Residential Traffic Calming Program

San Ramon

Policies, Procedures, and Resources

A Program funded by the City of San Ramon Public Works Department and administered by the Transportation Services Division.

Summer 2021

SPEED
LIMIT
45
YOUR
SPEED
38
Creekside Dr
City
Police Station

San Ramon City Council

David E. Hudson, Mayor
Scott Perkins, Vice Mayor
Mark Armstrong, Councilmember
Sridhar Verose, Councilmember
Sabina Zafar, Councilmember

2021 Transportation Advisory Committee

Billy Hurley, Chair
Joy Bhattacharya, Vice Chair
Nolan Chen
Robert DuPont
Al Pacheco
Atul Patel
Miranda Shakes
Min Tsao*

Public Works Department

Maria Fierner, Public Works Director
Lisa Bobadilla, Transportation Division Manager
Brian Bornstein, City Engineer
Deborah Fehr, Senior Engineer - Traffic
Raoul Roque, Associate Engineer - Traffic
PJ Dhoot, Transportation Specialist
Amy Sekhon, Office Specialist

*Min Tsao's term expired January 31, 2021

Table of Contents

Residential Traffic Calming Handbook 5

Residential Traffic Calming Toolkit 29

Applicability Matrix 30

Toolkit Evaluation Legend 31

Appendix 56

Sample Petition 57

TAC Bylaws 58

Definitions and Acronyms 61

RTC
HANDBOOK

Our Mission

The Residential Traffic Calming Program focuses on local transportation issues. It is designed to coordinate collaboration between City staff, Transportation Advisory Committee (TAC), and Citizens, in an effort to produce effective traffic calming throughout San Ramon's neighborhoods.

Introduction

The City of San Ramon's RTC Program is a Citywide initiative to empower citizens to address their traffic calming concerns. The need for the RTC Program stemmed from the City's desire for a systematic and easily accessible approach to handling neighborhood traffic calming requests.

The information and tools presented in this document will be applicable on most local roadways in an effort to reduce traffic speeds and vehicle volume while balancing multiple uses. Local roadways are defined as a street that provides direct access into residential neighborhoods to connect individual homes to collector and arterial streets. The RTC Program outlines a variety of traffic calming measures to improve the quality of life in local residential neighborhoods. The RTC Program provides opportunities for residents to work closely with TAC and City staff to identify traffic issues and concerns, and to determine appropriate solutions.

As part of the City's mission to enhance the quality of life in San Ramon, the City established the RTC Program to mitigate the negative effects of speeding and cut-through traffic on neighborhood streets. To help ensure that neighborhoods are safe and comfortable places, the RTC Program focuses on the 4 E's, which includes Education, Engineering, Enforcement, and Emergency Response Services. It includes a variety of devices that can be used to physically slow down vehicles. Some of these devices may be more appropriate than others depending on the neighborhood and street conditions.

The RTC Program includes an RTC Handbook and Toolkit, which provides residents with an overview of mitigation measures. Issues such as cost, effectiveness, anticipated effect, and a description of each measure are outlined in the Toolkit. San Ramon's RTC Handbook is designed to enhance communications and understanding between the City and its residents.

In 1998, the City implemented the Traffic Calming Program to address community concerns over traffic intrusions into residential roadways. In 2006, the City adopted its first RTC Toolkit. The RTC Toolkit included policies, guidelines, and procedures, which were developed based on experience of City staff, other cities, and discussions with the City's TAC. The RTC Program is an extension of long-standing San Ramon General Plan policies aimed at reducing traffic on residential streets and reducing cut-through traffic on local roadways.

As the City has grown and developed, so has the traffic. Initially, traffic through San Ramon focused on commute trips, yet as the population has increased, trips for shopping and taking children to and from school have added to the traffic flows. In some instances, the volume of traffic on residential streets has decreased; however, as the population has increased so has the increase in cut-through traffic, higher noise levels, and walking and biking. In San Ramon, concerns from traffic intrusion into residential neighborhoods has also increased over time. To date, those concerns have been addressed on a case-by-case basis with each response tailored to address specific concerns noted in resident's complaint. Typical responses have included deployment of the City's Radar Speed Display Signs.

This updated document provides a framework for the selection, application, and implementation of traffic calming improvement measures in the City of San Ramon. Traffic calming can be defined as reducing vehicular impacts by slowing or reducing traffic, while improving livability and increasing safety of pedestrians, bicyclists, and motorists. The purpose of traffic calming is to identify the cause of neighborhood traffic issues and determine feasible traffic calming solutions.

Goal

The goal of the City of San Ramon's RTC Program is to establish procedures to facilitate installation of traffic calming measures that will enhance the quality of life in the City's neighborhoods by mitigating the negative impacts of vehicular traffic on residential streets.

San Ramon strives to improve mobility and safety across all modes of travel in a way that fits within a neighborhood's context. The RTC Toolkit provides information on traffic calming options for residential streets with the goal of improving neighborhood quality of life. Traffic calming refers to improving street features to reduce the negative effects of speeding and cut-through traffic while enhancing safety for pedestrians and bicyclists. These efforts are typically aimed at reducing vehicle speeds and/or the traffic volume of non-local traffic in residential areas.

Objectives

- To promote safe and pleasant conditions for people who live, walk, bike, and drive on local residential neighborhood streets.
- To reduce speed of traffic on local neighborhood streets.
- To reduce the amount of cut-through traffic on local neighborhood streets.
- To preserve and enhance walking and biking access to neighborhood destinations.
- To facilitate resident involvement in residential traffic management activities.
- To provide a process to prioritize residential traffic calming requests.

What is traffic calming?

Traffic calming is an active attempt to control vehicle speeds and traffic volume through the engineering and design of the roadway and traffic calming devices to slow speeding traffic. The Institute of Transportation Engineers (ITE) defines 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."

This definition has also been expanded by the City of San Ramon to include non-physical measures such as education and enhanced enforcement. For the purpose of RTC Program and this document, traffic calming will be used to reference planned efforts combining traffic calming tools to address concerns with vehicle traffic. The RTC Program is a Traffic Calming Program that specifically targets speed reduction and cut-through traffic.

Complete Streets

Through General Plan 2035, the City of San Ramon adopted a Complete Streets Policy on April 26, 2011. The Policy encourages an approach to street design that supports pedestrian and bicycle-oriented neighborhoods; promotes healthy living, fitness, and activity; enhances the economic vitality of commercial corridors and districts; and maximizes the benefits of investment in public infrastructure. The Complete Streets Policy will be considered when neighborhood traffic calming measures are being identified.

One of the most important principles of the Complete Streets concept is that each street improvement will take into account all users. This includes people driving cars, riding bikes, walking, using transit, and using wheelchairs. There is not a "one-size fits all" approach to Complete Streets. The function of the road (e.g. local, collector, and arterial) and the level of vehicular, pedestrian, and bicycle traffic will be considered. The use of the land next to the road (e.g. residential or commercial) will also be considered to determine the best range of options for each situation.

Citizen Involvement

The RTC Toolkit provides both the City and its residents with several methods of addressing residential traffic concerns. Citizen involvement plays an important role in identifying problems and is greatly encouraged.

The RTC Program has a primary goal to identify traffic control solutions applicable to City streets. These solutions can be implemented with many different techniques or "tools" that achieve a cost-effective benefit to the public in any particular situation. A City process is available for the public and TAC to participate in evaluating and implementing traffic calming solutions.

The principle guiding the RTC Program is to alleviate problems in such a way that street usage will be modified, so that all of the activities that take place within a residential area can do so with increased safety and convenience. Efficiency can be enhanced by diverting traffic from residential streets to collector and arterial streets. Definitions of traffic calming may vary but they all share the goal of reducing vehicle speeds, improving safety, and enhancing quality of life. Traffic calming can involve changes in street alignment, installation of barriers, and other physical measures to reduce traffic speeds and/or cut-through volumes, in the interest of street safety, livability, and other public purposes. It may be possible to maximize mobility while decreasing costs. By maximizing mobility, there will be savings in time, operating costs, and energy while minimizing negative social and environmental impacts.

Traffic calming measures can be separated into two groups based on the main impact intended, volume control and speed control:

- Volume control measures are primarily used to address cut-through traffic problems by blocking certain movements, thereby diverting traffic to streets better able to handle it.
- Speed control measures are primarily used to address speeding problems by changing vertical or horizontal alignment, or narrowing the roadway.

The distinction between the two types of measures is not as clear as their names suggest, since speed control measures frequently divert traffic to alternate routes, and volume control measures usually slow traffic.

RTC Program

Perhaps the first step in mitigating the problems associated with increased traffic is to realize that streets are not only for vehicular traffic but are also used for running, bicycling, walking, City services (ambulances, fire engines, police vehicles, for example), and parking.

The RTC Program presented in this document has a primary goal to identify traffic control solutions applicable to both existing and new streets in the City. These solutions can be implemented with many different techniques or "tools" that achieve a cost-effective benefit to the public. A City process is available for the public and TAC to participate in evaluating and implementing traffic calming solutions.

The primary principle guiding the RTC Program is to alleviate problems in such a way that street will be modified so that all of the activities that take place within a residential area can do so with increased safety and convenience.

It may be possible to maximize mobility while decreasing costs. By maximizing mobility there will be savings in time, operating costs, and energy while minimizing negative social and environmental impacts. Efficiency can be enhanced by diverting traffic from residential streets to collector streets and arterials. The use and support of public transportation can be fostered where it is possible, appropriate, and cost-effective.

Definitions of traffic calming may vary but they all share the goal of reducing vehicle speeds, improving safety, and enhancing quality of life. Traffic calming involves changes in street alignment, installation of barriers, and other physical measures to reduce traffic speeds and/or cut-through volumes, in the interest of street safety, livability, and other public purposes.

Included in the RTC Program is an RTC Toolkit. The Toolkit provides residents with an overview of mitigation measures. Issues such as cost, effectiveness, anticipated effect, and a description of each measure are outlined in the Toolkit. San Ramon's RTC Toolkit is designed to enhance communication and understanding between the City and its residents.

Citizen Involvement

The RTC Toolkit provides both the City and its residents with several methods of addressing individual residential traffic concerns. Citizen involvement plays an important role in identifying problems and is greatly encouraged. Residents who have traffic concerns are invited to provide input to TAC.

Submit a RTC Request

There are a number of options to submitting an RTC Request.

1. Call the Public Works - Transportation Division at 925-973-2650.
2. E-mail the Transportation Division at transportation@sanramon.ca.gov.
3. Submit a Citizen Request Management (CRM) through the City's website, www.sanramon.ca.gov.

City Staff

1. Review, respond, and document residential traffic calming requests.
2. Conduct appropriate traffic and warrant studies.
3. Recommend appropriate traffic calming options to TAC, City Council, and citizens.
4. Maintain RTC log sheet.
5. Initiate implementation of approved traffic calming measures.
6. Provide monthly RTC Program status reports to TAC.
7. Provide a process for citizen feedback.

Transportation Advisory Committee

1. Review, revise, and/or update the RTC Program policies and procedures.
2. Review all traffic calming requests and options.
3. Provide recommendations to the City Council regarding traffic calming measures.
4. Review and recommend traffic calming standards and policies for future residential development.
5. Forward traffic calming recommendations to the City Council for final review and/or approval.

City Council

1. Review and approve the policies and procedures for the RTC Program.
2. Review and approve complex or controversial traffic calming options.
3. Provide an appeal process for denied traffic calming requests.
4. Allocate resources and funding.
5. Approve annual RTC Program budget.

The Four "E's"

The goal of the San Ramon RTC Program is to provide a methodical process to address speeding issues and cut-through traffic on residential streets by means of Education, Engineering, Enforcement, with accommodations to the Emergency Response Services in our community, also referred to as the Four E's. A multi-level, multidisciplinary approach to traffic calming is used by engaging the Four E's, in order to provide San Ramon residents with the best solutions to residential traffic problems.

Education

Education is a fundamental component of the City's RTC Program. City staff can assist residents to make informed preliminary decisions about their neighborhoods by educating residents by means of brochures, the City website, and social media. Informed individuals can better assess the degree of traffic calming required to combat traffic concerns, influence driver behavior, and promote community building through respect for one's neighborhood. Informed residents can then collaborate their efforts with engineers and planners to ensure that the proposed traffic mitigation tool is an effective and feasible improvement.

Engineering

Traffic calming can include the development and implementation of a variety of new physical features and traffic calming strategies. There is an assortment of engineering options that can improve the traffic situations around residential neighborhoods. The Engineering aspect in traffic calming focuses on traffic studies, data analyses, and implementation of physical changes to the street with the objective of reducing vehicle speeds or volumes on a single street or a street network. These types of improvements require collaboration between residents, and in some instances, elected officials and City staff. Engineering applications are often constrained by standard engineering policies, budgetary resources, and community acceptance.

Enforcement

Enforcement is a key component to the passive and active traffic calming measures undertaken in Education and Engineering. Communities can rely on the San Ramon Police Department to enforce traffic control measures and target identified areas. Additional enforcement can significantly increase awareness of traffic-related problems, particularly speeding.

Emergency Response Services

New to the RTC Program is the fourth E, Emergency Response Services. In San Ramon, we work collaboratively with the Police Department and the San Ramon Valley Fire Protection District to develop policies that accommodate the safety, access, and response times of various emergency vehicles as well as ensuring community-wide goals are maintained. As our safety partners, Police and Fire staff are engaged throughout the design process.

How It Works

The RTC Program is a two-phase approach. Phase I focuses on informing and educating residents regarding traffic calming features and providing the neighborhood with tools for resolution and documentation of traffic problems. Phase I measures should be thoroughly explored and implemented before proceeding to Phase II.

If the traffic issue still exists after Phase I, then more restrictive physical devices can be considered for recommendation and implementation. Phase II addresses problems that require permanent and more costly traffic control solutions.

All recommendations included in Phase I and/or Phase II must be consistent with the City's overall transportation network and with nationally recognized standard traffic engineering safety practices and procedures, specifically the Institute of Transportation Engineers (ITE) and the Manual on Uniform Traffic Control Devices (MUTCD).

This RTC Toolkit is intended as guidance only. There are City ordinances, which authorize what can be constructed in the public right-of-way. The Public Works Department determines what can be constructed in the public right-of-way to ensure the welfare and safety of all users. Neighborhood traffic calming requests that do not meet all traffic calming requirements as identified in this RTC Toolkit may be denied.

Phase I

Steps for Implementation of Phase I

Phase I involves the collaboration of City staff and residents to identify specific concerns, establish timeline for review, develop achievable goals, and initiate the data gathering process.

Phase I measures take advantage of relatively low cost and proven traffic calming measures to assess the severity of the problem while educating the community.

Examples of Phase I measures include:

- Communication: Developing a timeline for assessing the problem and communicating that to the residents.
- Information: Providing the neighborhood and/or Homeowners Association (HOA) with educational material, including the RTC Toolkit, brochures, or specific traffic safety material.
- Radar Trailer: Deployment of the portable radar trailer or mountable radar sign to alert motorists of their speed and gather data for review.
- Selective Police Enforcement: A Traffic Patrol Officer will conduct selective enforcement in the neighborhood or particular street for a set period to conduct enforcement and provide feedback to City staff and the community.
- Signs/Striping: Install signs and striping to enhance safety or reduce speeds as identified.

Each neighborhood participating in the RTC Program must begin with Phase I. The public education provided in Phase I may enable residents to distinguish between real and perceived problems or begin to develop appropriate mitigation measures.

The following is a step-by-step approach to implementing Phase I of the RTC Program:

Step 1: Outreach

- Resident files a complaint to address an issue in their neighborhood.
- Staff logs the complaint.
- Staff makes contact with the resident and explains how the RTC Program works.
- Staff determines if there is an HOA for the particular community; if there is, staff includes the HOA on all correspondence.
- The resident receives an introductory letter detailing the Phase I process and timeline. Included with the letter is the RTC Toolkit.
- Staff collaborates with the resident in the field, whenever possible, to review the concerns. At this time, staff and the resident identify the specific concern and develop an action plan.

Step 2: Data Gathering

- Staff prepares baseline information, which includes a map of the area, documents existing signage and striping, nearby traffic control, marked crosswalks, bike facilities, schools/parks, and other relevant features.
- Staff determines if the speed limit is appropriate through either Prima Facie* or an Engineering and Traffic Survey.
- Staff reviews the collision database to determine if there is a pattern of collisions attributable to speeding.
- Radar trailer is deployed for a minimum of five days. The radar trailer gathers speed and volume data.
- Selective Police Enforcement is conducted for a minimum of four weeks.
- Observations are conducted at varying times to capture roadway use by bicyclists, pedestrians, and vehicles.

Step 3: Review Process

- Information gathered from Step 2 are presented to TAC.
- TAC reviews the data and engages in discussion with staff members.
- Staff makes a recommendation to TAC for consideration.
- TAC makes a determination if there is further action needed as follows:
  - No problem was documented; therefore, no further action is required and moratorium period begins. (Moratorium see page 28)
  - Problem was documented and can be mitigated by the installation of Phase I measures. (Phase I Measures see page 16)
  - Problem was documented and requires Phase II measures. (Phase II Measures see page 18)

* Prima Facie is the speed that is applied when there is no specific speed limit posted, for example, residential roadways are 25 miles per hour.

Phase II

Phase II measures are considered when after an evaluation period, it is concluded that Phase I measures were not adequate in solving the issue(s). In Phase II, the RTC approach may be modified to include more restrictive physical devices on local streets.

Phase II measures are typically more costly and permanent. Consequently, each project will have a budget, and maybe subject to the review and approval of other Committees and ultimately the City Council.

Examples of Phase II measures include, but are not limited to the following:

- Speed humps, speed tables, speed cushions, raised crosswalks, raised intersections
- Traffic circles, roundabouts
- Chokers, diverters, chicanes, corner extensions/bulbouts, on-street parking
- Median barriers, median islands, diagonal diverters, road diets

Most of the restrictive measures proposed under Phase II can only be implemented by ordinance or resolution by the City Council. Phase II measures may also generate potentially significant physical impacts on the operations of Emergency Response Vehicles and the surrounding environment, and may involve environmental review, as required by the California Environmental Quality Act (CEQA).

On a case-by-case basis, Phase II measures may be installed temporarily for a trial period of six to twelve months. Based on their effectiveness and neighborhood evaluation, recommendations can be made to make the counter measures permanent.

Steps for implementation of Phase II measures:

Step 1: Neighborhood Consensus

Staff will present the RTC Plan with the recommended Phase II measures to the neighborhood. A staff prepared petition package is circulated throughout the project street or neighborhood boundary as determined by City staff. At a minimum, 75 percent of the identified households must sign the petition in support of the Phase II measures. Once the petition package has been completed, the process moves forward.

Step 2: Data Collection

A thorough analysis is conducted by staff. Among other tasks, the analysis involves collecting and analyzing traffic volumes, vehicle speeds, collision history, enforcement data, pedestrian and bicycle volumes, and other key information. Input will also be solicited from the San Ramon Valley Fire Protection District and the San Ramon Police Department.

Step 3: Warrant Analysis

Many Phase II measures will require engineering justification prior to implementation. The justification process usually requires satisfaction of a warrant. The warrant will outline the conditions, which indicate an effective traffic control measure. The warrant analysis will use the data collected to determine whether or not the minimum warrant criteria is met for the proposed Phase II measure. If the warrant is met, then the process will move forward to Step 4.

Step 4: Public Process

Once the data has been analyzed, findings are presented to the neighborhood and other stakeholders to gain approval. At a minimum, the proposal must be reviewed and approved by the following groups:

- Residents of the project street or within the neighborhood boundary
- HOA
- City Staff
- TAC
- City Council

Overview of the Transportation Network

San Ramon streets are components of a greater transportation network designed to facilitate pedestrians, vehicles, transit, and a mix of other uses. The design of a street is usually determined by the different demands that each transportation mode requires. Each street is specifically classified to accommodate certain traffic volumes and has design speeds in conjunction with its function.

Street classifications define the function of each street and the standard to which it should be designed and used. Many factors determine a street's classification, including: travel demand, right-of-way, required street width, maintenance costs, access needs, safety, preservation of property, adjacent land uses, and connections to the greater transportation network. Basically, there are three functional classifications for the streets and roadways of San Ramon:

Local Streets

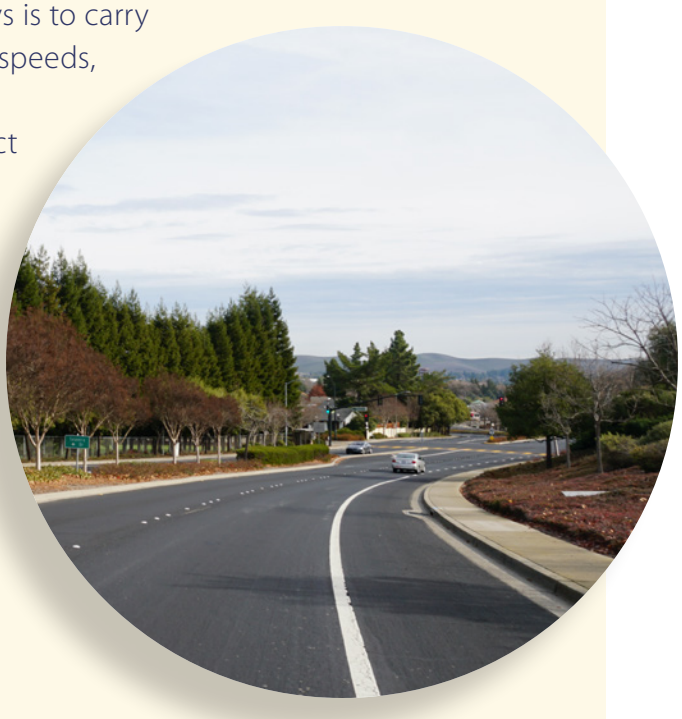
The function of local streets in the City's transportation network is to provide direct access into residential neighborhoods and to provide travel within neighborhoods. The usual speed limit for local streets is 25 MPH, as set by California State Law. Much of the emphasis of the RTC Program will apply to the local streets; however, all recommended mitigation measures will be evaluated for their consistency with standard traffic engineering practices, and safety standards on a case-by-case basis, and some recommendations may not be acceptable.

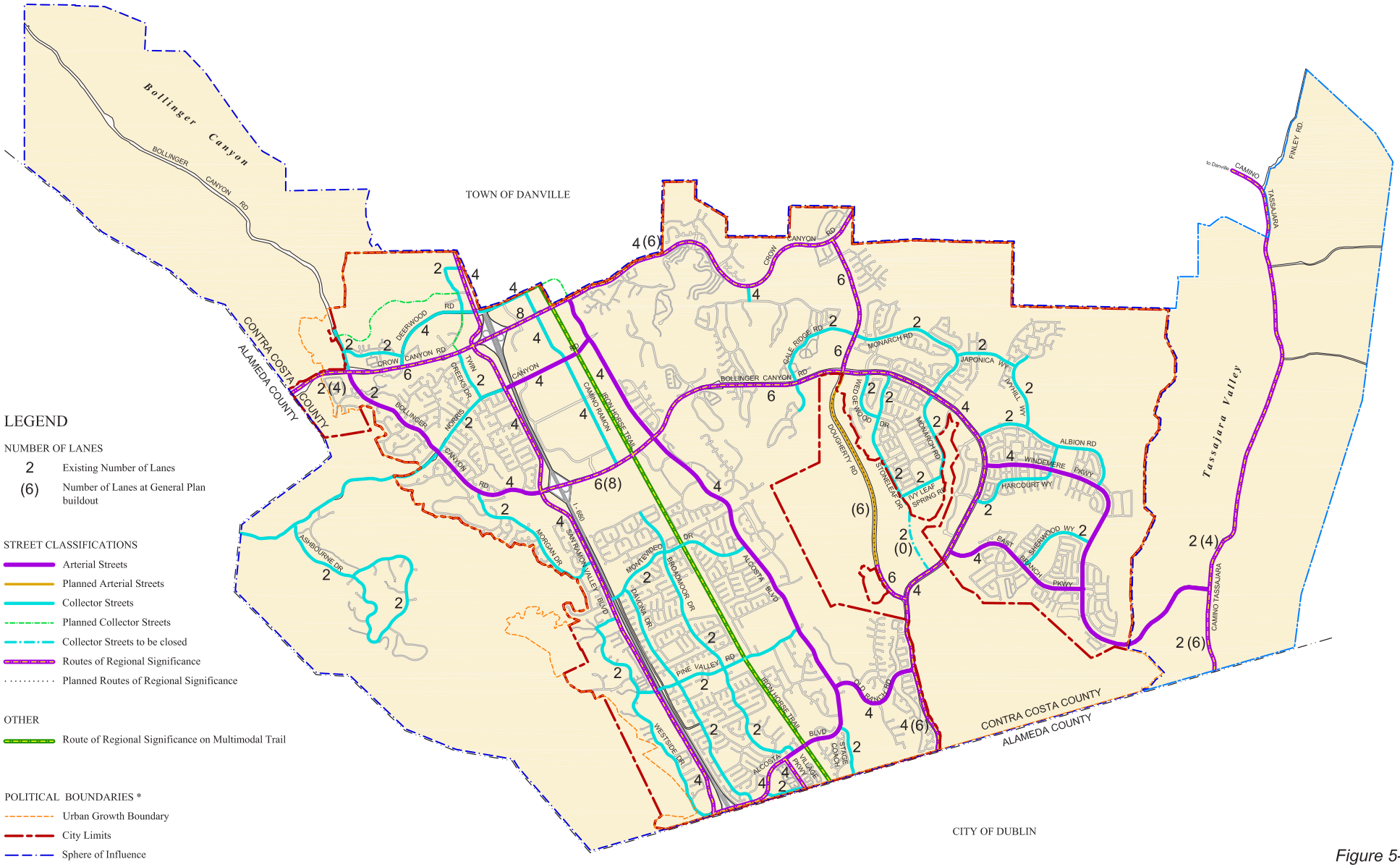
Collector Streets

The function of collector streets is to carry traffic between local streets and arterial streets. Collector streets are designed to carry higher volumes of traffic, serve greater uses, and accommodate higher vehicle speeds. San Ramon's collector streets can carry up to 15,000 Average Daily Traffic (ADT). Speeds on collector streets can vary from 25 MPH to 40 MPH. Because of their vital role as traffic collectors in the City's transportation network, many of the measures in the RTC Program Toolkit will not be applicable to collector streets.

Arterial Streets

The function of arterial streets and roadways is to carry larger volumes of traffic at relatively higher speeds, with minimal delay. Most collector streets connect with arterial roadways as they direct traffic through the network. Arterial streets in San Ramon carry up to 80,000 ADT, and are crucial to circulation throughout the City. Speed limits on arterial roadways in San Ramon are typically set between 35 MPH and 50 MPH. Arterial streets are not suitable for RTC applications.





LEGEND

NUMBER OF LANES

- 2 Existing Number of Lanes
- (6) Number of Lanes at General Plan buildout

STREET CLASSIFICATIONS

- Arterial Streets
- Planned Arterial Streets
- Collector Streets
- Planned Collector Streets
- Collector Streets to be closed
- Routes of Regional Significance
- Planned Routes of Regional Significance

OTHER

- Route of Regional Significance on Multimodal Trail

POLITICAL BOUNDARIES *

- Urban Growth Boundary
- City Limits
- Sphere of Influence
- Planning Area Boundary
- County Boundary

* The locations of political boundaries are shown adjacent to each other for ease of identification. Actual political boundaries are coterminous when shown as contiguous, parallel, or overlap.

40 acres
10 acres

0 1/2 1 2
MILES

Figure 5-1

Circulation Network

(Updated on October 21, 2019)

Speed Limits

Speed limits for collector and arterial roadways are established based upon recognized engineering criteria related to roadway design. Some of the criteria includes:

- Street width
- Lane width
- Site distance
- The 85th percentile speed (critical speed)
- Amount, location, and type of driveways
- Parking supply and demand
- Collision history
- Vertical/horizontal alignment

Changing conditions may require a review of posted speed limits.
By State statute, local streets as defined by the vehicle code have a Prima Facie speed limit. Prima Facie means that unless otherwise posted, the prevailing speed limit on local streets is 25 MPH. When evaluating speed limits for local streets, the following criteria are considered:

- Sight distance
- Street width and usage
- Availability of sidewalks or walkways
- Existence of horizontal and vertical grades
- Residential frontages
- Existence of on-street parking
- Part of the City's Bicycle Network
- Close proximity to sources of pedestrian usage such as schools and parks

Stop Signs

The City of San Ramon does not install stop signs as part of the RTC Program. The Federal and California MUTCD, states that *"Stop Signs shall not be used for speed control."* Installing stop signs where not warranted is an ineffective traffic calming measure for the following reasons:

- Drivers generally tend to slow down only at the intersection and then make up the time lost at an unwarranted stop by speeding up between signs.
- Drivers tend to run unwarranted stop signs where unexpected and leads to general disrespect for all stop signs and its application.

A stop sign also has the negative effects of increased noise and air pollution from the deceleration and acceleration of the vehicles.

Stop signs are installed at locations where right-of-way assignment is required due to a large number of vehicles entering the intersection from all directions. The following is a procedural list for stop sign traffic control:

1. Residents request for right-of-way management.
2. Analysis is performed, which includes traffic volume counts, pedestrian volume, collision history, sight distance, and on-site observations.
3. If the intersection meets warrants, then stop sign traffic control is recommended.

Parking Restrictions

The City of San Ramon oversees the installation of parking restrictions based on the following criteria:

1. Safety issues regarding traffic congestion or emergency vehicle access.
2. Visibility at intersections or driveways.
3. Parking management on public streets.

Parking restrictions are installed either in the form of:

1. Red Curb or No Parking Anytime sign.
2. Time Limitations – Generally signs display time periods when parking is restricted along roadways.

It is important to ensure parking problems are not transferred onto other streets. Prior to installing parking restrictions on any street, an analysis is conducted for safety considerations. There is an assessment of overall parking demand for the surrounding area, and all parking restriction recommendations are forwarded to the City Council for approval.

Speed Display Signs

Speed display signs alert drivers of their actual travel speeds. Such devices can be used:

1. On roadways near school zones.
2. In neighborhoods where Police enforcement is the best alternative in managing speeding problems.
3. On any street where benefits of this device could be reaped by all users.
4. On collector and arterial roadways where traffic calming measures involving physical changes to the roadway found in the RTC Toolkit are infeasible.

Speed Humps

Speed humps are not practical mitigation measures on all streets and roadways. Generally, speed humps are designed for local neighborhood roadways with specific traffic volumes, vehicle speeds and residential frontages. Prior to the installation of speed humps, City staff must work with residents, TAC, and the San Ramon Valley Fire Protection District. Recommendations must meet the City's traffic engineering standards, which are regulated by State and Federal regulations and the Institute of Transportation Engineers (ITE). Speed humps are only pursued once it is determined that Phase I measures were not ideal at resolving the speed issues. The following outlines the process for speed hump installation:

1. Resident(s) make an official request for the installation of Speed Humps.
2. City staff determines the neighborhood boundary and circulates an electronic petition to homeowners within that boundary.
3. City staff circulates a petition, and it must be submitted to the City within a set time frame, typically 7-14 days.
4. City staff reviews petition to verify that 75 percent of households have signed.
5. Staff provides regular updates to TAC and invites residents to attend meetings to garner a sound understanding of the process and next steps.
6. A traffic study and analysis is conducted to determine if the speed humps are warranted.
7. A public hearing is held and the request is considered by the TAC. All residents within a minimum 300 ft. to 1,000 ft. radius of the affected street are invited.
8. If the speed hump warrants are met, the design phase proceeds, including the number and location of speed humps.
9. Based on the proposed site location(s), 75 percent of the homeowners with property adjacent to the proposed speed hump must approve the location(s).
10. A second public hearing is held to discuss the recommendations.
11. TAC recommendations are forwarded to the City Council for review and/or approval.
12. Upon Council approval, the speed humps are installed along with appropriate warning signs and pavement markings.
13. A post speed hump installation study is conducted to measure the effectiveness of the speed humps.

Traffic Diversion

Traffic calming tools implemented in one street may have consequences that extend to other streets, through traffic diversion or transference of the problem. For example, implementing turn restrictions on one local street may divert additional traffic onto other local streets. In order to effectively manage traffic patterns throughout the City and to ensure that there is not a transferring of a problem from one location to another, it is important to initiate a petition and public hearing process.

TAC adheres to a guiding policy that any traffic calming improvement shall not be considered if more than 10 percent of the traffic on a street will be diverted onto another neighborhood street.

Petitions ensure that affected residents understand the impacts of the traffic calming measure being advocated for implementation. Public notices and public meetings ensure that all residents that use the City's circulation system have equal access to information and the users are given a chance to express their interests and concerns regarding proposed traffic calming measures.

Petition Process

The RTC Program petition process for gaining consensus on Phase II mitigation measures requires that residents in the affected area understand the benefits and consequences of installing proposed traffic calming features. As such, the petition is generated by City staff and includes a petition letter describing the issue(s). Each letter must be signed by each resident on the project street. The petition letter, once signed by the residents stating that they understand the process, agree to the proposed traffic calming feature, and acknowledge the next steps in the process. The petition is circulated by the City either via United States Postal Service (USPS) mail or email. The petition must be signed and returned to the City within a certain time frame, normally 7 - 14 days.

Once petitions are received by the City, staff will review for 75 percent acceptance and proceed to the next step.

Neighborhood Boundary

A neighborhood boundary will be determined by City staff for each traffic calming request based on the specific characteristic of each neighborhood. The boundary will be used to work with the residents to define an appropriate traffic calming solution. Since the traffic pattern of each neighborhood is unique, each neighborhood will be evaluated on a case-by-case basis to determine the boundary of the traffic calming study area. It is important to make the study area small enough so that consensus can be achieved; however, it must be large enough to address and identify the source of the traffic problem. The boundary may simply be the affected street, include an adjacent street, or even include an entire subdivision.

Moratorium Period

The City policy requires a five-year period between the date an original application for traffic calming is denied and re-application for traffic calming on a particular street. Generally, traffic patterns do not change in less than five years with some exceptions. Exceptions to this moratorium period include changes in roadway conditions, new neighborhood development, and/or other changes that may alter traffic patterns. For example, if City staff conducts an analysis and evaluation of a local street for speed hump installation, with a conclusion that the speed humps are not recommended, the City will not re-initiate a traffic calming evaluation process within the five-year moratorium period.

RTC Toolkit

This section highlights various techniques and measures designed to support traffic calming in neighborhoods. It is critical that the resources provided in this Toolkit be used in an effort to understand the entire traffic calming process, including its positive and negative effects. Each page describes the traffic calming tool and provides guidance on how to use it properly to improve safety, access, mobility, and the quality of life for the whole neighborhood.

Keeping in mind that streets accommodate a variety of activities, the City strives to implement tools that will benefit all users. Improvements are not successful if they simply transfer the problem to another street. Therefore, it is important to work with City staff to perform appropriate traffic studies and test possible solutions.

Disclaimer: This RTC Toolkit is intended as guidance only. There are City Ordinances which authorize what can be constructed in the public right-of-way. The Public Works Department is accountable for determining what can be constructed in the public right-of-way to ensure the welfare and safety of all users. Neighborhood traffic calming requests that do not meet all traffic calming requirements as identified in this RTC Toolkit may be denied.

Appicability Matrix

TOOL	Decrease Speed	Reduce Volume	Increase Pedestrian/ Bicyclist Safety
Chicane			
Choker			
Curb extension			
Diagonal diverters			
Education			
Full closure			
Half closure			
Lateral shift			
Median barrier			
Median island			
Off set speed table			
On street parking			
Radar trailer			
Raised crosswalks			
Realigned intersections			
Road diet			
Roundabout			
Speed cushion			
Speed humps			
Speed table			
Speed limit signs			
Stripings/Markings			
Selective enforcement			
Traffic circles			

Primary Anticipated Effect

Possible Secondary Effect

Evaluation Legend

Cost

Tools are marked with dollar signs to indicate cost. A single dollar indicates the tool is below $100, while three dollars indicates the tool is greater than $40,000.

Time

Tools will be marked by these symbols to indicate the time involved to install the proposed measure. Green indicates minimal time. Orange indicates 6-24 months. Red indicates 24-60 months.

Emergency response

First responders, such as Fire and Police, may have problems accessing through tools marked in red. Many physical tools can increase the emergency vehicle response time. A fire department representative will work with neighborhoods through the development process to avoid such problems.

Bicycle safety

Consideration should be given to whether the proposed application of this tool will increase danger to bicyclists. Bicycle symbols with red circles indicates increased safety risk.

Pedestrian safety

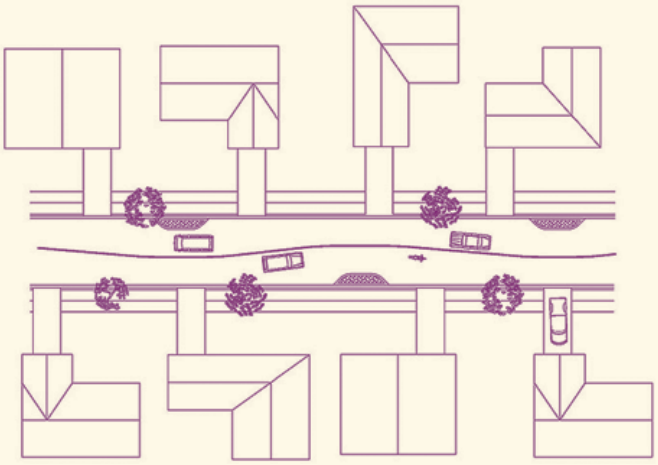
Consideration should be given to whether the proposed mitigation measure will increase pedestrian safety. Pedestrian symbols with red circles indicate increased safety risk.

Temporary measure

This symbol indicates that the proposed tool can be installed on a temporary basis. Upon its proven effectiveness, consecutive steps can be taken.

Chicane

A chicane is a series of alternating curves or lane shifts that are located in a position to force a motorist to steer back and forth out of a straight travel path. The curvilinear path is intended to reduce the speed at which a motorist is comfortable traveling through the feature. The lower speed could in turn result in a traffic volume reduction.



Source: Delaware Department of Transportation

Application

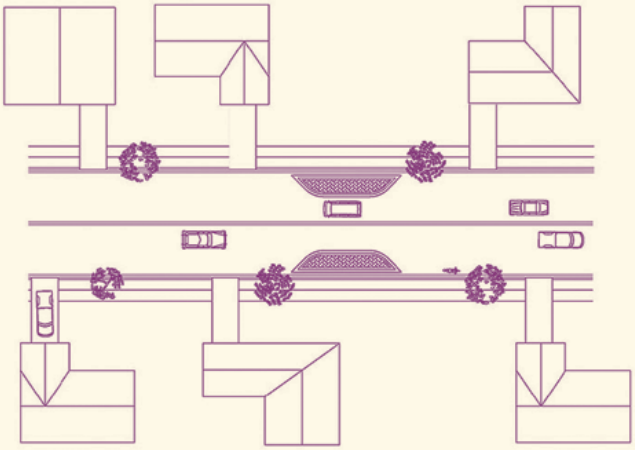
Location:	Applicable mid-block or entire block if the block length is short.
Speed:	Can be appropriate if the speed limit is 35 MPH or less.
Vehicle Volume:	Can be appropriate if traffic volume is relatively low. Most effective in reducing speeds if traffic volumes are relatively balanced in each direction.
Emergency Route:	Can be appropriate along a primary emergency route or on a street that provides access to a hospital or emergency medical services.
Transit Route:	Can be appropriate along a bus transit route.

Effects

Vehicle Speed:	• Can slow traffic by encouraging a motorist to moderate vehicle speed through a series of horizontal deflections. • Less effective in reducing vehicle speed when the volume of traffic is significantly higher in one direction or when volumes are so low that the likelihood of a motorist encountering an opposing motorist within the chicane zone is low. • May still permit speeding by motorists who cut a straight path across the center line; placement of a median island to channel traffic may be necessary.
Vehicle Volume:	As a single installation, there is little traffic diversion from the street.
Pedestrian Safety:	Typically, not a preferred location for a crosswalk because motorist attention should be focused on the horizontal deflection.
Bicyclist Safety:	Typically, not a preferred location for a crosswalk because motorist attention should be focused on the horizontal deflection.
Motorist Safety:	Likely to have minimal effect on motorist mobility and safety; minimal impact on motorist comfort.
Emergency Vehicle Safety:	Should retain sufficient width to allow for the continued easy flow of emergency vehicles; should have little effect on emergency response times.
Accessibility of Adjacent Property:	• May require removal of some on-street parking within the chicane and may, therefore, reduce the accessibility of adjacent property. • Placement needs to consider the accessibility of driveways.
Environment:	• Opportunity for landscaping. • Attention needs to be given to appearance to counter potential for visual clutter.

Chokers

A choker is a horizontal extension of the curb into the street, at a midblock location, resulting in a narrower roadway section.



Source: Delaware Department of Transportation

Application

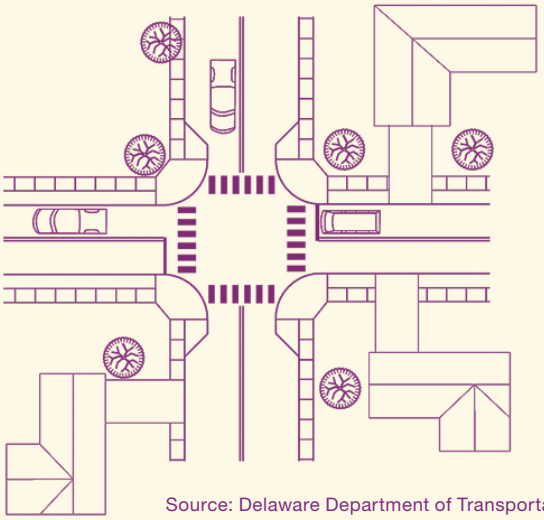
Location:	Applicable only midblock.
Speed:	Can be appropriate for any speed limit.
Vehicle Volume:	Can be appropriate at all levels of traffic volume.
Emergency Route:	Can be appropriate along a primary emergency route or on a street that provides access to a hospital or emergency medical services.
Transit Route:	Can be appropriate along a bus transit route.

Effects

Vehicle Speed:	Can slow traffic by funneling through narrower street opening than is provided in upstream cross-section.
Vehicle Volume:	Has little effect on traffic volumes.
Pedestrian Safety:	Shortens street crossing distance for pedestrians. Improves line of sight for pedestrians and makes pedestrians more visible to oncoming traffic.
Bicyclist Safety:	May reduce travel-way width and force bicyclist and vehicle to share travel lane. If vehicle volume is high, use of shared lane markings and “bike may use full lane” signage could be necessary.
Motorist Safety:	Likely to have minimal effect on motorist mobility and safety; minimal impact on motorist comfort.
Emergency Vehicle Safety:	Retains sufficient width to allow for continued flow of large vehicles.
Accessibility of Adjacent Property:	May require removal of on-street parking, therefore, may slightly reduce accessibility of adjacent property.
Environment:	Can be used as an opportunity for landscaping.

Curb Extension

A curb extension is a horizontal extension of the sidewalk into the street resulting in a narrower roadway section. This device may be used at either a corner or midblock. A curb extension at an intersection is called a corner extension or bulbout. A curb extension located midblock is called a choker.



Source: Delaware Department of Transportation

Application

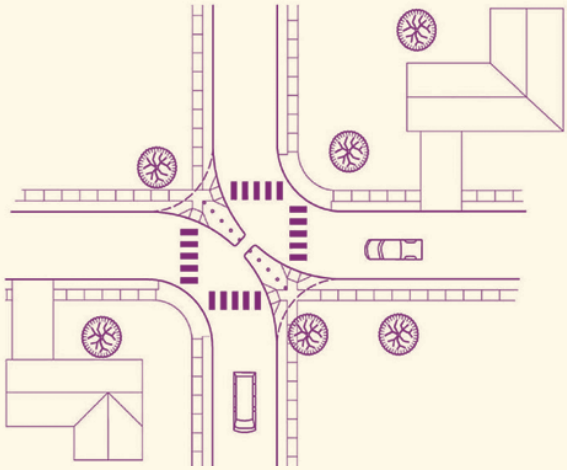
Location:	Placed at an intersection.
Speed:	Appropriate for any speed limit.
Vehicle Volume:	Can be appropriate at all levels of traffic volume.
Emergency Route:	Can be appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services, if appropriate turning radii can be provided.
Transit Route:	May not be appropriate where a bus turns along a transit route if an adequate turning radius cannot be provided.

Effects

Vehicle Speed:	Can slow traffic by funneling through narrower street opening than is provided in upstream cross-section; speeds likely to decrease slightly; amount of speed reduction depends on volume and distribution of traffic.
Vehicle Volume:	Has little effect on traffic volumes; access and turns are maintained and traffic speeds are not changed dramatically.
Pedestrian Safety:	• Shortens intersection crossing distance for a pedestrian; shorter distance reduces the potential for pedestrian-vehicle conflict and likely improves pedestrian safety. • Provides additional queuing space for pedestrians at corner.
Bicyclist Safety:	Should not extend into a bicycle lane.
Motorist Safety:	Likely to have minimal effect on motorist mobility and safety.
Emergency Vehicle Safety:	Retains sufficient width to allow for continued easy flow of emergency vehicles.
Accessibility of Adjacent Property:	May require removal of some on-street parking immediately adjacent to intersection.
Environment:	Can be used as a landscaping opportunity.

Diagonal Diverters

A diagonal diverter is a physical barrier placed diagonally across a four-legged intersection. The barrier creates two unconnected intersections. Traffic approaching the intersection is restricted to one receiving leg, rather than three.



Source: Delaware Department of Transportation

Application

Location:	Applicable only at an intersection.
Speed:	Requires slow vehicle speeds to negotiate the intersection sharp curve; typical maximum speed limit is 25 MPH.
Vehicle Volume:	Can be appropriate if the traffic volume is relatively low.
Emergency Route:	Not appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services.
Transit Route:	Not appropriate along a bus transit route that passes straight through the intersection unless transit route can be altered.

Effects

Vehicle Speed:	• Opportunity for landscaping. • Attention needs to be given to appearance to counter potential for visual clutter.
Vehicle Volume:	Forces all traffic that otherwise could pass straight through the intersection to divert to another path; portion may remain and pass through the diagonal diverter curve as part of its rerouted path; some will divert from intersection completely.
Pedestrian Safety:	• Improves with reduction in vehicle volume and slower vehicle speeds through intersection. • Pedestrian access through the diagonal diverter can be accommodated by providing a gap in the feature with curb ramps.
Bicyclist Safety:	Improves with reduction in vehicle volume and slower vehicle speeds through intersection.
Motorist Safety:	Removes some of the conflicting traffic movements at an intersection.
Emergency Vehicle Safety:	Retains sufficient width to allow for continued flow of emergency vehicles.
Accessibility of Adjacent Property:	Provision of dedicated turning lane can improve accessibility of property along segment.
Environment:	Typically, restricts emergency vehicles from passing straight through intersection; emergency access and response time are affected.

Education

Education is a fundamental component of the City's RTC Program. City staff can assist residents to make informed preliminary decisions about their neighborhoods by educating residents by means of brochures, the City website, and social media. Informed individuals can better assess the degree of traffic calming required to combat traffic concerns, influence driver behavior, and promote community building through respect for one's neighborhood. Informed residents can then collaborate their efforts with engineers and planners to ensure that the proposed traffic mitigation tool is an effective and feasible improvement.

Application

- Education is used as a Phase I tool and, therefore, regularly implemented.
- Upon initial request for traffic calming, residents are provided with educational material, including the RTC Toolkit, California Vehicle Code summaries, and outreach material to share with neighborhood or HOA.
- Education is also an underlying theme as staff gathers data and shares data with the community and TAC. By investing time to educate the community and TAC, staff is able to focus mitigation efforts on documented problems versus perceptions.
- Even as traffic calming requests progress into Phase II measures, it remains critical that residents are educated on the pros and cons of mitigation measures and setting realistic expectations for any tools proposed.
- Thus, education remains an underlying tool throughout the RTC process.

Full Closure

A full street closure is a physical barrier placed across a street to close the street completely to through vehicle traffic. Full closure can be done at either an intersection or midblock.

Source: City of Dallas Traffic Calming Toolbox

Application

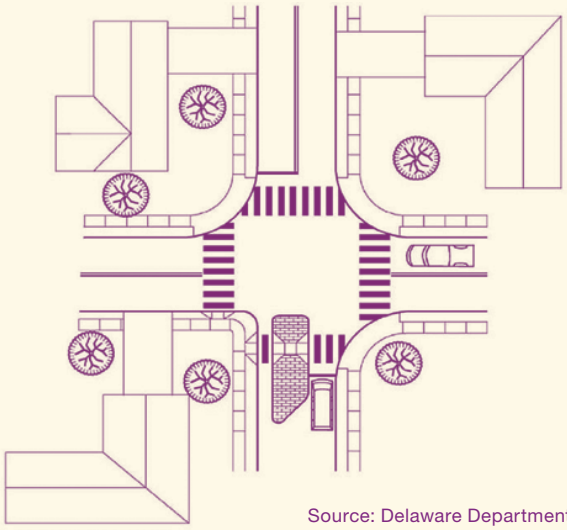
Location:	Applicable at an intersection or midblock.
Speed:	As long there is adequate advance warning, the appropriate speed limit is not constrained.
Vehicle Volume:	Can be appropriate if the traffic volume is relatively low.
Emergency Route:	Not appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services.
Transit Route:	Not appropriate along a bus transit route.

Effects

Vehicle Speed:	Eliminates through traffic movements.
Vehicle Volume:	Forces all traffic that otherwise could pass straight through the intersection to divert to another path; produces largest reduction in traffic volume on subject street among all traffic calming measures.
Pedestrian Safety:	Pedestrian safety presumably improves with reduction in vehicle volume.
Bicyclist Safety:	Bicyclist safety presumably improves with reduction in vehicle volume.
Motorist Safety:	Eliminates all conflicting traffic movements at intersection, improving motorist safety.
Emergency Vehicle Safety:	Restricts emergency vehicles from passing straight through the intersection, affecting access and response time.
Accessibility of Adjacent Property:	Blockage of vehicular traffic through the intersection affects both through traffic and local traffic attempting to access the local street system; reduces overall street connectivity and causes the need for more circuitous routing to and from a property; property accessibility is adversely affected.
Environment:	Can be used as a landscaping opportunity.

Half Closure

A half closure is a physical barrier that blocks vehicle travel in one direction (i.e., creates a one-way street) for a short distance on an otherwise two-way street.



Source: Delaware Department of Transportation

Application

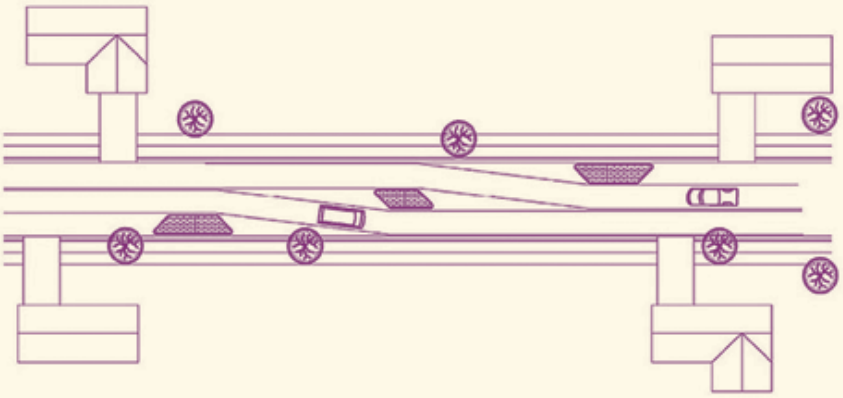
Location:	Applicable only at an intersection.
Speed:	As long as there is adequate advance warning, the appropriate speed limit is not constrained.
Vehicle Volume:	Can be appropriate if the traffic volume is relatively low.
Emergency Route:	Not appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services.
Transit Route:	Not appropriate along a bus transit route.

Effects

Vehicle Speed:	Narrows pavement width through closure island in the open direction; traffic speeds likely to decrease slightly.
Vehicle Volume:	All traffic in one direction prevented from using the street and diverted to parallel streets; volume reduction in the range of 40-60 percent is typical.
Pedestrian Safety:	Pedestrian safety presumably improves with both reduction in vehicle volume and reduction in roadway crossing distance; pedestrian access through half closure can be accommodated by providing a gap in feature with curb ramps.
Bicyclist Safety:	Bicyclist safety presumably improves with reduction in vehicle volume.
Motorist Safety:	Cause some motorists to shift to different and less direct travel path.
Emergency Vehicle Safety:	Emergency response vehicles can maneuver around a half closure when responding to an emergency.
Accessibility of Adjacent Property:	Reduces overall street connectivity and causes the need for more circuitous routing to and from a property; accessibility of adjacent property is adversely affected.
Environment:	Can be used as a landscaping opportunity.

Lateral Shift

A lateral shift is a realignment of an otherwise straight street that causes travel lanes to shift in one direction. The primary purpose of a lateral shift is to reduce motor vehicle speed along the street.



Source: Delaware Department of Transportation

Application

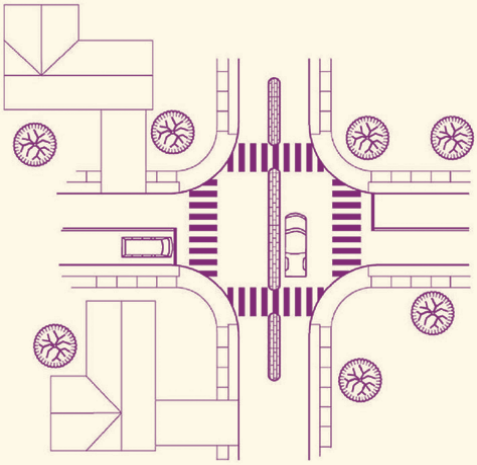
Location:	Applicable only mid-block.
Speed:	Can be appropriate across a range of speed limits, provided the lateral shift has an adequate taper and an adequate shy distance is provided between the travel lane and the lateral shift curb
Vehicle Volume:	Can be appropriate at all levels of traffic volume.
Emergency Route:	Can be appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services.
Transit Route:	Can be appropriate along a bus transit route.

Effects

Vehicle Speed:	Can slow traffic by encouraging a motorist to moderate vehicle speed through the horizontal deflection; amount of speed reduction (or the final speed) depends on the length of the alignment shift, as well as the volume and distribution of traffic.
Vehicle Volume:	Amount of traffic diversion depends on the amount of speed reduction, the increased travel time for non-local traffic and the availability of a quicker, alternative route.
Pedestrian Safety:	Can be a location for a crosswalk.
Bicyclist Safety:	On a street with a bicycle lane or substantial bicycle traffic, should either (1) provide a bypass lane for a bicyclist, separated from the main travel lane by a curb extension; or (2) provide shared lane markings (sometimes known as a sharrow) and “bike may use full lane” signage.
Motorist Safety:	Likely to have minimal effect on motorist mobility and safety; minimal impact on motorist comfort.
Emergency Vehicle Safety:	Retains sufficient width to allow for continued easy flow of emergency vehicles.
Accessibility of Adjacent Property:	May require removal of some on-street parking and may, therefore, slightly reduce the accessibility of adjacent property.
Environment:	Physical features can be used as a landscaping opportunity.

Median Barrier/ Forced-Turn Island

Median barrier and a forced-turn island are two variations of physical turn restrictions at an intersection that can be used to eliminate specific traffic flows (in particular, cut-through traffic) from entering or exiting a side street.



Source: Delaware Department of Transportation

Application

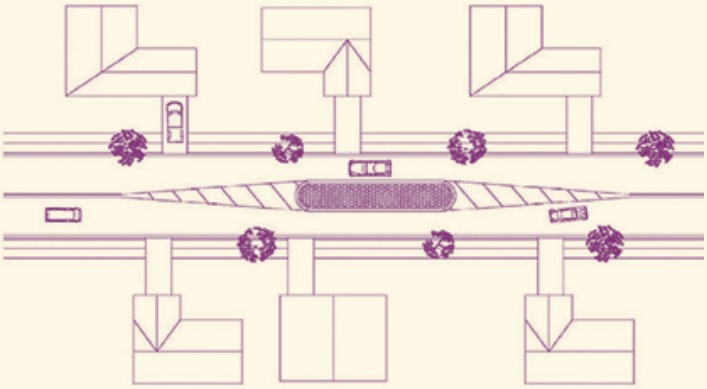
Location:	Applicable only at an intersection.
Speed:	Maximum speed limit on side street is typically 25 MPH.
Vehicle Volume:	No maximum volume for side street blocked by median barrier or configured with forced-turn island.
Emergency Route:	Not appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services.
Transit Route:	Not appropriate along a bus transit route.

Effects

Vehicle Speed:	Not expected to reduce vehicle speed on local street approach to intersection; could reduce speed on major street leg of intersection.
Vehicle Volume:	Can reduce traffic volume on local street approach to intersection; left-turning and straight-through traffic from local street is redirected to either (1) turn right onto the major street; or (2) follow another local street that can enable a left turn or to cross to the other side of the major street.
Pedestrian Safety:	Pedestrian safety on local street presumably improves with reduction in vehicle volume for some pedestrian-vehicle conflict areas; a corner extension could shorten the street crossing distance and further improve pedestrian safety.
Bicyclist Safety:	Bicyclist safety on local street presumably improves with reduction in vehicle volume.
Motorist Safety:	Can improve motorist safety at the intersection by removing some conflicting traffic movements.
Emergency Vehicle Safety:	Restricts emergency vehicles from passing straight through or turning left from the minor street and from turning left onto the minor street; emergency access and response time is affected.
Accessibility of Adjacent Property:	Blockage of vehicular traffic through intersection affects both through traffic and local traffic attempting to access the local street system and its adjacent properties; reduces overall street connectivity and requires more circuitous routing.
Environment:	Can be used to visually enhance the street with landscaping provided visibility of pedestrian in crossing is not compromised.

Median Island

A median island narrowing is a raised island located along the street centerline that narrows the travel lanes at that location. The visual appearance of narrowed lanes encourages a motorist to slow.



Source: Delaware Department of Transportation

Application

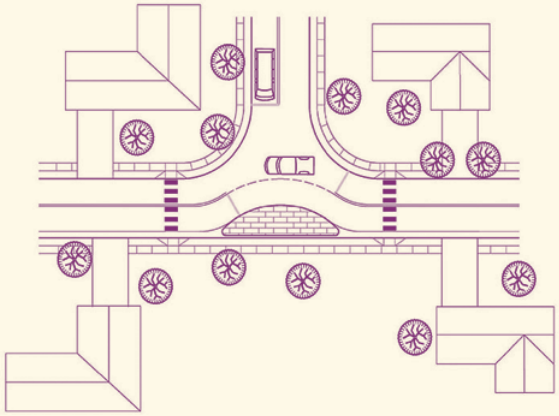
Location:	Can be placed at a midblock location or on the approach to an intersection.
Speed:	Can be appropriate for any common urban speed limit, provided an adequate shy distance is provided between the travel lane and the median island curb.
Vehicle Volume:	Can be appropriate at all levels of traffic volume.
Emergency Route:	Can be appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services, if adequate turning radii can be provided.
Transit Route:	Can be appropriate along a bus transit route if appropriate turning radii can be provided.

Effects

Vehicle Speed:	Traffic speeds likely to decrease slightly (typically between 1 and 5 MPH, with reductions of 2 to 3 MPH being the most common).
Vehicle Volume:	Little effect on traffic volumes.
Pedestrian Safety:	Safety of a pedestrian crossing collector or arterial street can be significantly improved without substantial delay to vehicular traffic.
Bicyclist Safety:	Reduces travelway width and forces bicyclist and motor vehicle to share travel lane; shared lane markings (sometimes known as a sharrow) and "bike may use full lane" signage could be appropriate.
Motorist Safety:	Likely to have minimal effect on motorist mobility and safety; minimal impact on motorist comfort.
Emergency Vehicle Safety:	Retains sufficient width to allow for continued easy flow of emergency vehicles; may obstruct emergency vehicle from making turn directly at destination driveway (solution is to travel in the wrong direction for a short distance next to the median island).
Accessibility of Adjacent Property:	May require removal of some on-street parking and may, therefore, slightly reduce the accessibility of adjacent property.
Environment:	Can be used as a landscaping opportunity provided visibility of pedestrian in crossing is not compromised.

Offset Speed Table

An offset speed table is a raised area placed across the roadway designed to physically limit the speed at which a vehicle can traverse it. Like a speed table, it extends across the travel way and has a long enough flat top (typically, 10 feet) to accommodate the entire wheelbase of most passenger cars.



Source: Delaware Department of Transportation

Application

Location:	Placed at a mid-block location.
Speed:	Posted speed limit of 30 MPH or less.
Vehicle Volume:	Not typically a direct consideration in determination of applicability.
Emergency Route:	Can be appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services.
Transit Route:	Generally not appropriate for a bus transit route with BRT, Express, or Limited Stop service (unless the posted speed limit is 30 MPH or less); speed cushion could be appropriate.

Effects

Vehicle Speed:	Single offset speed table reduces 85th percentile speeds to the range of 20 to 30 MPH when crossing the table; speed reduction effects decline at the rate of approximately 0.5 to 1 MPH every 100 feet beyond the 200-foot approach and exit of a speed table; in order to retain slower vehicle speeds over a longer distance, a series of speed tables is needed.
Vehicle Volume:	As single installation, there is little traffic diversion from the street; as part of a series, typical volume reductions of 20 percent observed.
Pedestrian Safety:	Not a preferred location for a crosswalk.
Bicyclist Safety:	Bicyclist safety should not be affected; some jurisdictions use a maximum street grade of 5 percent if the street is designated as a bicycle route.
Motorist Safety:	Produces sufficient discomfort to a motorist driving above the speed table design to discourage speeding.
Emergency Vehicle Safety:	Minimal delay for emergency service vehicle that bypasses tables.
Accessibility of Adjacent Property:	May result in the removal of on-street parking adjacent to offset speed table, on both sides of the street.
Environment:	Potential for increased noise due to vehicle braking and accelerating and to the vibration of loose items in truck beds or trailers.

On-street parking

On-street parking can effectively narrow the roadway travel lanes by adding side friction to the traffic flow (see Figure 3.19.1). On-street parking can be allowed on one or both sides of a roadway. Or parking zones can be strategically located on alternate sides of a roadway to create a chicane effect.

Source: National Association of City Transportation Officials

Application

Location:	Appropriate as a midblock measure and near an intersection.
Speed:	Can be appropriate for any common urban speed limit, provided an adequate shy distance is provided between the travel lane and the parking lane.
Vehicle Volume:	Can be appropriate at all levels of traffic volume.
Emergency Route:	Can be appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services.
Transit Route:	Can be appropriate along a bus transit route,

Effects

Vehicle Speed:	Can slow traffic by reducing effective travel lane width; typical reduction in speed ranges between 1 and 5 MPH, with reduction of 2 to 3 MPH being the most common.
Vehicle Volume:	Little effect on traffic volumes.
Pedestrian Safety:	Little effect on number and severity of pedestrian/vehicle conflicts, except for the movement of persons to and from a parked vehicle.
Bicyclist Safety:	Can provide a designated bicycle lane or shared lane markings (sometimes known as a sharrow) with appropriate signage; presence of a designated bicycle lane between parked vehicles and travel lanes reduces the traffic calming effects of on-street parking.
Motorist Safety:	Likely to have minimal effect on motorist mobility and safety; minimal impact on motorist comfort.
Emergency Vehicle Safety:	Retains sufficient width to allow for continued flow of emergency vehicles.
Accessibility of Adjacent Property:	Improves accessibility of adjacent property.
Environment:	Parallel parking is generally the preferred configuration to achieve vehicle speed reduction.

Radar Trailer/ Radar Speed Display Sign

Radar trailers and radar speed display signs serve two important purposes: 1) they educate drivers on their behavior in real-time allowing drivers to adjust their speed immediately; and 2) they gather speed and volume data that can be evaluated to determine next steps.

Application

The City of San Ramon utilizes the radar trailer to address RTC complaints. The radar trailer and radar speed display signs are portable units that can easily be deployed to any local roadway to gather speed and volume data. The radar trailer is typically deployed for an average of five days to gather speeds over a period of time. Once the radar trailer or radar speed display sign are removed, staff accesses the unit to download data. This data is then shared with staff members, residents, and TAC to develop recommendations and next steps.

Raised Crosswalks

A raised crosswalk is a variation of a flat-topped speed table. A raised crosswalk is marked and signed as a pedestrian crossing. The 10-foot flat top on a typical speed table conforms to a desired crosswalk width.

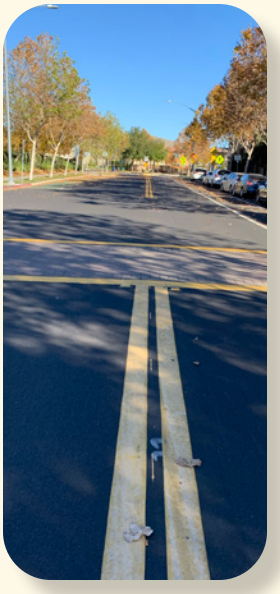
Source: National Association of City Transportation Officials

Application

Location:	Can be placed at a mid-block location or at an intersection.
Speed:	Appropriate if posted speed limit is 30 MPH or less.
Vehicle Volume:	A maximum traffic volume could be appropriate if the raised crosswalk functions more as a speed table; however, many raised crosswalks are installed at locations with high pedestrian volume, high vehicle volume, and low vehicle speed (for example, in a downtown).
Emergency Route:	Generally not appropriate for a primary emergency vehicle route or street that provides access to a hospital or emergency medical services.
Transit Route:	Can be appropriate for a bus transit route if typical bus operating speeds are in 25 MPH range. Should not be located near bus stop to insure passengers are not transitioning between standing and sitting as the bus crosses over raised crosswalk.

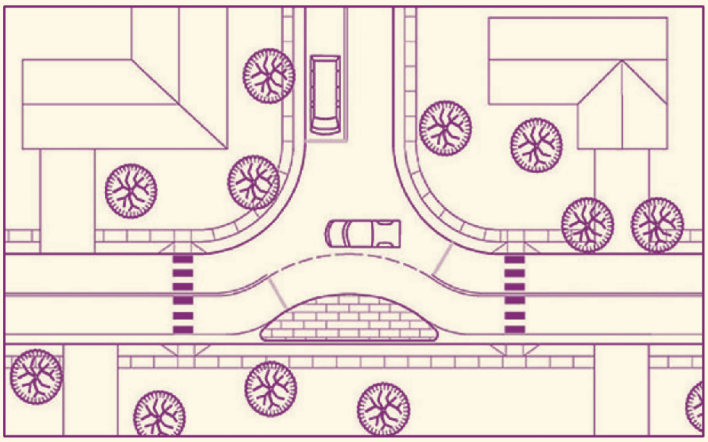
Effects

Vehicle Speed:	Single raised crosswalk reduces 85th percentile speeds to the range of 20 to 30 MPH when crossing the crosswalk; speed reduction effects decline at the rate of approximately 0.5 to 1 MPH every 100 feet beyond the 200-foot approach and exit of a raised crosswalk; in order to retain slower vehicle speeds over a longer distance, a series of speed tables or raised crosswalks is needed.
Vehicle Volume:	As single installation, there is little traffic diversion from the street; as part of a series, typical volume reductions of 20 percent observed.
Pedestrian Safety:	Pedestrian safety improved because (1) vehicle speed is lowered at crosswalk; (2) pedestrian in a raised crosswalk is more visible to an oncoming motorist; and (3) pedestrian has an elevated view of oncoming traffic. Raised crosswalk could be combined with a curb extension to provide additional visibility for pedestrian.
Bicyclist Safety:	Bicyclist safety should not be affected; some jurisdictions use a maximum street grade of 5 percent if the street is designated as a bicycle route. Bicyclist can negotiate a raised crosswalk with little delay or discomfort.
Motorist Safety:	Produces sufficient discomfort to a motorist driving above the raised crosswalk design speed to discourage speeding.
Emergency Vehicle Safety:	Less speed delay than for a speed hump. Has less jarring effect on long, stiff-bodied emergency service vehicle(s).
Accessibility of Adjacent Property:	May result in the removal of on-street parking adjacent to raised crosswalk, on both sides of the street. Typically placed at least five feet from a driveway but can be designed to incorporate a driveway.
Environment:	Potential for increased noise due to vehicle braking and accelerating and to the vibration of loose items in truck beds or trailers.



Realigned Intersection

A realigned intersection is the reconfiguration of an intersection with perpendicular angles to have skewed approaches or travel paths through the intersection. The expectation is that these physical features will remove or discourage fast vehicle movements through the intersection.



Source: Delaware Department of Transportation

Application

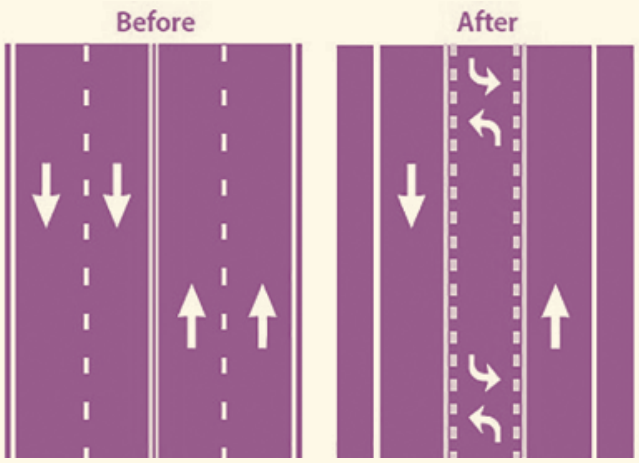
Location:	Typically applicable only at a T-intersection.
Speed:	Should be in line with the nature of the street network; 25 MPH speed limit is the most common maximum.
Vehicle Volume:	Not typically a direct consideration in determination of applicability.
Emergency Route:	Can be appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services, if appropriate turning radii can be provided.
Transit Route:	May be appropriate along a bus transit routes, if adequate turning radii can be provided.

Effects

Vehicle Speed:	Slows traffic by introducing horizontal deflection to an otherwise straight path of travel. Can reduce speeds within intersection limits between 5 and 13 MPH and between 1 and 6 MPH in the vicinity.
Vehicle Volume:	As a single installation, there is little traffic diversion from the street.
Pedestrian Safety:	Introduction of stop- or signal-control reduces pedestrian/vehicle conflicts and improves pedestrian safety.
Bicyclist Safety:	No direct effect on bicyclists.
Motorist Safety:	Likely introduces delay on the major (i.e., realigned) leg of the intersection.
Emergency Vehicle Safety:	Little effect on emergency vehicle safety or on emergency response time.
Accessibility of Adjacent Property:	Should not require the removal of on-street parking.
Environment:	Physical features can be used as a landscaping opportunity.

Road Diet

A road diet is the conversion of an undivided roadway to a cross-section with fewer or narrower through motor vehicle travel lanes. The most common application is the conversion of an undivided four-lane roadway to a three-lane roadway consisting of two through lanes and a center two-way left-turn lane. The reduction in the number of lanes permits the inclusion of facilities for other uses, such as bicycle lanes, sidewalks, pedestrian refuge islands, transit uses, and on-street parking.



Source: Delaware Department of Transportation

Application

Location:	Applied along a roadway segment.
Speed:	Appropriate for any speed limit.
Vehicle Volume:	Can be appropriate at all levels of traffic volume.
Emergency Route:	Can be appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services.
Transit Route:	Can be appropriate along a bus transit route.

Effects

Vehicle Speed:	Elimination of a travel lane can reduce higher speeds that are achieved through passing.
Vehicle Volume:	Has little effect on traffic volumes.
Pedestrian Safety:	• Reduces severity of pedestrian/vehicle conflicts through vehicle speed reduction. • Improves pedestrian ability to cross street safely by reducing the number of moving lanes of traffic to be viewed and crossed. • Provides space for potential median island that can serve as a refuge island and further improve pedestrian safety.
Bicyclist Safety:	Reduces severity of bicyclist/vehicle conflicts through vehicle speed reduction.
Motorist Safety:	• Expected crash reduction of between 19 and 47 percent. • Safety benefits from reduced vehicle speeds and from movement of left turning vehicles out of a through travel lane.
Emergency Vehicle Safety:	Retains sufficient width to allow for continued flow of emergency vehicles.
Accessibility of Adjacent Property:	Provision of dedicated turning lane can improve accessibility of property along segment.
Environment:	Reallocation of cross-section elements could provide space for landscaping enhancements, but not typical.

Roundabout

A roundabout is an intersection design that contrasts with designs that require traffic signal control or stop control. A roundabout is often used as a replacement for a signalized intersection.

Application

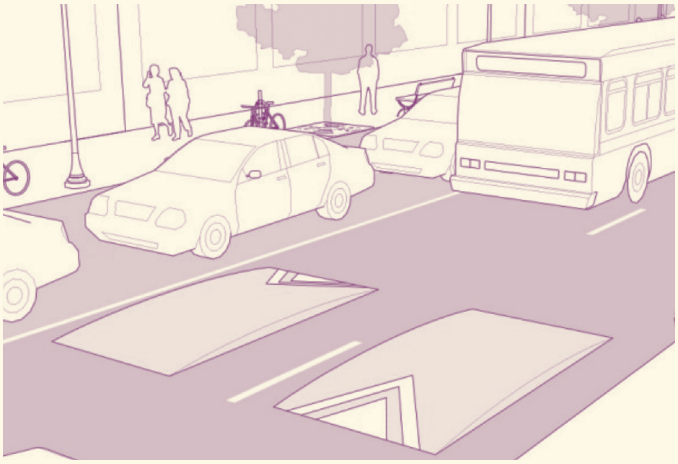
Location:	Applicable only at an intersection.
Speed:	Appropriate for any speed limit.
Vehicle Volume:	Can be appropriate at all levels of traffic volume.
Emergency Route:	Can be appropriate along primary emergency vehicle route or street that provides access to a hospital or emergency medical services.
Transit Route:	Can be appropriate along a bus transit route.

Effects

Vehicle Speed:	Speed reduction largely dependent on proper design of approach lanes to deflect each vehicle as it passes through intersection.
Vehicle Volume:	As single traffic calming treatment, there is little traffic diversion from the street.
Pedestrian Safety:	Fewer vehicle/pedestrian conflict points than traditional four-leg intersection.
Bicyclist Safety:	Bicyclist and motor vehicle to share travel lane.
Motorist Safety:	Can improve motorist safety at the intersection; has fewer potential vehicle/vehicle conflicts points than traditional four-leg intersection; left-hand turn crashes eliminated.
Emergency Vehicle Safety:	Turns made smoothly across roundabout apron.
Accessibility of Adjacent Property:	Parking should not be permitted close to roundabout.
Environment:	Can be used as a landscaping opportunity.

Speed Cushion

A speed cushion consists of two or more raised areas placed laterally across a roadway. The height and length of the raised areas are comparable to the dimensions of a speed hump. The primary difference is that a speed cushion has gaps (often referred to as "cutouts") between the raised areas to enable a vehicle with a wide track (e.g., a large emergency vehicle, some trucks, some buses) to pass though the feature without any vertical deflection.



Source: Delaware Department of Transportation

Application

Location:	Placed in a mid-block location.
Speed:	Appropriate if posted speed limit is 30 MPH or less.
Vehicle Volume:	Can be an appropriate measure at low traffic volumes.
Emergency Route:	• Appropriate for a primary emergency vehicle route and on a street that provides access to a hospital or emergency medical services. • An emergency vehicle can cross a properly designed speed cushion at a speed near the speed limit.
Transit Route:	Appropriate for a bus transit route.

Effects

Vehicle Speed:	• Single speed cushion reduces vehicle speeds to the range of 15 to 20 MPH when crossing the cushion; speed reduction effects decline at the rate of approximately 0.5 to 1 MPH every 100 feet beyond the 200-foot approach and exit of a speed cushion; in order to retain slower vehicle speeds over longer distance, a series of speed cushions needed. • Average speeds are typically higher than for a speed hump because speed cushion allows a motorist to pass over the cushion with one wheel on the cushion and one wheel off.
Vehicle Volume:	As single installation, there is little traffic diversion from the street; as part of a series, typical volume reductions of 20 percent observed.
Pedestrian Safety:	Not a preferred location for a crosswalk.
Bicyclist Safety:	Bicyclist safety and mobility not affected; bicyclist can pass through the speed cushion gaps.
Motorist Safety:	• Speed effects of a single or series of speed cushions are greater than for any other traffic calming measure with the exception of route diversions that eliminate a particular traffic movement. • Produces sufficient discomfort to a motorist driving above the speed cushion design speed to discourage speeding.
Emergency Vehicle Safety:	• Speed reduction for emergency vehicles is minimal because the larger vehicles can straddle the cushions; if the emergency vehicle has the track width of a passenger car (e.g., an ambulance), there is delay. • Offset speed table is a comparable vertical measure designed to accommodate emergency vehicle mobility.
Accessibility of Adjacent Property:	On-street parking does not need to be removed and there is no reduction in accessibility of adjacent property.
Environment:	Potential for increased noise due to vehicle braking and accelerating and to the vibration of loose items in truck beds or trailers.

Speed Humps

A speed hump is an elongated mound in the roadway pavement surface extending across the travel way at a right angle to the traffic flow. A speed hump is typically 3 inches in height (with applications as high as 4 inches) and 12 feet in length along the vehicle travel path axis.

Source: National Association of City Transportation Officials

Application

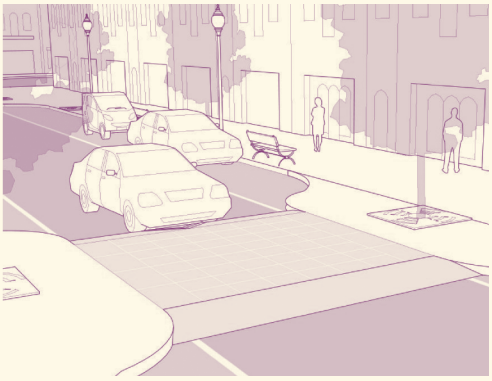
Location:	Can be used on a single-lane, one-way street or two-lane, two-way street; should stretch across only one travel lane in each direction.
Speed:	Appropriate if posted speed limit is 30 MPH or less.
Vehicle Volume:	Can be an appropriate measure at low traffic volumes.
Emergency Route:	• Generally not appropriate for a primary emergency vehicle route or a street that provides access to a hospital or emergency medical services; speed cushion and speed table are similar vertical measures that could be appropriate. • An emergency vehicle can cross a properly designed speed hump at a slow speed.
Transit Route:	Generally not appropriate for a bus transit route but examples of speed humps on bus routes do exist; a speed table and speed cushion are similar vertical measures that could be appropriate.

Effects

Vehicle Speed:	Single speed hump reduces vehicle speeds to the range of 15 to 20 MPH when crossing the hump; speed reduction effects decline at the rate of approximately 0.5 to 1 MPH every 100 feet beyond the 200-foot approach and exit of a speed hump; in order to retain slower vehicle speeds over longer distance, series of speed humps is needed.
Vehicle Volume:	As single installation, there is little traffic diversion from the street; as part of a series, typical volume reductions of 20 percent observed.
Pedestrian Safety:	Not a preferred location for a crosswalk.
Bicyclist Safety:	• Bicyclist safety should not be affected; some jurisdictions use maximum street grade of 5 percent on a street with a speed hump if designated as a bicycle route. • Bicyclist can negotiate speed hump with little delay or discomfort; it is also possible for a bicyclist to bypass a speed hump by passing through the gap between the hump and the curb and gutter.
Motorist Safety:	• Speed effects of a single or series of speed humps are greater than for any other traffic calming measure with the exception of route diversions that eliminate a particular traffic movement. • Produces sufficient discomfort to a motorist driving above the speed hump design speed to discourage speeding.
Emergency Vehicle Safety:	Typical delay for a fire truck is in the 3 to 5 second range; for an ambulance with a patient, delay can be as much as 10 seconds.
Accessibility of Adjacent Property:	Does not typically require removal of any on-street parking or affect accessibility of adjacent property.
Environment:	Potential for increased noise due to vehicle braking and accelerating and to the vibration of loose items in truck beds or trailers.

Speed Table

A speed table is a raised area placed across the roadway designed to physically limit the speed at which a vehicle can traverse it. Like a speed hump, it extends across the travel way. Unlike a speed hump, a speed table has a long enough flat top (typically, 10 feet) to accommodate the entire wheelbase of most passenger cars. The longer longitudinal depth in the direction of travel enables comfortable and safe vehicle operating speeds that are faster than for a speed hump.



Source: National Association of City Transportation Officials

Application

Location:	Placed at a mid-block location.
Speed:	Posted speed limit of 30 MPH or less.
Vehicle Volume:	Not typically a direct consideration in determination of applicability.
Emergency Route:	Generally not appropriate for a primary emergency vehicle route or street that provides access to a hospital or emergency medical services; another form of vertical deflection, a speed cushion, could be appropriate.
Transit Route:	Generally not appropriate for a bus transit route with BRT, Express, or Limited Stop Service (unless the posted speed limit is 30 MPH or less); speed cushion could be appropriate.

Effects

Vehicle Speed:	Single speed table reduces 85th percentile speeds to the range of 25 to 35 MPH when crossing the table; speed reduction effects decline at the rate of approximately 0.5 to 1 MPH every 100 feet beyond the 200-foot approach and exit of a speed table; in order to retain slower vehicle speeds over a longer distance, a series of speed tables is needed.
Vehicle Volume:	As single installation, there is little traffic diversion from the street; as part of a series, typical volume reductions of 20 percent observed.
Pedestrian Safety:	Appropriate location for a crosswalk; in traffic calming terms, a crosswalk on a speed table is called a raised crosswalk.
Bicyclist Safety:	Bicyclist safety should not be affected; some jurisdictions use a maximum street grade of 5 percent if the street is designated as a bicycle route.
Motorist Safety:	Produces sufficient discomfort to a motorist driving above the speed table design speed to discourage speeding.
Emergency Vehicle Safety:	• Less speed delay than for a speed hump. • Has less jarring effect on long, stiff-bodied emergency service vehicles than speed hump.
Accessibility of Adjacent Property:	May result in the removal of on-street parking adjacent to offset speed table, on both sides of the street.
Environment:	Potential for increased noise due to vehicle braking and accelerating and to the vibration of loose items in truck beds or trailers.

Speed Limit Signs

Signs that inform drivers of the maximum safe driving speed under normal conditions.

Application

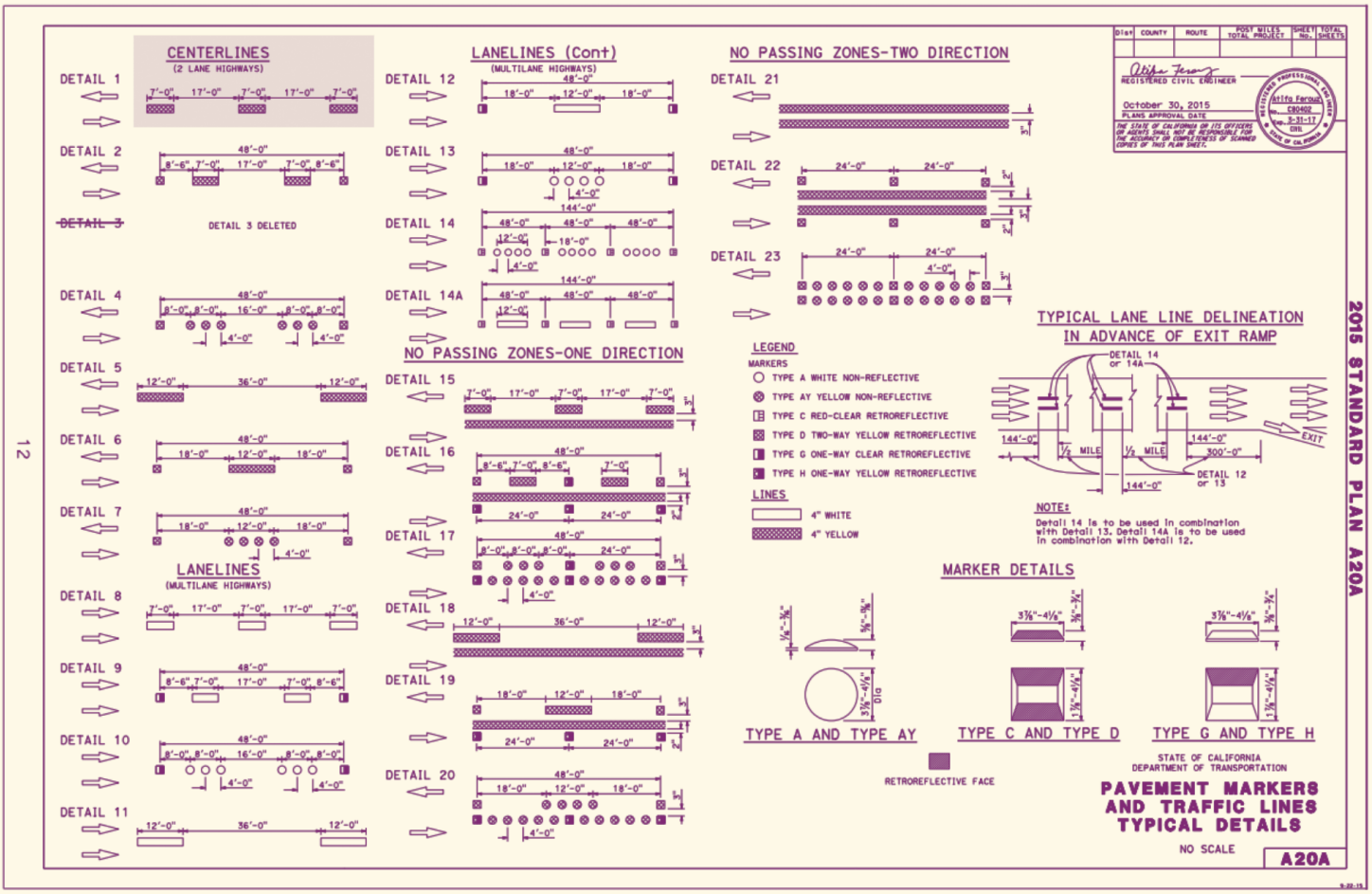
Speed limit signs are a valuable tool for Phase I efforts. In many communities, the installation of one additional sign has served as an ongoing educational tool reminding drivers of the posted speed limit.

Striping and Markings

A low cost application that can be used to supplement traffic calming measures. Lane striping and markings can be used to modify traffic lane widths and reinforce safety zones.

Application

Lane striping and markings are installed throughout San Ramon's transportation network.



Source: Caltrans Highway Design Manual

Selective Police Enforcement

Targeted monitoring of speeding and other violations by Police for a set period of time. The feedback gathered through selective enforcement is used to evaluate the severity of the problem.

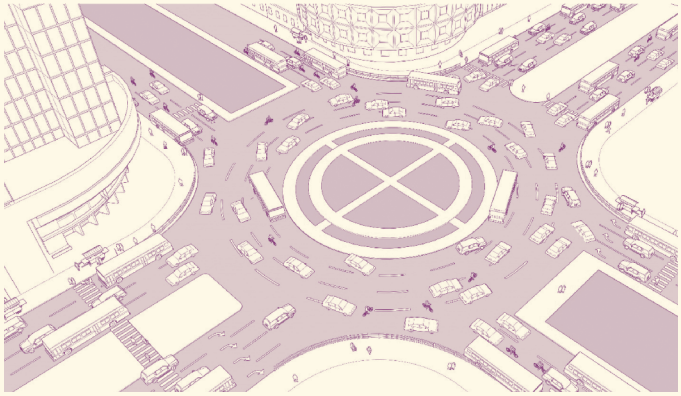
Officers are using radar speed equipment.

Application

Selective enforcement language: Selective enforcement has been a critical part of the Phase I campaign. Typically, when a complaint is received staff will submit a Selective Enforcement Form to the Police Department for response. An Officer is then assigned (pending availability) to that street for a period of four to six weeks to conduct periodic enforcement. During that time, the assigned Officer dedicates some time to enforcing the posted speed limit and addressing issues related to the original complaint. Following the enforcement period, the Officer submits the Selective Enforcement Form to staff for analysis. This information is then shared with other staff members, residents, and TAC to develop recommendations and next steps.

Traffic Circle

A traffic circle is a raised island, placed within an unsignalized intersection, around which traffic circulates. A circle forces a motorist to use reduced speed when entering and passing through an intersection, whether the vehicle path is straight through or involves a turn onto an intersecting street.



Source: National Association of City Transportation Officials

Application

Location:	Applicable only at an intersection.
Speed:	Requires a slow approach by vehicles; appropriate only for streets with relatively low speed limits.
Vehicle Volume:	Can be an appropriate measure at low traffic volumes.
Emergency Route:	Not appropriate along a primary emergency vehicle route or on a street that provides access to a hospital or emergency medical services.
Transit Route:	In general, a transit route should not include a left turn at a traffic circle.

Effects

Vehicle Speed:	• Traffic speeds within the limits of a traffic circle reduced 5 to 13 MPH; in vicinity (i.e., within roughly 200 feet upstream and downstream), a smaller amount (between 1 and 6 MPH). • Has less of a speed reduction effect than does a small modern roundabout or mini-roundabout because a circle generally does not have splitter islands.
Vehicle Volume:	As single traffic calming treatment, has wide-ranging effect on vehicle volume; more effective when placed in series.
Pedestrian Safety:	Depending on geometry of overall intersection, horizontal deflection may force motor vehicle into pedestrian crossing area; may be desirable to shift crosswalks slightly in order to prevent vehicles from encroaching on the crosswalk.
Bicyclist Safety:	Bicyclist and motor vehicle share travel lane within the traffic circle.
Motorist Safety:	• Minimal impact on motorist comfort. • Constrained turning radius counterclockwise around circle may necessitate a large vehicle to make a left turn in front of the circle; if turning volume is significant, could create confusion and unexpected vehicle-vehicle conflicts.
Emergency Vehicle Safety:	• Fire vehicle can maneuver around traffic circle at slow speed; emergency response times may be affected. • Constrained turning radius typically necessitates a left turn in front of the circle.
Accessibility of Adjacent Property:	• Parking should not be permitted close to intersection with traffic circle; distance of 30 feet is commonly used. • Should not affect accessibility of nearby driveways.
Environment:	Opportunity for landscaping.

RTC Appendix

Sample Petition*

"Imagination Community" – Speed Hump Petition*

The City of San Ramon has received a request from the "Imagination Homeowner's Association (HOA)" to consider the installation of Speed Humps on "Imaginary Drive". In order for the City to move forward with this proposal, 75 percent of the households from the "Imagination Community" must sign this petition in favor of the measure. However, signing the petition does not guarantee speed humps. Ultimately, City Council will consider the approval of Speed Humps. Speed Hump installation includes the following basic principles:

1. Speed Hump and Speed Hump Ahead signs will be installed along the proposed roadway.
2. Speed Hump and Speed Hump Ahead pavement markings will be installed.
3. Speed Humps will be installed at specifics locations that meet engineering standards.
4. One parking space will be removed at the Speed Hump site, on each side of the road.
5. Two parking spaces will be removed immediately adjacent to the Speed Hump site.

The results of this Speed Hump petition survey and next steps will be presented at the upcoming Transportation Advisory Committee (TAC) meeting. Prior to the meeting, an invitation with meeting agenda will be circulated for residents to participate. If the 75 percent petition criteria is met, then TAC may forward a recommendation to the City Council to install Speed Humps.

Please complete the Speed Hump Petition Survey. The last day to submit this form is **January XX, 2XXX*. Only one submittal per household.**

If you have questions, please contact City of San Ramon staff at 925-XXX-XXXX*, or e-mail staffmember@sanramon.ca.gov*. Thank you.

"Imagination Community" Speed Hump Petition

I, (_____) have read and understand the Speed Hump Proposal: ❑ YES ❑ NO

I am in support of Speed Humps: ❑ YES ❑ NO

Name: _____

Address: _____

Email Address: _____

Comments: _____

_____

_____

_____

*This petition serves as an example for a City-initiated petition that would be circulated to gain consensus for instllation of a trafflic calming measure.

San Ramon Transportation Advisory Committee Guidelines and Bylaws

Approved by the San Ramon City Council - April 25, 2006
Amended by the San Ramon City Council - April 10, 2012
Amended by the San Ramon City Council - July 10, 2018
Amended by the San Ramon City Council - November 24, 2020

Article I: Name

A. The name of this group shall be the San Ramon Transportation Advisory Committee (hereinafter referred to as "Committee").

Article II: History

A. The Committee was established by the City Council in January 1986. The Committee evolved from the previous City Transit Committee.

Article III: Purpose

A. The purpose of the Committee is to provide ongoing input to the City of San Ramon on the provision and delivery of transportation issues affecting the City of San Ramon.

Article IV: Charge

A. The Committee's main objectives are to:

1. Review and provide recommendation(s) on all transportation related complaints, comments, or suggestions.
2. Review County Connection bus ridership, bus routes every six months, and make appropriate recommendations to Council.
3. Review and provide comments on transportation issues regarding the Metropolitan Transportation Commission (MTC), Caltrans, County Connection, LAVTA, and BART.
4. Review and provide comments and recommendations on the City's General Plan circulation elements and specific plans.
5. Participate in the implementation of the Bicycle Master Plan:
   a. Review the Bicycle Master Plan a minimum of twice annually.
   b. Provide recommendations for a project or projects to be considered as part of the annual Capital Improvement Program (CIP).
   c. When appropriate, TAC will convene a Bicycle Master Plan Subcommittee to review regional bicycle/pedestrian plans and/or studies and provide recommendations for TAC consideration.
6. Review and provide recommendations for Council on local, state, and federal transportation legislation affecting San Ramon.
7. Review and provide recommendations on transportation policies, issues, and programs which involve the Contra Costa Transportation Authority (CCTA) and Tri-Valley Transportation Council (TVTC).
8. Review and provide recommendations on the Contra Costa Countywide Bicycle Plan.
9. Establish an annual project study list to address specific issues.
10. Other matters as referred to Committee from Council.

Article V: Memberships

A. The Committee shall consist of six (6) community representatives and (1) Chamber of Commerce Representative. Members shall meet any one or more of the following criteria and must meet all qualifications:

- Are interested or knowledgeable in the provision and delivery of transportation issues;
- Have prior experience in community projects or activities;
- Have prior experience in a community-based organization; and
- Are 18 years of age or older.

Applicants must meet all of the following qualifications:

- Applicants should have the ability to take an active role in Committee meetings and projects and participate a minimum of six hours per quarter in Transportation programs and activities;
- Be a resident of the City of San Ramon; and
- Not currently serving on another City Advisory Committee.

B. The Committee will have voting capacity. The Committee will include one liaison from the Planning Commission, City Council, and Teen Council who will be non- voting members. Two non-voting City staff members (Director, Division Manager, and/or Program Manager) will serve to provide professional expertise, program and budget advice, and assistance with applicable open meeting regulations.

C. Persons meeting the qualifications and interested in serving on the Committee shall complete the appropriate application form. An application filing period will be announced publicly in order to solicit applications when vacancies exist on the Committee.

D. All seven seats shall be appointed by the City Council.

E. Members will serve a two-year term on the Committee or until a successor is appointed and able to serve. Incumbents wishing to reapply will be re-appointed by the City Council. Terms will commence in January of each year.

F. Members wishing to resign from the Committee must provide a written resignation addressed to the City Clerk.

G. In the event of a vacancy on the Committee, the person selected to fill the vacancy shall serve for the remainder of the unexpired term. If fewer than six months remain in the unexpired term, the City Council has the option of appointing a person to serve the remainder of the unexpired term or the unexpired term followed by a full term.

Article VI: Committee Organization

A. Meetings will be held every month. Additional meetings may be scheduled as deemed necessary by the Chair of the Committee or by Department staff.

B. Quorum: A majority of voting members in good standing shall constitute a quorum for the purpose of action on any issue or agenda item.

C. Members shall notify the Chair or staff in the event of an anticipated absence from a regularly scheduled meeting. Three absences in any 12-month period shall constitute voluntary resignation from being a Committee member. Attendance records will be maintained by staff.

D. Meetings shall follow the Brown Act Laws for Open Public Meetings, Government Code Section 54950.5, and public input during a public forum shall be established and supported. Standard rules of parliamentary procedure will govern meetings.

1. Agendas: A written agenda shall be developed by the Chair and staff, and shall be delivered to all Committee members at least 72 hours in advance of the Committee meeting.
2. Minutes: Written summary minutes shall be recorded by the staff, typed and issued to all Committee members for their approval.
3. Written Correspondence/Verbal Communication: All written official correspondence and verbal communication on behalf of the Committee or any Committee member that is directed to any outside agency, organization or person shall have the consent of the Committee.

E. Officers: The Committee shall elect a Chair and a Vice Chair from among its members following the annual appointment. Term of office is one year. The Chair shall not serve consecutive full year terms as Chair. Elections also shall be held to fill vacancies in these positions as they occur, or as soon thereafter as practical.

a. Chair: Shall preside at all meetings of the Committee; decide on all points of order; appoint subcommittee membership; follow up on work of subcommittees; represent Committee to City Council and Commission; call special meetings; coordinate agenda preparation with staff; encourage active participation of members.
b. Vice-Chair: Shall preside at all meetings in the absence of the Chair.

F. Staff: Shall record all activities of the Committee and keep written summary minutes of all Committee meetings; record attendance; arrange for filling vacancies; prepare agenda in consultation with Chair; provide information necessary for Committee work; assure compliance with applicable laws; lend professional expertise; track time spent on Committee work.

Article VII: Powers of Committee

A. Committee members may recommend and the Committee establish subcommittees as deemed necessary. Appointment of subcommittee members will be made by the Chair. Subcommittees may consist of persons not on the Advisory Committee, and may be of any size. Subcommittee Chair will be elected by the subcommittee membership. Subcommittees will be appointed either for single task force assignments or as an ongoing standing subcommittee. Subcommittees are for the sole purpose of researching, reviewing, or providing overall policy direction on programs, facilities, or services prior to being presented to the full Committee.

B. Committee will submit recommendations to the City Council in writing, as approved by a majority of the Committee.

C. Committee shall establish annual goals and action plan consistent with City Council policies and direction.

Article VIII: Amendments

A. Any proposed amendment to these Bylaws must be approved by a majority vote of the Committee, and ratified by the City Council.

Definitions and Acronyms

85th Percentile Speed

As established by California Vehicle Code, this speed is used to set roadway speed limits in order to be enforced by radar. As an example of 100 vehicles, 85 of those would be traveling at or below the 85th percentile speed.

ADT

Average Daily Traffic is the number of vehicles passing through a particular street segment in a 24-hour weekday period on an average.

Affected Properties

Defined as any residential or commercial property immediately adjacent to the project roadway defined within the project study area boundary. For Phase II voting purposes, each affected property will receive one vote, and multi-family housing units will receive a single vote.

Affected Property Voter

A property owner, manager, or resident of an affected property that will be eligible to cast a vote on behalf of the property they own, manage, or reside in. Affected properties that consist of multi-family housing units, will receive one vote that will be fulfilled by the sole vote of the property owner, sole vote of the property manager, or the majority vote of the households within the complex.

City

City of San Ramon

City Staff

City of San Ramon staff

Cut-Through Traffic

Traffic that travels through a neighborhood, but does not begin or end a trip in the neighborhood.

MPH

Miles per hour is the standard measure for vehicle speed.

Neighborhood

Used in this document to indicate the project study area. The neighborhood will likely be a primarily residential/local and/or collector roadway area.

RTC Eligible Roadways

Roadway eligibility is based on the Planned Roadway Network map from the City of San Ramon's General Plan Circulation Element. Eligible streets must be classified as residential collector or local roadway and must be a public roadway.

Petitioner

The individual listed as the primary contact for the RTC petition submitted to the City. If the petitioner is a school official, then a Letter of Support from the School District is required.

Phase I

Phase I improvements are considered non-physical features. These improvements have the ability to be implemented in a greater number of situations since they require significantly less modifications to existing infrastructure. Phase I improvements include items such as traffic signs and roadway striping.

Phase II

Phase II improvements are considered physical and generally more intrusive traffic calming improvements that are reserved for roadways that continue to demonstrate severe traffic calming concerns. Improvements can include speed lumps, bulbouts/curb extensions, and traffic circles. Phase II improvements require neighborhood support, which is obtained through a survey.

Plan

An individual set of improvements specifically designed to treat a neighborhood with a traffic-related problem.

Post Data

Traffic data collected after implementation of improvements, typically six months after implementation, used to evaluate the effectiveness of the traffic calming plan.

Prioritization

The process in which petitions in queue will be analyzed based on set criteria to determine if petitions may need more immediate attention.

Prioritization Period

The period in which all petitions in queue will be prioritized to ensure that all petitions are addressed in a timely manner. This period occurs every six months.

Program

The Citywide guidelines used to develop specific neighborhood improvement plans.

Sight Distance

The furthest distance that a driver can clearly view oncoming traffic, stopped vehicles, obstacles, pedestrians, and cyclists.

Speeding

For the purposes of evaluating petitions by Phase criteria, speeding will refer to vehicle speeds in excess of 5 MPH over the posted speed limit.

TAC

Transportation Advisory Committee

Toolbox

A list of traffic calming devices to be used in developing neighborhood traffic calming plans.

Traffic Calming

Reducing vehicular impacts by slowing or reducing traffic while improving livability and increasing the safety of pedestrians, bicyclists, and motorists.

San Ramon

Public Works Department

Transportation Services Division
925-973-2650

Engineering Services Division
925-973-2670

Public Services Division
925-973-2800

Community Development Department

Planning Services Division
925-973-2560

Building Services Division
925-973-2580

Parks & Community Services
925-973-3200

Police Department
925-973-2700

City Website
www.SanRamon.Ca.Gov

Twitter
@CityofSanRamon

Instagram
@CityofSanRamon

Facebook
facebook.com/CityofSanRamon