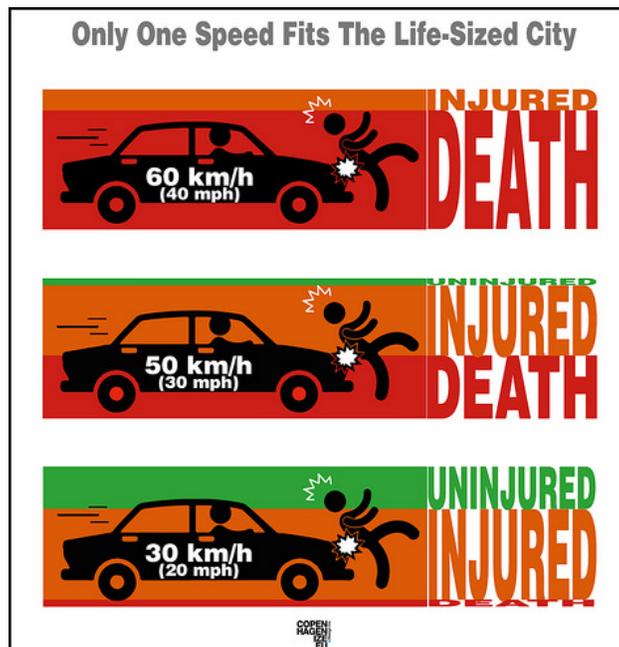
are the Manual on Uniform Traffic Control Devices and Federal Highway Administration Criteria.

When a marked crosswalk is removed, the California Vehicle Code, Section 21950.5, requires a public hearing 30 days prior to the removal of a crosswalk. A Notice of Proposed Removal is required to be posted at the crosswalk site ten days prior to the scheduled hearing. This Traffic Commission Meeting is the scheduled public hearing.

ANALYSIS OF ISSUES:

Pedestrian Risk

Pedestrians tend to prefer the implementation of marked crosswalks. Marking of crosswalks tend to reaffirm the pedestrian's right to cross a road in a given location. Current practice is to selectively mark crosswalks at uncontrolled intersections since it may provide an increased sense of safety for the pedestrian while not actually providing increased safety. When speeds are low and roads are narrow the risk is less than higher speed wider roads. The graphic below shows the risk of injury versus death for a pedestrian versus vehicle accident at different speeds. The risks are lower at 20 MPH than they are at 40 MPH.



Manual on Uniform Traffic Control Devices

The Manual on Uniform Traffic Control Devices (MUTCD) includes guidance for the installation of marked crosswalks at intersections, mid-block locations as well as school zones. Guidance provided for this installation from the MUTCD Section 3B.18 states:

**CONSIDERATION OF MARKED PEDESTRIAN CROSSWALK ON VALLEY ROAD AT
TIGER TAIL DRIVE
MARCH 28, 2016
PAGE 5**

In general, crosswalks should not be marked at intersections unless they are intended to channelize pedestrians.

MUTCD Section 7C.02 states:

Crosswalk lines should not be used indiscriminately. An engineering study considering the factors described in Section 3B.18 should be performed before a marked crosswalk is installed at a location away from a traffic control signal or an approach controlled by a STOP or YIELD sign.

Federal Highway Administration Criteria

The Federal Highway Administration (FHWA) produced a simple chart to determine if marked crosswalks at uncontrolled intersection increase safety based on monitored installations. Including Valley Road's Two-Way Left Hand Turn Lane, Valley Road is a three lane roadway with a Speed Limit of 40 MPH. The chart below shows a P for this type of installation. The letter P indicates that a possible increase in pedestrian crashes risk may occur if crosswalks are added without other pedestrian facility enhancements. These locations should be closely monitored and enhanced with other pedestrian crossing improvements, if necessary, before adding a marked crosswalk.

Roadway Type (Number of Travel Lanes and Median Type)	Vehicle ADT ≤ 9,000		
	≤ 48.3 km/h (30 mi/h)	56.4 km/h (35 mi/h)	64.4 km/h (40 mi/h)
	Two lanes	C	C
Three lanes	C	C	P
Multilane (four or more lanes) with raised median***	C	C	P
Multilane (four or more lanes) without raised median	C	P	N

Adherence to recognized design standards may serve as evidence that the design is reasonable and may reduce the City's potential liability.

Collisions

Upon review of the last five years of traffic accident data within the area, 3 collisions have occurred with none of which were vehicle verses pedestrians. This may indicate the current location is highly visible and vehicles yield to pedestrian crossing readily. It may also indicate a low volume of pedestrians actually using this facility.

**CONSIDERATION OF MARKED PEDESTRIAN CROSSWALK ON VALLEY ROAD AT
TIGER TAIL DRIVE
MARCH 28, 2016
PAGE 6**

Recommendations

Based on MUTCD and FHWA guidance staff recommends the marking of a crosswalk on Valley Road adjacent to Tiger Tail Drive be removed and not reinstalled.

ALTERNATIVES:

The following alternatives are provided for the Commission's consideration:

- Approve staff's recommendation;
- Based on strong community need, the Traffic Commission could direct staff to complete an Engineering and Traffic Survey for this pedestrian crossing and recommend to the City Council to remove the marked crosswalk in the existing location and reinstall a marked crosswalk once the curb ramp replacement work is complete.
- Do not approve staff's recommendation;
- Provide alternate direction

PUBLIC NOTICE AND COMMENT:

The Agenda for this meeting was posted in front of City Hall and on the City's website on Thursday, March 24, 2016. The existing marked crosswalk location was posted in compliance with the California Vehicle Code, Section 21950.5.



MEMORANDUM

TO: TRAFFIC COMMISSION

FROM: TERESA MCCLISH, COMMUNITY DEVELOPMENT DIRECTOR

BY: MATT HORN, CITY ENGINEER

SUBJECT: CONSIDERATION OF LOADING AND UNLOADING ZONE ON VALLEY ROAD ADJACENT TO ARROYO GRANDE HIGH SCHOOL

DATE: MARCH 28, 2016

RECOMMENDATION:

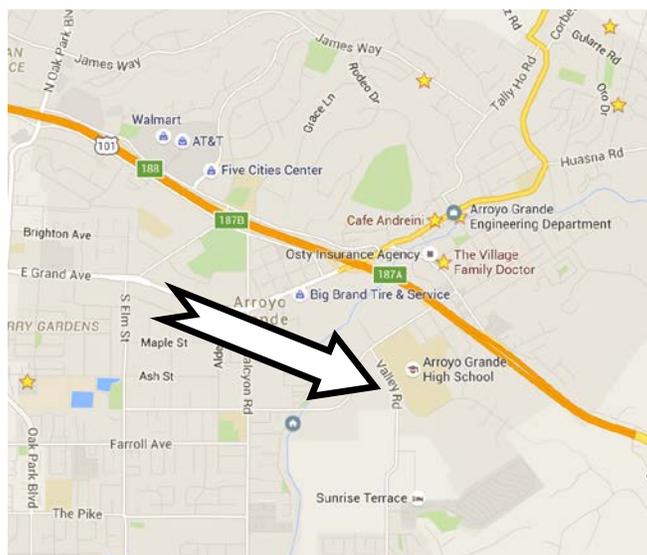
It is recommended that the Traffic Commission advise the City Council to allow portions of Valley Road to be used for loading and unloading.

IMPACT ON FINANCIAL AND PERSONNEL RESOURCES:

The total cost is estimated to be less than \$1,000 in materials and require less than 8 hour of staff time to complete.

BACKGROUND:

The City Council and Arroyo Grande Police Department have received several requests to review and change parking restrictions adjacent to Arroyo Grande High School on Valley Road. Both sides of Valley Road are currently restricted from parking. Buses may use the easterly side of Valley Road for loading and unloading.



Location Map

**CONSIDERATION OF LOADING AND UNLOADING ZONE ON VALLEY ROAD
ADJACENT TO ARROYO GRANDE HIGH SCHOOL
MARCH 28, 2016
PAGE 2**

Valley Road is an arterial roadway connecting US 1 to Fair Oaks Avenue and Arroyo Grande High School. Valley Road provides two-way traffic with one travel lane in each direction, bike lanes and bus parking. The paved width of Valley Road varies from 45 feet to 65 feet. The Speed Limit of Valley Road is 25 MPH when children are present at Arroyo Grande High School, otherwise the Speed Limit is 40 MPH.

ANALYSIS OF ISSUES:

Valley Road currently has parking restrictions on both the east and west side of the roadway. This restriction is intended to:

1. limit student parking on the roadway and encourage the use of Arroyo Grande High School parking lots;
2. reduce the likelihood of student pedestrian traffic walking across Valley Road at a non-signalized location, and;
3. limit and control access to Arroyo Grande High School from non-student visitors.

Staff has spoken with representatives of Lucia Mar Unified School District to determine if a limited loading and unloading zone would be detrimental to school operation. Based on feedback received, limited loading and unloading zones with restricted availability may be implemented. Recommended timeframes of availability should be limited to the start and end of the school day.



**CONSIDERATION OF LOADING AND UNLOADING ZONE ON VALLEY ROAD
ADJACENT TO ARROYO GRANDE HIGH SCHOOL
MARCH 28, 2016
PAGE 3**

Proposed Loading and Unloading Availability		
Day of the Week	Morning Availability	Afternoon Availability
Monday	9:00 AM to 10:00 AM	2:30 PM to 3:30 PM
Tuesday	7:00 AM to 8:00 AM	2:30 PM to 3:30 PM
Wednesday	7:00 AM to 8:00 AM	2:30 PM to 3:30 PM
Thursday	7:00 AM to 8:00 AM	2:30 PM to 3:30 PM
Friday	7:00 AM to 8:00 AM	2:30 PM to 3:30 PM
Saturday	None	None
Sunday	None	None

ALTERNATIVES:

The following alternatives are provided for the Commission's consideration:

- Approve staff's recommendation;
- Do not approve staff's recommendation;
- Provide alternate direction

PUBLIC NOTICE AND COMMENT:

The Agenda for this meeting was posted in front of City Hall and on the City website on Thursday, March 24, 2016.

Attachment:

1. Letter of concurrence from Lucia Mar Unified School District



Engage.Challenge.Inspire

BUSINESS SERVICES DEPARTMENT
Andy Stenson
Assistant Superintendent, Business Services

602 Orchard Street, Arroyo Grande, CA 93420
Ph 805.474.3000 x1070
Fax 805.473.1593

March 10, 2016

Matt Horn
City Engineer
City of Arroyo Grande
300 East Branch Street
Arroyo Grande, CA 93420

Mr. Horn,

Thank you for your support and interest in creating a dedicated drop-off/pick-up zone along Valley Road to serve parents and students at Arroyo Grande High School. After meeting with you, our Transportation Director, our School Resource Officer, and Principal Bowers, we concur with the plan that you stated in your map.

By creating this zone, we believe we can achieve a greater level of safety for our students. In its current state, the police department has a hard time enforcing safe drop and pick up along this corridor. The plan you have outlined, combined with increased signage and curb painting, will provide a dedicated and clearly visible zone, and will also enable the police department to enforce proper driver behavior.

Thank you again for your dedication to student safety.

Sincerely,

A handwritten signature in blue ink, appearing to read "A. Stenson", is written over a light blue horizontal line.

Andy Stenson
Assistant Superintendent, Business Services

AS



MEMORANDUM

TO: TRAFFIC COMMISSION

FROM: TERESA MCCLISH, COMMUNITY DEVELOPMENT DIRECTOR

BY: MATT HORN, CITY ENGINEER

SUBJECT: CONSIDERATION OF DRAFT NEIGHBORHOOD TRAFFIC CALMING GUIDELINES

DATE: MARCH 28, 2016

RECOMMENDATION:

It is recommended that the Traffic Commission:

1. Review and direct staff to implement any required changes to the Draft Neighborhood Traffic Calming Guidelines; and
2. Recommend that City Council adopt Neighborhood Traffic Calming Guidelines.

IMPACT ON FINANCIAL AND PERSONNEL RESOURCES:

No direct costs are incurred by the preparation and adoption of Neighborhood Traffic Calming Guidelines. Staff time will be incurred to generate reports and presentations until adopted. Some future cost might be incurred if City Council chooses to fund future Neighborhood Traffic Calming Projects.

BACKGROUND:

On October 12, 2014, and January 26, 2015 the Traffic Commission reviewed Neighborhood Traffic concerns in the Le Point Street at McKinley Street area. After review, the Traffic Commission directed staff to prepare Neighborhood Traffic Calming Guidelines.

On April 28, 2015, the City Council reviewed the Neighborhood Traffic concerns in the Le Point Street at McKinley Street area and concurred with the Traffic Commission's advisement.

On January 25, 2016 the Traffic Commission reviewed these Draft Neighborhood Traffic Calming Guidelines and provided direction on necessary revisions to the document.

ANALYSIS OF ISSUES:

Changes to the document have been incorporated into the Draft Neighborhood Traffic Calming Guidelines. A working copy of this document is included as an attachment for the Traffic Commission review and direction.

**CONSIDERATION OF DRAFT NEIGHBORHOOD TRAFFIC CALMING GUIDELINES
MARCH 28, 2016
PAGE 2**

ALTERNATIVES:

The following alternatives are provided for the Commission's consideration:

- Approve staff's recommendation;
- Do not approve staff's recommendation;
- Receive and file the Draft Neighborhood Traffic Calming Guidelines and recommend the City Council adopt the document;
- Provide alternate direction

PUBLIC NOTICE AND COMMENT:

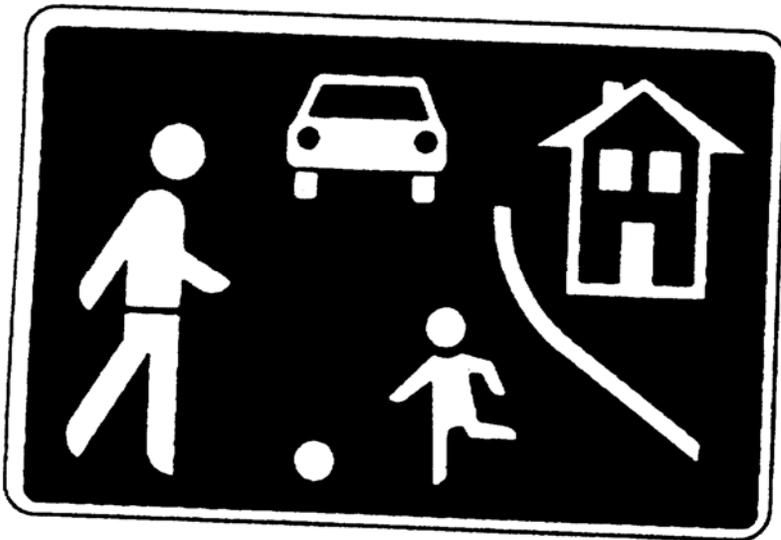
The Agenda and this staff report were posted on the City's website on Thursday March 24, 2016.

Attachments:

1. Draft – Neighborhood Traffic Calming Guidelines

Neighborhood Traffic Calming Guidelines

ADOPTED BY THE CITY COUNCIL OF ARROYO GRANDE
BY RESOLUTION NO. XXX
XXX XX, 2016



COMMUNITY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION

300 East Branch Street
Arroyo Grande, CA 93420
(805) 473-5420

Table of Contents

Introduction..... 3

 Stop Sign Installation..... 4

 Speed Limits 5

 Traffic Calming Measures..... 5

 Passive Traffic Calming Measures 6

 Active Traffic Calming Measures 6

 Volume Reduction Measures 6

 Impacts of Traffic Calming Measures 7

Passive Traffic Calming Measures 7

 Police Enforcement 7

 High-Visibility Crosswalks..... 8

 Radar Trailer, Speed Feedback Trailer 9

 Speed Feedback Signs 9

 Pavement Striping 10

 Signed Turn Restrictions 10

 Truck Restrictions..... 11

Active Traffic Calming Measures..... 12

 Speed Humps 12

 Speed Tables or Raised Crosswalk..... 13

 Raised Intersection..... 14

 Speed Cushion..... 15

 Mid-Block Chokers 16

 Medians..... 17

 Bulbouts 18

 Chicanes 19

Volume Reduction Measures 20

 Diverters..... 20

 Partial Closure..... 21

 Full Street Closure..... 22

Guidelines for Installation or Warrants 23

 Passive Traffic Calming Measures 23

 Active Traffic Calming Measures 23

 Volume Reduction Measures 24

Approval and Implementation Process..... 24

Neighborhood Traffic Calming Guidelines

Introduction

“Traffic calming” measures are a means to respond to unacceptable motoring behavior. The Institute of Traffic Engineers (ITE) define traffic calming as:

“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 guiding principals of the “Traffic Calming Measures” include:

- The design and installation of “Traffic Calming Measures” should use sound traffic engineering principles.
- The development and selection of “Traffic Calming Measures” should encourage and facilitate public involvement.
- Installation of traffic calming measures should minimize diverted traffic to other local or residential collector streets.
- Emergency vehicle access, including safety and response times must be considered.
- Traffic calming devices must be designed to minimize adverse impacts to maintenance activities.
- Only State/Federal approved regulatory and/or warning signs may be installed.
- Bicycle and pedestrian travel should be enhanced through traffic calming and congestion relief.

Traffic calming measures are not solutions for all:

- Speeding;
- Cut-through;
- Congestion; or
- Traffic safety concerns.

Each neighborhood will have its own unique set of problems that will require an evaluation to identify appropriate traffic calming options. Residential streets are planned and designed to provide access to and from our residential neighborhoods. These facilities are neither designed nor intended for the use of non-local traffic. However, when congested conditions occur on collector and arterial roadways, these local streets will often provide an attractive alternative route.

It is the intent of this program to identify traffic calming measures, which can alter travel behavior to the betterment of the neighborhoods being affected. The intent here is to improve safety, encourage bicycle and pedestrian travel, and to positively affect a resident's quality of life. The objectives of the local residential streets program are:

- Reduce vehicular speed where appropriate
- Reduce cut-through traffic
- Improve safety for bicycle and pedestrian travel
- Enhance the neighborhood environment

Residential areas adjacent to school zones traffic patterns, volumes and needs are different than other typical residential areas. These residential areas should meet the same basic criteria for implementation, including evaluation of the potential negative impacts that can result. School zone traffic tends to be extremely peaked, occurring at the time when children are arriving or departing school. While the condition requiring attention is short term in nature, the impacts of the traffic calming device extend throughout the day, and continue during school holidays and vacation. Traffic calming devices must take these issues into consideration and consider the following additional objectives:

- Improve the safety environment for children coming to and from school
- Increase awareness of motorist to school sites
- Improve safety for bicycle and pedestrian travel

This document outlines some basic traffic calming measures as well as the process for implementation. It is important to note that after the community agrees upon what is the appropriate solution, those costs to implement the traffic calming work may be borne by the City, the Neighborhood, or some combination of the two. This determination will be made by City Council upon plan approval.

Stop Sign Installation

Stop signs are valuable and effective control devices when used at the right place and under the right conditions. The intent of stop signs is to help drivers and pedestrians at an intersection decide who has the right-of-way.

Federal and State guidelines are required to be met prior to an installation of a Stop Sign. These guidelines take into consideration, among other things, the probability of vehicles arriving at an intersection at the same time, the length of time traffic must wait to enter, traffic delays, and the availability of safe crossing opportunities. This analysis is called a warrant analysis.

An unwarranted Stop Sign installation reduces speed in the vicinity of the Stop Sign, but drivers may accelerate to a speed faster than they drove before the Stop Sign was installed to make up for time lost.



Stop signs are not effective for speed control. Drivers tend to ignore unwarranted Stop Signs that, in their view, are unnecessary. If drivers are required to stop for Stop Signs and rarely see any traffic on the opposing streets, drivers become impatient and tend to disregard Stop Signs that have no obvious need.

Traffic generally finds the path of least resistance. If there are alternative routes to get from Point A to Point B and if these alternate routes have fewer traffic controls, drivers will take them. This may increase traffic volume on local streets.

Unwarranted Stop Signs increase vehicle fuel consumption. The Stop Sign requires additional stop/start maneuvers increasing wear and tear on vehicles.

Noise pollution increases due to stops and acceleration due to engine noise and brakes.

Speed Limits

The "Basic Speed Law" means that you may never drive faster than is safe for current conditions. Other than local residential roadways where the speed limit is 25 MPH, maximum Speed Limits are posted with Speed Limit signs. Posted Speed Limits are determined by measuring the speed of vehicles that use the roadway based on ideal driving conditions.

These Speed Limits are set near the 85th percentile speed of vehicles driving on the roadway. That means that 85 percent of vehicles driving on the roadway drive at or below this speed and 15 percent drive above this speed limit. As with most laws, speed limits depend on the voluntary compliance of the majority of motorists. Speed limits cannot be set arbitrarily low, as this would create violators of the majority of drivers and would not command the respect or compliance of drivers. Speed Limits that are not set at the 85th percentile speed are typically not enforceable and the court system will not enforce the ticket.



Formatted: Font: (Default) Arial, Italic

Formatted: Superscript

Traffic Calming Measures

The tools available for use in resolving neighborhood traffic problems are many and diverse in both their cost and effectiveness. This program has identified levels of traffic calming measures:

- Passive Traffic Calming Measures
- Active Traffic Calming Measures
- Volume Reduction Measures

Traffic calming measures may include devices that do not directly affect driver behavior and are not self-enforcing. These measures are generally included within the Passive Traffic Calming

Measures. If Passive Traffic Calming Measures do not provide desired results, more restrictive measures may be warranted. More restrictive traffic calming measures, those found in the Active Measures and Volume Reduction categories, mandate driver behavior change and may be effective where Passive Traffic Control Measures have failed.

While this document identifies many Traffic Calming Measures, there are other traffic calming measures that are not included~~are identified in this document, not all are~~. This is not intended to restrict the use of other Traffic Calming Measures. Traffic Calming is an ever evolving area. Site specific analysis should be completed at the time of Traffic Calming implementation based on the best available current practices and design guidance.

Passive Traffic Calming Measures

Passive Traffic Calming Measures are intended to regulate, warn, guide, inform, and educate pedestrians, bicyclists and motorists. They include standard striping and signing measures, minor roadway design measures to improve visibility and safety, and enforcement by police. Passive Traffic Calming Measures are used primarily in those areas where traffic impacts have been found and traffic control and/or education has been determined to be appropriate. Some common Passive Traffic Calming Measures include:

- Education
- Police Enforcement
- High-Visibility Crosswalks
- Permanent Speed Feedback Signs
- Permanent Striping
- Signed Turn Restrictions
- Truck Restrictions

Active Traffic Calming Measures

Active Traffic Calming Measures are traffic control devices and roadway design features primarily designed to slow traffic. They are employed when the use of Passive Traffic Calming Measures cannot, or has not, effectively addressed speeding issues. Active Traffic Calming Measures may be used in conjunction with Passive Measures. Active Measures may have a limited effect on traffic volume as well. Some common Active Measures include:

- Speed Humps
- Speed Tables
- Raised Crosswalks
- Raised Intersections
- Speed Cushions
- Mid-Block Chokers
- Medians
- Bulbouts
- Chicanes

Volume Reduction Measures

Volume Reduction Measures are traffic control devices and roadway design features primarily designed to discourage residential street cut-through traffic. Volume reduction devices may be used by themselves or in conjunction with Passive and Active Measures. Some common Volume Reduction Measures include:

- Diverters
- Partial Closure
- Full Street Closure

Impacts of Traffic Calming Measures

Prior to installing traffic calming measures, it is important to carefully consider potential impacts. While many of the measures offer positive results, there are potential problems, which may be more significant than the original concern. This section attempts to describe some of the possible impacts of the use of speed reduction or volume reduction traffic calming tools.

- Effect on Emergency Vehicle Response Times: Speed, and to a lesser extent, volume traffic calming measures have potential for negatively impacting emergency vehicle response because they physically affect speed and maneuvering. Many Active Measures may increase emergency response time. These concerns should be considered for each location where Active Measures and Volume Reduction Measures are recommended.
- Traffic Diversion: Another concern is the potential for traffic calming techniques to move, rather than solve, a problem. Proposed Volume Reduction Measures should include an adequate study to evaluate traffic diversion impacts.
- Impacts on Transit and Utility Vehicles: Some Active Measures and Volume Reduction Measures could potentially impact bus routes. South County Transit and Lucia Mar Unified School District should be consulted whenever Active Measures and Volume Reduction Measures options are considered.
- Noise Impacts: The noise impact to adjacent residents resulting from vehicles braking and going over and around traffic calming devices can have an impact on the acceptability of these devices by residents.
- Loss of Parking: It may be necessary to restrict or prohibit on-street parking in the immediate vicinity of certain traffic calming features. There can also be significant on-street parking impacts from many speed reduction and volume reduction options.
- Liability Exposure Implications: Speed reduction and volume reduction traffic calming devices may result in varying degrees of liability exposure to the City. This exposure stems from the potential negative impact to emergency vehicle response times. It is also possible that traffic calming devices themselves could result in damage or injury if improperly used.
- Increased Maintenance Costs: Street maintenance costs will increase in two areas. First, landscaping associated with such devices as neighborhood traffic circles, roundabouts, chokers and chicanes, etc., will require regular maintenance. Second, devices such as speed humps will have to be reinstalled each time a residential street is overlaid which will increase these costs.

Passive Traffic Calming Measures

Police Enforcement

Police enforcement entails the presence of police to monitor speeds and issue citations. This method is used as an initial attempt to reduce speeds on streets. It is most applicable on streets with documented speeding problems and the need for quick mitigation. It can also be used during the learning period when new devices or restrictions are first implemented. For police enforcement, contact the Police Department.

Positive Aspects

- Effective while officer is actually present at the location
- Can be targeted to specific time periods that are deemed to be most problematic
- Can be implemented on short notice
- Targets violators without affecting normal traffic

Approximate cost: No direct additional cost to the City.

Negative Aspects

- It is a temporary measure
- Enforcement may be limited by police availability and other policing duties
- Long term financial commitment of police personnel
- It is labor intensive and expensive

High-Visibility Crosswalks

A high-visibility crosswalk is a crosswalk that incorporates striped patterns, pavement lights or flashing beacons, and signing to improve the visibility of the crosswalk. This measure is most applicable on local streets where speed control and pedestrian crossing designation is desired. It can also be used to discourage cut-through traffic. This type of crosswalk is most appropriate near schools and recreation facilities, but typically not at signalized intersections.

Positive Aspects

- Slows traffic
- Increases driver awareness of crosswalk
- Requires minimal maintenance for striped crosswalks

Approximate cost: \$20,000 to \$50,000 - (2016 dollars)

Negative Aspects

- May require removal of parking in the vicinity of the crosswalk
- May result in significant maintenance for embedded pavement lights or advance flashing lights



Radar Trailer, Speed Feedback Trailer

This is a mobile trailer-mounted radar display that informs drivers of their speed. This measure is applicable on any street where speeding is a problem.

Positive Aspects

- Educational tool
- Good public relations for neighborhoods
- Effective for temporary speed reduction needs

Approximate cost: No direct additional cost to the City.

Negative Aspects

- Not self-enforcing
- Duration of effectiveness is limited
- May require temporary lane closures



Speed Feedback Signs

This is a permanent-mounted radar display that informs approaching drivers of their speed. This measure is applicable on any street where speeding is a problem.

Positive Aspects

- Educational tool
- Good public relations for neighborhoods
- Permanent reminder of travel speed

Approximate cost: \$4,000 to \$6,000 – (2016 dollars)

Negative Aspects

- Not self-enforcing
- Duration of effectiveness is limited
- Maintenance/theft



Pavement Striping

Striping is used to create narrow lanes, which give the impression of a narrow street. This makes the motorist feel restricted, which helps reduce speeds. It is most applicable to long, wide residential streets where speeding traffic exists.

Positive Aspects

- Easy to install and modify as necessary
- Low cost of implementation

Approximate cost: \$2,500 to \$15,000 – (2016 dollars)

Negative Aspects

- May not be self-enforcing
- May increase the likelihood of sideswipe accidents



Signed Turn Restrictions

Signs may be installed which prohibit certain movements at an intersection, e.g., “No Left Turn”. This measure is applicable on streets where cut-through traffic exists. This method can be tailored to be applicable during the most problematic times by defining a time period for the restriction.

Positive Aspects

- Redirects traffic to main streets
- Reduces cut-through traffic
- May address time-of-day problems

Approximate cost: \$1,500 to \$5,000 – (2016 dollars)

Negative Aspects

- Not self-enforcing
- May increase trip length for some commuters
- May redirect traffic to other neighborhood streets
- May confuse motorists unfamiliar with time-of-day restrictions



Truck Restrictions

Restricting the entry of trucks into residential neighborhoods can be achieved through the posting of truck restriction signs. This method is most applicable on residential streets to reduce cut-through traffic of commercial vehicles.

Positive Aspects

- Redirects commercial traffic through main streets
- Reduces noise and air pollution due to trucks in residential streets

Approximate cost: \$500 to \$2,500 – (2016 dollars)

Negative Aspects

- Not self-enforcing



Active Traffic Calming Measures

Active Traffic Calming Measures are primarily designed to lower travel speeds on the streets where they are installed.

Speed Humps

Speed humps are areas of pavement raised 3 inches in height over a minimum of 14 feet in length. The combination of different heights, lengths and approach ramps will affect the speed a vehicle can comfortably go over the hump. Speed humps are marked with signs and pavement markings. Speed humps are applicable on local streets where speed control is desired or where cut-through traffic is to be discouraged. Speed humps are not recommended for use on streets designated as primary response routes for emergency vehicles.

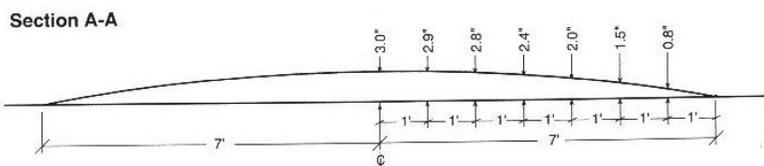
Positive Aspects

- Slows traffic
- Self-enforcing
- Requires minimum maintenance

Negative Aspects

- May increase emergency response times
- May damage emergency response vehicles if not carefully designed
- May increase traffic noise in the vicinity of the bump
- Modern cars with active suspension may be able to traverse the bumps at increased speeds.

Approximate cost: \$3,500 to \$5,000 – (2016 dollars)



Speed Tables or Raised Crosswalk

Raised crosswalks are flat-topped speed humps, 22 feet in length, built as a pedestrian crosswalk, with vehicle ramps on the approaches. This type of crosswalk is applicable to local streets where speed control and pedestrian crossing designation are desired. It can be an effective safety tool near schools and recreation facilities and can also be used to discourage cut-through traffic. Raised crosswalks are well-marked and may contain special paving or textures.

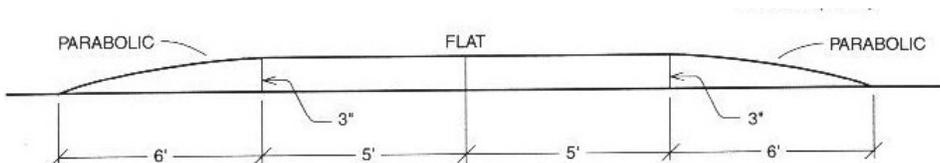
Positive Aspects

- Slows traffic
- Increases pedestrian visibility in the crosswalks
- Requires minimal maintenance

Negative Aspects

- May increase emergency response times
- May damage emergency response vehicles if not carefully designed
- May increase traffic noise in vicinity of crosswalk
- May create drainage issues where raised crossing extends from curb to curb
- May require extensive warning signs to be effective

Approximate cost: \$4,000 to \$6,000 – (2016 dollars)



Raised Intersection

Like raised crosswalks, the raised intersection is a flat-topped speed hump built over the entire area of intersecting streets at curb height, creating a flat surface over the entire intersection area. Raised intersections are constructed with ramps (gentle approaches 1:40) on all vehicle approaches, using bollards to define the pedestrian zone. They are often constructed with textured materials on the flat sections and the approach ramps. These are commonly used in area-wide traffic calming installations. This type of installation is applicable to arterial and collector streets where speed control and pedestrian crossing designation are desired. It can be an effective safety tool near schools and recreation facilities and can also be used to discourage cut-through traffic. Raised intersections are used in locations where loss of on-street parking would be acceptable.

Positive Aspects

- Slows traffic
- Increases pedestrian visibility in the crosswalks
- Requires minimal maintenance
- No impact on access

Negative Aspects

- May increase emergency response times
- May increase traffic noise in vicinity of the intersection
- May create drainage issues where raised crossing extends from curb to curb

Approximate cost: \$25,000 to \$75,000 – (2016 dollars)



Speed Cushion

Speed cushions consist of either recycled rubber or asphalt, raised about 3 inches in height. The length of the cushion is about 10 feet. The spaces between the cushions allow emergency vehicles to partially straddle the device. These devices are most effective if used in a series at 300' to 500' spacing or in conjunction with other traffic calming devices.

Positive Aspects

- Reduces vehicle speed
- Can reduce vehicular volumes
- No restrictions to on-street parking
- Does not restrict access
- Requires minimum maintenance
- Minimal impacts to emergency response times

Approximate cost: \$3,500 to \$5,000 for set – (2016 dollars)

Negative Aspects

- May increase emergency response times
- Not aesthetically pleasing
- May increase road maintenance costs



Mid-Block 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 speeding and cut-through problems. Special attention is required during the design of Mid-Block Chokers to provide for bicycle access.

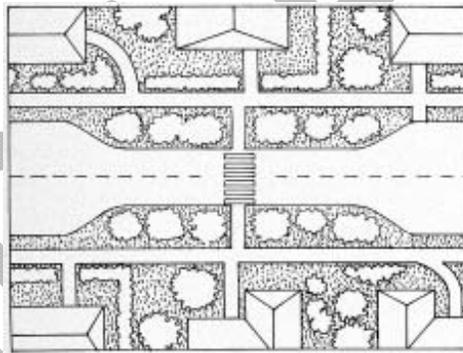
Positive Aspects

- Speed reduction
- Breaks up driver's sight-line
- Reduces pedestrian crossing
- Increases pedestrian and motorist visibility

Negative Aspects

- May require partial or total removal of on-street parking
- Increases maintenance for areas where street sweeping equipment cannot reach between the choker and the curb line

Approximate cost: \$15,000 to \$35,000 – (2016 dollars)



Medians

Medians are raised islands in the center of the roadway that separate traffic directions. Medians are used on wide streets to narrow the travel lanes, interrupt sight distances down the center of the roadway, and ease pedestrian crossings.

Positive Aspects

- Narrowed travel lanes can slow vehicle speeds
- Shortens pedestrian crossing
- Opportunity for landscaping and visual enhancements to the neighborhood
- Properly placed medians can result in congestion relief and capacity increases
- Congestion Relief

Approximate cost: \$35,000 to \$100,000 – (2016 dollars)

Negative Aspects

- Long medians may interrupt emergency access and operations
- May interrupt driveway access and result in U-turns at the end of medians
- May require removal of parking
- High cost to construct and maintain



Bulbouts

Bulbouts narrow the street width, and create smaller corner radii, creating a shorter and safer pedestrian crossing and encouraging drivers to slow down. Construction of bulbouts requires altering the curb, gutter and sidewalk. Bulbouts may contain special paving or landscaping and are generally used at intersections where parking is restricted.

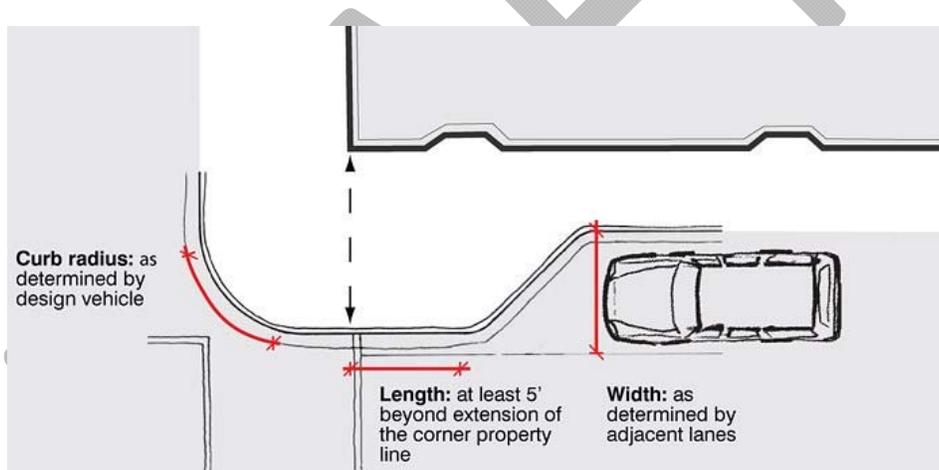
Positive Aspects

- Pedestrian crossing distance is reduced
- Narrowed roadway section may contribute to reduction of speeds
- Breaks up driver's sight-line
- Opportunity for landscaping and visual enhancements to the neighborhood

Negative Aspects

- May reduce visibility for cyclists who are less visible to turning and cross traffic
- May require partial or total loss of parking
- Could result in a minor increase on maintenance
- Care should be taken to keep motorists from hitting bulbouts

Approximate cost: \$15,000 to \$35,000 – (2016 dollars)



Chicanes

A curved street alignment that can be designed into new developments or retrofitted in existing right-of-ways is called a chicane. The curvilinear alignment requires additional maneuvering and shortens drivers' sight-lines, resulting in lower average speeds. This device can be applied to any street where speed control is desired, provided the street is wide enough to accommodate the curvilinear design.

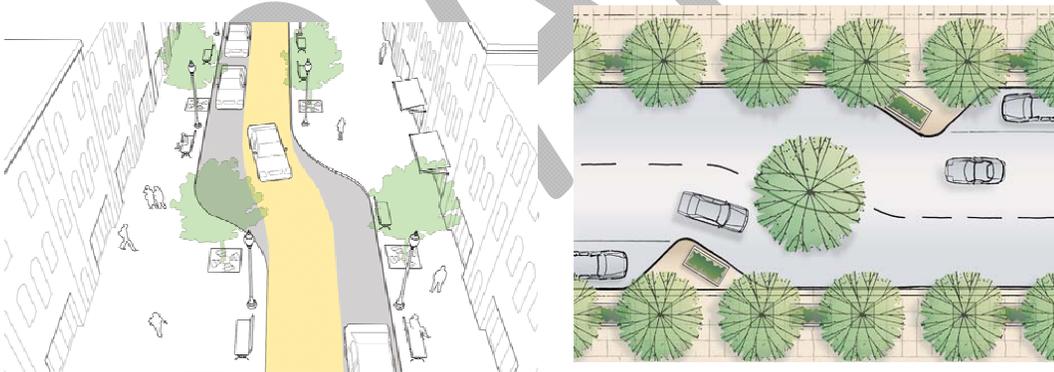
Positive Aspects

- May slow traffic
- Changes the look of the street, making it more aesthetically pleasing
- Has minimal impact on emergency response

Negative Aspects

- Involves extensive design and expensive implementation
- May require partial or total removal of on-street parking
- Additional maintenance for service vehicles to maneuver a curvilinear street
- May have little or no impact on cut-through traffic
- May require modification of drainage features and other utilities

Approximate cost: \$35,000 to \$100,000 – (2016 dollars)



Volume Reduction Measures

Volume reduction traffic calming measures are primarily designed to reduce the traffic level on the streets where they are installed.

Diverters

Diverters are raised areas placed diagonally across a four-way intersection that restrict through movements and vehicles to turn. Diverters are most applicable to local streets where cut-through traffic is a major problem.

Positive Aspects

- Reduces cut-through traffic
- Channels traffic flow, thus eliminating conflicts at an intersection
- Can be designed to accommodate emergency vehicles
- Opportunity for landscaping and visual enhancements to the neighborhood
- Can accommodate bicycle traffic through intersection

Negative Aspects

- Will re-direct traffic to other local streets
- Causes increased travel time for local residents
- Is a permanent measure, even though problem may be limited to certain times of day
- High installation costs
- May require partial or total removal of parking near intersection
- Needs significant warning and guiding signs

Approximate cost: \$15,000 to \$35,000 – (2016 dollars)



Partial Closure

A Partial closure is a physical barrier that restricts vehicles from turning into a street, while still allowing for bicycle access. The opposite lane is left open to allow vehicle exits. Two-way traffic is maintained for the rest of the block. Partial closures are applicable to local streets where cut-through traffic is a concern. It can also be a favorable traffic volume control measure.

Positive Aspects

- Restricts movements into a street while maintaining full access and movement within the street block for residents
- Reduces cut-through traffic
- Pedestrian crossing distance is reduced through a closure island
- Creates a space for street landscaping

Approximate cost: \$10,000 to \$30,000 – (2016 dollars)

Negative Aspects

- May require partial or total removal of on-street parking
- May redirect traffic to other local streets
- May increase trip length for local drivers
- Is in effect at all times, even if cut-through problem exists only at certain times of day



Full Street Closure

A complete closure of the street blocks both lanes of travel, so that the street becomes a cul-de-sac. This device eliminates all through traffic and limits street access to local residents. This device is applicable to local streets with major cut-through concerns where an emergency vehicle response route does not exist. The closure location may be designed as a pocket park with through bicycle and pedestrian access.

Positive Aspects

- Restricts all through traffic
- Effective volume and speed control measure
- Improves the aesthetic quality of the street

Negative Aspects

- May re-direct traffic to other local streets
- May increase trip length for local drivers
- May require partial removal of on-street parking
- Not applicable for designated emergency vehicle response routes
- May result in difficult turnaround conditions

Approximate cost: \$15,000 to \$35,000 – (2016 dollars)



Guidelines for Installation or Warrants

Regardless of the traffic calming measure under consideration, a complete evaluation of the existing corridor's signage, pedestrian facilities, on-street parking, lighting, speed and traffic volume information should be completed.

Passive Traffic Calming Measures

Generally, Passive Traffic Calming Measures are lower cost and may be used where analysis indicates a problem exists and an appropriate Passive Traffic Calming Measures can be installed with successful results. If it is not likely that the Passive Traffic Calming Measures will be successful or that the installed Passive Traffic Calming Measure has failed, more restrictive measures may be appropriate.

Active Traffic Calming Measures

The following guidelines (warrants) are recommended to govern the installation of Active Traffic Calming Measures, following analysis and study. Some or all of these guidelines may apply, depending upon the individual street characteristics.

1. The street or street segment should be a two lane residential local or collector street. ~~The street or street segments must be improved~~ with continuous curb and gutter, asphalt concrete berm, or curb and gutter or may be constructed as part of the traffic calming project.
2. The street segment ~~must~~ should be at least 500 feet long.
3. The impacts to response time for emergency service vehicles must be evaluated and determined negligible.
4. Guidelines apply only to streets with a speed limit of 30 miles per hour or less.
5. The 85th percentile speed must be at least seven miles per hour above the posted speed limit.
6. The average daily traffic volume, excluding cut-through traffic, should be more than ~~7~~500 vehicles per day.
7. The subject location has good visibility;
8. Vertical deflection devices should not be placed on curves.
9. Vertical deflection devices should be located at or near residential property lines and away from driveways, when possible.
10. Vertical deflection devices should be located near street lights to illuminate them for safe bike and pedestrian activity at night.
- ~~11. Vertical deflection devices should be accompanied by the appropriate advanced signage.~~
- ~~12.~~11. Spacing between vertical deflection devices should be as even as possible to produce uniform speed along an entire street. When placed in a series they should be placed between 200 and 600 feet apart. Spacing should allow at least one installation on each block.
- ~~13.~~12. Vertical deflections shall not be installed at locations with street grades in excess of 6%, except under conditions where there are very short sections with grades up to 8%-10%.
- ~~14.~~13. The installation will not result in diversion of traffic to other residential streets.

Volume Reduction Measures

The following guidelines (warrants) are recommended to govern the installation of Volume Reduction Measures following analysis and study. Some or all of these guidelines may apply, depending upon the individual street characteristics.

1. The impacts to response time for emergency service vehicles must be evaluated and determined negligible.
2. The average daily traffic volume should exceed 500 vehicles per day.
3. Cut through traffic exceeds 1025% of total daily and/or peak hour traffic.

Approval and Implementation Process

Neighborhood traffic calming is a term used to describe a process of education, enforcement, and finally engineering. The education component typically is completed using a neighborhood meeting in which residents can share concerns and help identify the problem. Additionally, education can also include physical improvements such as speed limit signs, revised roadway striping, and speed feedback indicators such as permanently mounted signs or temporarily placed trailers to better identify what drivers should be doing.

After the education phase is complete, enforcement activities are typically implemented. In this phase, the drivers should now be well informed and compliance is now achieved through monetary penalties in the form of traffic tickets. Enforcement work is highly effective to calm traffic speeds when officers are present to enforce. Since it is not feasible to devote officers to one area for a prolonged duration, lasting results will vary.

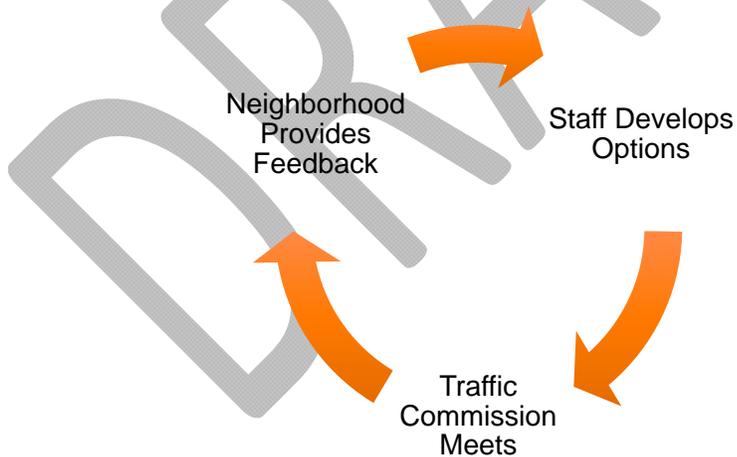
The last course of action is engineering. This phase would incorporate physical changes to roadway geometry, which might include speed humps, speed tables, chokers, and medians.

The Neighborhood Traffic Calming process is designed and intended to be a "grass roots" effort. With this in mind, notification of Neighborhood Traffic Calming needs comes from the neighborhoods.

1. Neighborhood representative writes letter requesting consideration, obtaining as many neighbors' signatures / support as available.
2. Staff receives and evaluates the request. Staff agendaizes the request for a future Traffic Commission Meeting date.
3. Staff writes a letter to residents to notify them of the Traffic Commission meeting date.
4. Traffic Commission meets to evaluate the request and determine if continued processing of the requested traffic calming should be considered. If Traffic Commission determines continued processing of the request is warranted, staff will begin data collection and the review process.



5. If the concern relates to speed, data will be collected using the Speed Feedback Trailer. This allows for data collection as well as informing motorists of current travel speeds.
6. After the Speed Feedback Trailer has obtained the data and been removed, if the data indicates the need, increased speed enforcement will be implemented.
7. If increased enforcement is implemented, additional speed data may be obtained.
8. Staff will evaluate speed and enforcement data and prepare a report to present to the Traffic Commission.
9. Staff writes a letter to residents to notify them of the Traffic Commission meeting date.
10. The Traffic Commission meets to review the data results and to determine if continued processing of traffic calming should be considered or if the actions taken have achieved desired results.
11. If the Traffic Commission determines continued processing is needed, staff will return and bring forward traffic calming alternatives. This process is iterative until a amenable plan is developed.



- 12.A Preferred alternative is selected by the Traffic Commission with input from the neighborhood. The requesting parties circulate a petition within the project area. This petition must be circulated by the requesting parties, and returned containing the names

and signatures of at least 66 % of the affected property owners in the project area. This petition is limited to one signature per household.

13. Once Staff receives the petition, Staff will prepare a staff report for the City Council with the Traffic Commission's recommendation and notify the neighborhood of the City Council meeting date.
14. City Council reviews preliminary plan.
15. If City Council approves the preliminary plan, staff will request direction of City Council as to funding of the improvements. The funding source may be City funds, funds from the requesting parties or neighborhood, or some combination of the two. Funds from the requesting parties or neighborhood, must be strictly on a volunteer basis.
16. If the City Council approves the preliminary plan with City funding, a budget request will be prepared for consideration for the next Capital Improvement Plan budget.
17. If the budget is approved, design and construction of the improvements will be completed based upon the funding delivery timeframe.

DRAFT