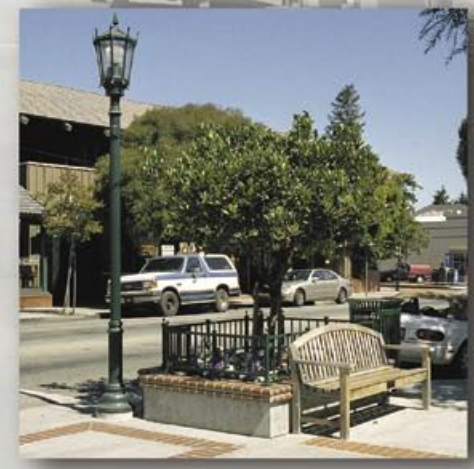
Main Streets:
Flexibility in Design & Operations

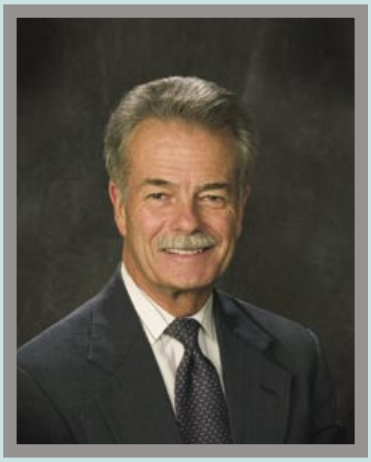


Caltrans

January 2005

Making main streets more livable

January 2005



This booklet emphasizes the California Department of Transportation's (Caltrans) commitment to make state highways that also happen to be local main streets more livable. It is a manifestation of a process that is sweeping rapidly across America – and across California: Context Sensitive Solutions (CSS).

Caltrans recognizes the potential benefits of measures such as reducing the number of lanes through a downtown, reducing lane widths, installing traffic calming devices, lowering speed limits, providing angled parking, wider sidewalks, roundabouts, raised medians and providing other street side amenities that provide a feeling that a town's main street is where you want to be.

None of these measures represent a reduction of Caltrans commitment to safety or mobility; all are within the parameters of the Caltrans Highway Design and Project Development Procedures manuals. Caltrans will continue to require appropriate justification for exceptions to design standards.

Caltrans remains committed to the notion that people live, work and play in the communities through which our facilities pass. It is our duty, by recognizing the needs of both non-motorized and motorized modes of transportation, to assure that living space is a good space in which to live. We are committed to full cooperation with the citizens and elected officials of those communities to find transportation solutions that meet both our duty to protect the safety and mobility of travelers, as well as making main streets an integral part of the community.

Will Kempton

Main Streets:
Flexibility in Design & Operations

Main streets through a community that also happen to be state highways provide access to businesses, residential roads and other nearby properties. Main streets serve pedestrians, bicyclists, businesses and public transit, with motorized traffic typically traveling at speeds of 20 to 40 miles per hour. Main streets give communities their identity and character, they promote multi-modal transportation, support economic growth, and may have scenic or historic value.

The California Department of Transportation (Caltrans) recognizes the value of a main street to a community and understands that planners and designers need to address community values when developing highway improvements where state highways also serve as main streets. Caltrans is committed to early and continuous public participation to accommodate a community's values into the planning and design of projects.

This booklet identifies Context Sensitive Solutions and Livable Community concepts that can assist communities and Caltrans in balancing community values with transportation concerns for safe and efficient operations for travelers, pedestrians, bicyclists, transit users, and highway workers.

Application of Flexibility

Caltrans advocates enhancements to state facilities that promote a community's vision and needs. Recognizing that meeting these needs may require flexibility, a process for approving alternative designs exists. This process evaluates each requested deviation for its potential effects on highway safety, regional needs, and the surrounding environment. Deviations from Caltrans policy or standards to meet community requests may require approval of an exception to a policy or nonstandard feature[1]. As previously mentioned, early communication between the community and District staff will help to identify opportunities to meet community needs. These early consultations will also open discussion about options that may not conform to department policy or standards. Since the approval process for a design-related exception is different from operational related policy, District staff will provide guidance on which approvals may be necessary.

This booklet is not intended to supersede existing Caltrans manuals, procedures or practices, but is a compilation of suggested options that may be used to enhance established traffic engineering and design practices, policies and standards.

Philosophy[2]

The Project Development process seeks to provide a degree of mobility to users of the transportation system that is in balance with other values. In the development of transportation projects, social, economic, and environmental effects must be considered fully along with technical issues, so that final decisions are made in the best overall public interest.

Attention should be given to such considerations as:

- **Need for safe and efficient transportation**
- **Attainment of community goals and objectives**
- **Needs of low mobility and disadvantaged groups**
- **Costs of eliminating or minimizing adverse effects on natural resources, environmental values, public services, aesthetic values, and community and individual integrity**
- **Planning based on realistic financial estimates**
- **Safety, construction and ease of maintaining whatever is built**

Proper consideration of these items requires that a facility be viewed from the perspectives of the user, the nearby community, and larger statewide interests.

Community Involvement

It's appropriate that Caltrans consider community values in the planning and design of state highways that are also main streets. The Transportation Equity Act for the 21st Century (TEA-21) of 1998 is emphatic on the role of public participation in transportation decision-making. In addition, the federal Interim Policy on Public Involvement requires Caltrans to promote an active role for the public in the development of transportation plans, programs, and projects from early stages of planning through detailed project development, construction, and maintenance. The interim policy also encourages Caltrans public participation programs to aggressively seek out and involve those traditionally underserved.

Extensive community involvement should guide the early planning and design of projects to ensure that projects address local issues and enhance the livability of communities. Identifying stakeholders and forming early partnerships are key to the success of these planning and design efforts.

Partnerships - Funding and Responsibilities

Successful implementation of Livable Community concepts and Context Sensitive Solutions (CSS) depends on a commitment to the principles of partnership. Although each partner has different roles and responsibilities, the community and Caltrans must commit to working together to develop the best solutions and share responsibility for decisions.

Partnerships are expressed through collaborative transportation problem definition, shared decision-making and a mutual commitment to implementation. Traditional and non-traditional stakeholders must invest in the partnership with an expectation of receiving a return on their investment.

Caltrans recognizes that the construction and operating costs that may occur with the implementation of some livable community and CSS principles are a shared responsibility. The degree of financial contribution is a negotiated process based on roles and responsibilities of each stakeholder.

Early in the planning process, stakeholders should determine their financial commitment for the various elements proposed as part of the highway improvement. Additionally, stakeholders should agree to their role in the maintenance of the main street.

For further information and funding options, please contact the local Caltrans District Office[3] or the Regional Transportation Planning Agency (RTPA).

Performance Measures

Community support for a highway project is always important, particularly when implementing design concepts such as those discussed here. Caltrans considers public participation a vital part of early project planning and desires full engagement with community members who express interest in implementing a community vision. The level of community support for a project is usually apparent in the planning and project development process. Local funding for elements of construction and maintenance or a commitment to implementing measures such as improvements to adjacent city streets or access management along the main street is a clear indication of community support.

For state highway main street projects, indicators that help determine and confirm compatibility with community values include:

- **Lower motorized operating speeds and improved Level of Service (LOS)[4]**
- **Reduced congestion levels and reduction of motorist delay**
- **Improved pedestrian access and mobility**
- **Improved access to schools and businesses**
- **Improved safety**
- **Improved bicycle accessibility and mobility**
- **Protecting and preserving scenic and historic qualities and attributes**

Traffic Calming Measures

"Traffic Calming is the combination of mainly physical measures that reduce the negative impacts of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users."[5]

An important tenet of public participation is that communities understand what traffic calming tools are available, and have input in determining which traffic calming features are considered. Traffic calming measures discussed throughout this booklet can be used to enhance livability of community main streets on state highways.

Reducing the Number of Lanes

Reducing the number of lanes can provide space for features such as wider shoulders, bicycle lanes, sidewalks, and medians, or the addition of left turn lanes or parking. Reducing the number of lanes may reduce the potential for collisions or may decrease speeds and smooth traffic flow. However, reducing the number of lanes may also reduce the facility vehicular level of service, which may be acceptable to the community.

This strategy is typically considered as a highway transitions from rural to downtown conditions. The main street will typically have an Average Daily Traffic (ADT)[4] of fewer than 10,000 vehicles with approaching and departing two-lane segments and a four-lane facility through town. Consideration should be given to mobility impacts, congestion, collisions, maintainability (particularly sweeping and snow removal), pedestrians, bicyclists, and transit users, as well as adjacent land uses such as schools, parks, libraries, homes and businesses. It's important that strategies such as these be identified as early as possible in the planning and design process.

Reducing Lane Width

Lane width plays an important role for both motorized and non-motorized users. Wider lanes tend to improve driver comfort. The operations and physical dimensions of cars, recreational vehicles, trucks and buses, the classification or use of the highway and prevailing speeds, all influence the selection of the appropriate lane width. For highways that serve as main streets, particularly those that operate at lower speeds, lane widths narrower than the standard 12 feet may be appropriate. Reduced lane widths in combination with other traffic calming measures may encourage slower speeds, which is desirable for a main street. Where existing right of way is limited, reducing lane widths can provide adequate shoulder width for bike lanes and sidewalks. When considering use of narrower lane widths, the designer should recognize that the narrower lane reduces vehicle separation. A standard 12 -foot outside lane width is preferred where there is significant recreational vehicle and truck traffic or the main street is a designated bus or truck route. The gutter pan is not considered part of the traveled way.

Lane width below 12 feet is a non-standard design feature, which must be approved on a case-by-case basis. A design exception will be required for all cases where lane width is below the minimum standard.

Transverse Rumble Strips

Transverse Rumble Strips (TRS) are to be used selectively on approaches to a main street where a speed reduction is desired and where speed limit or warning signs are installed. On a state highway, a speed reduction will typically occur in a transition from rural to downtown conditions. The traffic operations personnel should consider a TRS that is compatible with motorcycle and bicycle use.[6] TRS will increase noise for the surrounding areas. Additionally, drainage should be considered, as a TRS might trap water, which could pond in the roadway. Raised TRS should not be used in snow areas because of the potential formation of ice patches. Speed bumps or humps are not approved for use on state highways and are appropriate only for residential, non-state highway use. There is a safety concern that drivers may swerve toward the shoulder to avoid them, decreasing safety for pedestrians, bicycles, and other non-motorized modes of transportation. Many vehicles (especially emergency services vehicles) may detour to other streets to avoid them, which simply shift traffic to other routes and slows emergency service response times. Speed bumps also increase noise for the surrounding area.

Visual Cues

Visual cues help drivers recognize that they are entering an area of increased pedestrian, bicycle or other non-motorized activity, and in combination with other traffic calming measures may reduce vehicle speeds. Visual cues encourage motorists to park and experience the main street amenities. Examples of visual cues that can reinforce this transition include:

- **"Gateway" treatments, which are typically signs or monuments (see "Gateway Monuments" Section)**
- **Sidewalks, typically accompanied by curb and gutter, to designate portions of the roadway for motorized and non-motorized users**
- **Raised medians or traffic islands, typically installed as an access management technique and to provide a pedestrian refuge area or accommodate landscaping**
- **Landscaping in medians, sidewalk planting strips and planters**
- **Ornamental lighting, planters, benches, trash receptacles, light poles, traffic signals, overhead banners, artwork, bus shelters and other street furniture**
- **Pedestrian signs**
- **Textured crosswalks or intersection pavement**
- **Stop lines set back from crosswalks**
- **Transportation Art (see "Transportation Art" section)**

NOTE: All design elements that can be classified as fixed objects shall be located beyond the minimum horizontal clearance distance[7] or outside the clear recovery zone,[8] whichever is appropriate. Horizontal clearance varies, depending on whether or not the fixed object is adjacent to the sidewalk or the curb in the median.

Roundabouts

Many communities are beginning to recognize the traffic calming effect of properly designed and located circular intersections. Although their use has been promoted primarily to improve safety, the modern roundabout can provide numerous advantages over conventional intersection traffic control treatments.

Roundabouts can reduce the number and severity of collisions for all highway users. Additionally, roundabouts help to address other benefits such as those described in the bulleted items.

Additional information on roundabouts can be found in Caltrans Design Information Bulletin (DIB) No. 80-01[9] and the FHWA publication: "Roundabouts: An Informational Guide," dated June 2000.[10]

- **Reduce speeds of vehicles**
- **Improve access and traffic circulation**
- **Reduce delay**
- **Reduce the number of through and channelization lanes**
- **Provide more space for bicycle and pedestrian facilities**
- **Improve pedestrian mobility**
- **Reduce fuel and/or energy consumption**
- **Lower vehicle emissions**
- **Provide unique opportunities for landscaping and other aesthetic treatments**
- **Have the unique ability to serve as a physical and operational interface or gateway between rural and urban areas where speed limits change**

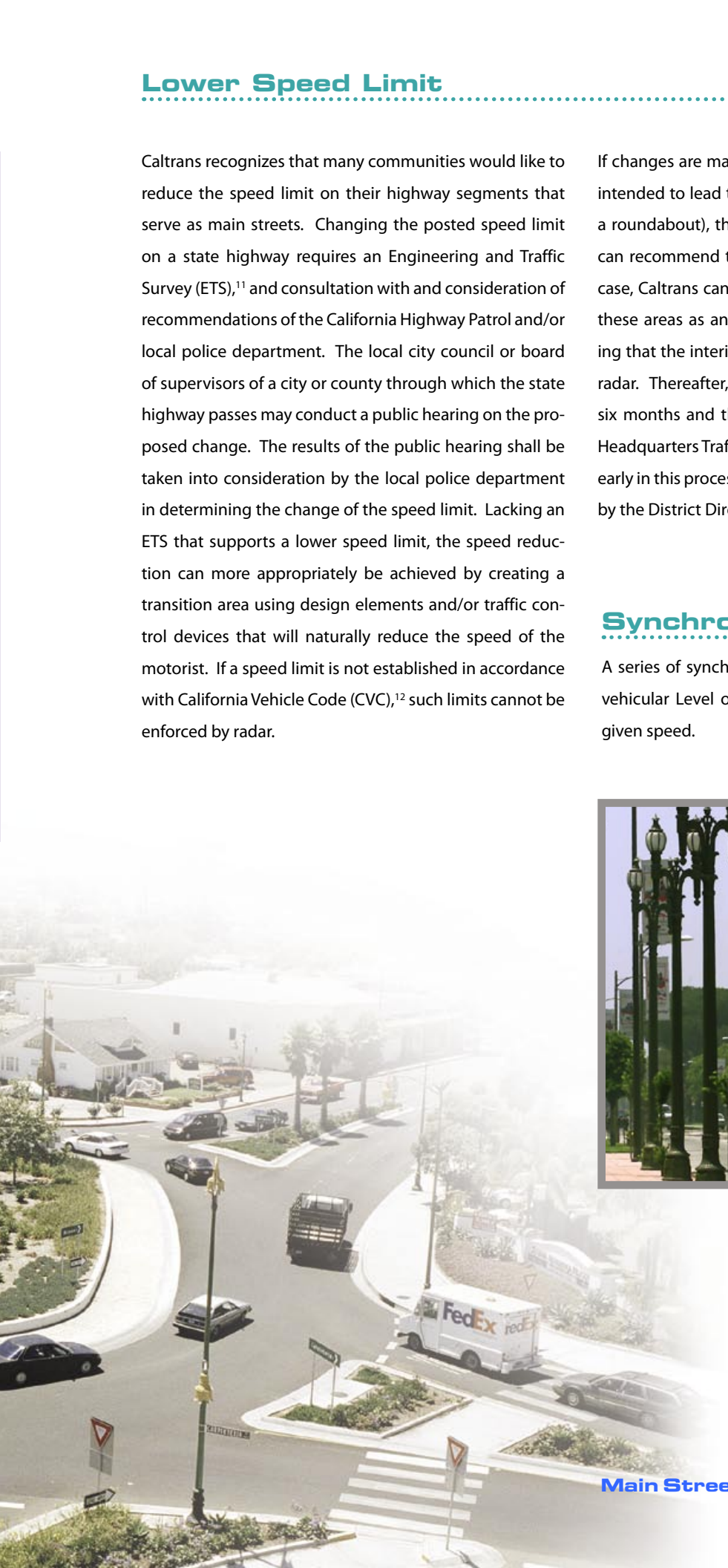
Lower Speed Limit

Caltrans recognizes that many communities would like to reduce the speed limit on their highway segments that serve as main streets. Changing the posted speed limit on a state highway requires an Engineering and Traffic Survey (ETS),[11] and consultation with and consideration of recommendations of the California Highway Patrol and/or local police department. The local city council or board of supervisors of a city or county through which the state highway passes may conduct a public hearing on the proposed change. The results of the public hearing shall be taken into consideration by the local police department in determining the change of the speed limit. Lacking an ETS that supports a lower speed limit, the speed reduction can more appropriately be achieved by creating a transition area using design elements and/or traffic control devices that will naturally reduce the speed of the motorist. If a speed limit is not established in accordance with California Vehicle Code (CVC),[12] such limits cannot be enforced by radar.

If changes are made to a section of the highway that are intended to lead to a speed limit reduction (for example, a roundabout), the District Division of Traffic Operations can recommend that the speed limit be reduced. In this case, Caltrans can place speed limit reduction signage in these areas as an interim solution with the understanding that the interim speed zone cannot be enforced with radar. Thereafter, Caltrans must complete an ETS within six months and the signage must comply with the ETS. Headquarters Traffic Operations staff should be consulted early in this process, and any changes should be approved by the District Director.

Synchronized Signals

A series of synchronized traffic signals can maintain the vehicular Level of Service and facilitate traffic flow at a given speed.



Parking

On-street parking may have a traffic calming impact. While parking is necessary to support business and main street uses, parked vehicles cannot be allowed to obstruct a driver's clear line of sight to an intersection. This is especially important for bicyclists traveling on the outermost portion of a roadway and pedestrians or disabled persons who may not be tall enough to be seen above a parked vehicle.

Some communities have expressed interest in angled parking to accommodate more parking spaces on the main street. Angled parking can be forward (nose-in) or reverse (back-in). However, it can create problems due to the varying length of vehicles and sight distance limitations associated with backing up against oncoming traffic.[13]

Angled parking is most feasible when an adequate buffer zone exists that allows vehicles to enter or exit the space without interfering with a bicycle lane[14] or, if there is no bicycle lane, the traveled way of the main street. A painted island is preferred, to separate the buffer area from the through traffic and bicycle lane. If a sufficient buffer area is not available, parallel parking should be used.

Raised Median Islands

Communities often request raised median islands for several reasons: they provide pedestrian refuge, reduce the scale of the main street, and with added landscaping, make the public space more beautiful. Raised medians also channelize left turn lanes and create a unique visual identity to the corridor. Raised median islands help reduce conflicts between pedestrians and vehicles by allowing pedestrians to cross only one direction of traffic at a time. Raised median islands should be designed to provide enough refuge for pedestrians crossing the street at intersections and designated mid-block crosswalks.

A raised median island may be placed to divert all through traffic from side streets and all left turn movements to the nearest signal or intersection where turns are permitted. Designers must conduct proper analysis to ensure that these intersections can accommodate the added turning movements. Adequate left turn pockets will be needed to provide storage space for the additional vehicles making the left turns and U-turns. Circulation from the side streets may be affected, which could impact local businesses and neighborhoods.

Any enhancement in the island that can be classified as a fixed object, such as a tree, boulder, bollard, monument, signpost, or light pole, must be set back from the island curb face.[8]

Where the island width is insufficient to accommodate enhancements such as those previously described, other design considerations may include eliminating lanes, using vertical curbs, or planting large multi-stemmed shrubs rather than trees. The District Landscape Architect should be consulted about these types of plants. Landscaping within the raised island should not restrict sight distance.[16] The District Traffic Liaison must approve pedestrian crossings and end treatments that use high barriers or vertical curbs as a planter.

Access for maintenance workers and their equipment should be considered in the design of median islands and in the selection of paved surface treatments, plant materials and irrigation systems.[15] Maintenance-efficient curb island design, which may include using water-efficient plantings, is encouraged. Additionally, paving narrow areas less than four feet wide lessens maintenance personnel exposure. It is also important to minimize obstructions that may impair sight distance. Paving the island far enough back from the intersection to provide adequate sight distance can do this.

Areas that receive regular snowfall require careful evaluation for islands due to snow removal considerations.

If the curbed island includes a gutter pan, a shoulder of at least two feet shall be provided from the left edge of traveled way (ETW) to the face of the island curb. The ETW should be delineated with a yellow stripe. The nose of the island shall terminate so that vehicles can easily complete turning movements without obstruction.

Sidewalks[17] - For most communities, the preferred sidewalk width in a downtown environment is 10 feet. This width allows pairs of pedestrians to walk side by side or to pass comfortably. More width is desirable to accommodate high volumes of pedestrians, bus shelters, sidewalk cafes[18] and other outdoor users. Any improvements within the Caltrans right of way must follow state law. In general, the wider the sidewalk, the more pleasant the pedestrian experience. All sidewalks and curb ramp design must meet accessibility requirements of the Americans with Disabilities Act (ADA) of 1990.[19]

In general, the use of sidewalks for bicycle travel is not desirable due to conflicts between pedestrians and bicyclists. However, when a sidewalk is designated for bicycle use,[20] it is important to recognize that an extremely wide sidewalk does not necessarily add to the safety of all users. Wide sidewalks encourage higher bicycle speeds and can increase potential for conflicts with motor vehicles at intersections as well as with pedestrians and fixed objects. Also, wider sidewalks may draw other users, including skateboarders, push scooters and in-line skaters.

On-street parallel parking and landscaped sidewalk planting strips can provide a buffer between pedestrians and moving vehicles.

Pedestrian Crossings - The principles and practices described in this section apply to pedestrian crossings. However, they also may apply to other types of non-motorized crossings, such as equestrians and bicycles. This section does not apply to school crosswalks.[21] Pedestrian crossings include: markings, signing, overhead signing where the main street displays numerous business signs and other distractions, raised islands for pedestrian refuge, and traffic control systems (e.g., flashing beacons with warning signs or in-roadway warning lights).

Intersections: Pedestrian crosswalk markings may be installed where they are needed to channelize pedestrians into a preferred path at intersections. This is typically done when the intended course is not readily apparent or when, in the opinion of the engineer, the crosswalk would minimize pedestrian-auto conflicts. Pedestrian crosswalk markings are not required at every intersection and should not be used indiscriminately.

Mid-Block Crossings: Mid-block pedestrian crossings are generally unexpected by motorists and should be discouraged unless, in the opinion of the engineer, there is clear and reasonable justification. Particular care should be given to roadways with two or more traffic lanes in one direction as a pedestrian may be hidden from view by a vehicle yielding the right-of-way to the pedestrian.

Textured Pavement in Pedestrian Crossings:[22] In general, stamped concrete and asphalt concrete are preferred over brick or unit pavers when a textured/aesthetic surface treatment is desired. Brick or unit pavers are discouraged because of potential problems related to pedestrians, bicycles and ADA requirements for a continuous, smooth, vibration-free surface. Brick or unit pavers may cause more noise, have a higher initial cost, and in particular, have a potential high cost of maintenance. Installation and maintenance of brick pavers requires skilled labor, storage of replacement materials, extended traffic control, more worker exposure, and replacement will result in added public inconvenience. Any textured or aesthetic cross-

walk surface treatment must also have painted crosswalk markings. The use of textured surface treatments for crosswalks may be considered but requires approval from the District. Proposed textured/aesthetic surface treatment must meet structural section requirements as specified by the District Materials Engineer.

In-Roadway Flashing Lights:[23] In California, crosswalk-warning systems such as In-Pavement Flashing Lights are considered traffic control devices. They can be installed in the pavement to warn highway users of a condition that is not readily apparent and may require the road user to slow or come to a stop.[24] Such systems should be considered for use on a state highway only after consultation with the Headquarters Traffic Operations Liaison.[25]

Sidewalk Bulbouts (Curb Extensions): Sidewalk bulbouts are extensions of the sidewalk into the roadway at intersections. They are designed to give pedestrians greater visibility as they approach the intersection crossing, decrease the distance they must cross and slow traffic. They often have textured/aesthetic surface treatment and are integrated into the streetscape design.

Sidewalk bulbouts are to be approved for use on a case-by-case basis if they do not meet design standards. A design exception will be required for all cases where a bulbout reduces shoulder width below the minimum standard. Where a bicycle lane exists or is planned in the future, the bulbout shall be designed so as not to extend into the area reserved for the bike lane. It must provide the proper turn radius so that trucks can turn without driving over the curb. It must allow for adequate drainage to avoid ice, leaf and road debris buildup and to allow street sweeper accessibility. In areas of regular snowfall, curb extensions must be marked with objects visible to plow operators. Areas that receive regular snowfall require careful evaluation and may not be good candidates for sidewalk bulbouts due to snow removal considerations.

In areas that serve local schools, a state grant program, Safe Routes to School (SR2S),[26] has been established to fund projects where communities have developed an interest in engineering safer neighborhoods. One of the six categories of projects includes pedestrian and bicycle crossing improvements.

Street Lighting

Main streets should have adequate lighting for pedestrians to feel secure at night. Decorative lighting fixtures enhance a downtown's unique sense of place. Decorative lighting or traffic signal fixtures may be used provided they meet current federal and state safety standards.[27] Poles and signal controller boxes must be placed outside of the pedestrian area of the sidewalk. Poles in the median must meet specific traffic safety standards. Caltrans staff will provide the appropriate information on safety requirements for lighting fixtures.

Caltrans is mainly involved in lighting for safety as warranted by federal guidelines. Continuous main street lighting that is not warranted by Caltrans is the responsibility of the local agency. Selection of decorative lighting fixtures should involve the local community and local agency. It will be the local community's responsibility to determine the type of fixtures and the local agency's responsibility to secure funding for installation, operation and maintenance of continuous main street lighting.

Furnishings

Street Furnishings include benches, kiosks, bollards, bike racks, planters, etc. Street furnishings provide pedestrians a place to rest and socialize. To enhance pedestrian activity, a main street may include places to sit, such as benches, low walls, planter edges or wide steps. The presence of pedestrian gatherings reminds motorists that streets have other public uses. Furniture layouts for sidewalks must place these objects away from the pedestrian path. Tables for dining are not appropriate within Caltrans right of way except under a special event permit.

Bike racks and bollards should be placed beyond minimum horizontal clearance requirements[7] and away from the pedestrian area of the sidewalk. Bollards must be tall enough so they do not create a tripping hazard to pedestrians.

Furnishings must not compromise ADA requirements. If there is lack of adequate street lighting, the furnishings may have to be lighted by other means to avoid being a tripping hazard.

Street Landscaping

Street landscaping makes downtowns more livable, beautiful and unique to the town. Quality landscaping along the roadway, close to the highway or in medians can increase driver awareness of the immediate environment and may alter driver behavior, resulting in slower speeds and a safer main street. A row of trees may calm traffic by making the road appear narrower. Street trees add an attractive canopy over the main street and may increase comfort for pedestrians. They create comfortable spaces

and soften lighting. They cool streets in the summer, and provide a windbreak in the winter. Trees also create distinctive identity and seasonal interest. However, caution should be exercised while considering trees along the roadway that might extend over the traveled way in snow areas. Snow accumulation may cause branches to break and fall. Also, shade from trees may cause "black ice" conditions in areas where freezing temperatures are prevalent.

For visibility, trees must be located and maintained properly, and not impair corner sight distance. Avoid blocking visibility for turns into and from intersections and driveways, obstructing driver's line of sight to oncoming traffic, blocking visibility of stop signs or other roadside signs, and decreasing visibility for pedestrians and bicyclists at intersections. Trees must also conform to Caltrans minimum setback requirements for clear recovery zones.[8]

Trees planted along a main street must not present a barrier for any mode of transportation on the highway. The District Landscape Architect should review any proposed plant material and recommend appropriate installations related to aesthetics, safety, cost, and maintainability.

The characteristics, growth habits, and species are very important when selecting street trees and other plant material. Special consideration should be given to the root system and the characteristics of the tree at maturity. All plant material requires regular maintenance. Contact the District Landscape Architect for technical expertise on plant characteristics that will suit specific site locations. Proper selection of plant material will ensure reduced maintenance problems and increase safety for highway users and workers.

Banners and Decorations[28]

Caltrans reviews submittals and issues permits for the erection of banners, decorations and temporary signing over and within conventional highway rights-of-way for events sponsored by local agencies and nonprofit organizations. Banners, decorations and temporary signing must be placed beyond minimum horizontal and vertical clearance requirements.

Authorized banners and decorations over the roadway must have a minimum vertical clearance and be suspended securely from permanent structures or poles. Temporary supports are not allowed and the use of state facilities, including but not limited to intersection signals, overhead signs or light poles, is prohibited.

Permanent overhead signs or arches may not be erected or suspended over any state highway.

Non-Decorative Banners are intended to convey a message such as the occasion of an event or activity. Caltrans issues permits for non-decorative banners to local agencies or nonprofit organizations sponsoring an event the local agency has approved. Banners displaying private advertisements are not allowed except when used as part of an event's official title (e.g., Kellogg's Napa Valley Marathon).

Districts may issue biennial permits to local agencies for installation of non-decorative banners for recurring events. The local agency then authorizes each banner installation, notifies the state's representative, and provides traffic control.

Decorative red, yellow or green lights or decorations that may be confused with any traffic control device shall not be placed where they could interfere with the driver's perception of traffic signals.

Decorative Banners are intended to convey brief text or logos identifying the local agency. Decorative banner permits may be issued by a local agency for enhancement of its main street. As a minimum, decorative banners shall:

- **Be used exclusively on conventional state highways**
- **Not contain advertising whether in text or logo format**
- **Remain in place for periods up to two years - the normal biennial permit duration**
- **Have an approved Caltrans encroachment permit where the local agency is the applicant**

Decorations that extend beyond the curb line or cross the highway shall have a minimum vertical clearance above the highway pavement. Decorations attached to a non-state vertical structure such as power, telephone or light poles, or buildings are not to project beyond the curb line and meet the minimum vertical clearance requirements above the sidewalk. Decorations shall not be attached to State owned facilities such as traffic signals.

Holiday decorations are permitted on conventional state highways.

Gateway Monuments[29]

A gateway monument is defined as any freestanding structure or sign, not integral or otherwise required for the highway facilities that communicates the name of a region, community or area.

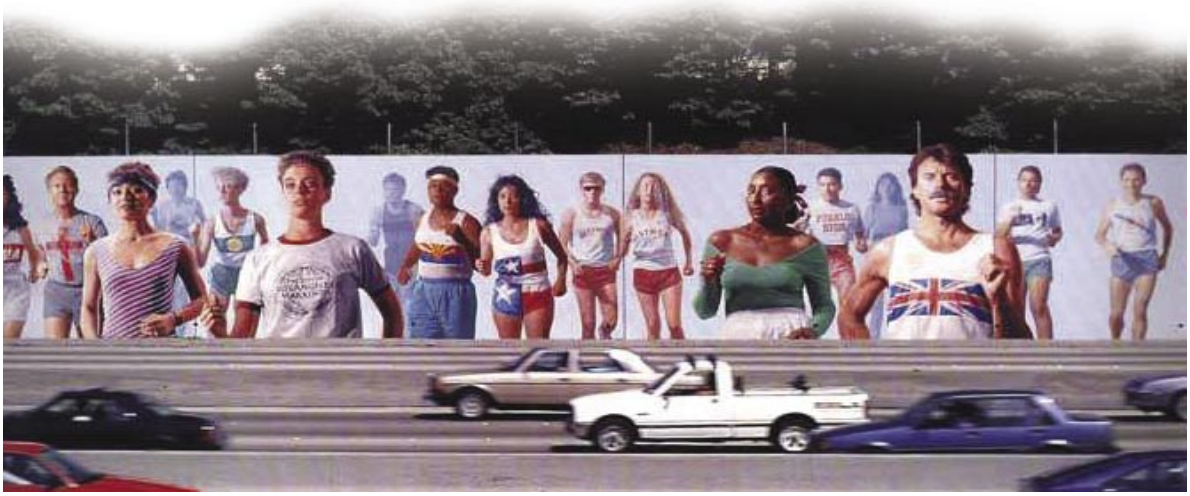
Guidelines for Gateway Monuments, issued in 2005, contain additional information.

Transportation Art[30]

There is often a local desire to make existing transportation facilities more context sensitive to the local community to reflect the aesthetic, cultural and environmental values of the community through which the facility runs. Transportation Art is defined as authorized artwork created, constructed, or painted on structures or other facilities or spaces within Caltrans right-of-way.

It is Caltrans intent, by means of its Transportation Art Program, to encourage others to use its facilities, structures and right-of-way spaces for creative expression through the visual arts. Well-conceived art forms, properly located, can enhance the experiences of those using transportation facilities and enrich the environment of neighboring communities.

Placement of such artwork is conditional on appropriate maintenance agreements and assurance that its maintenance does not create safety concerns on the state highway.



For Internet Access to references visit Caltrans websites:

Design Information Bulletins, Highway Design Manual, or Project Development Procedures Manual:
http://www.dot.ca.gov/hq/oppd/guidance.htm

Encroachment Permits Manual:
http://www.dot.ca.gov/hq/traffops/developserv/permits/encroachment_permits_manual/index.html

Traffic Manual:
http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual.htm

FHWA Manual on Uniform Traffic Control Devices (MUTCD), 2003 Edition and the MUTCD 2003 California Supplement:
http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/supplement.htm

For Internet Access to this booklet visit Caltrans website:
http://www.dot.ca.gov/hq/oppd/context/main-streets-flexibility-in-design.pdf

References:

[1] Highway Design Manual Topic 82

[2] Highway Design Manual Topic 81

[3] Caltrans District Local Office website at: http://www.dot.ca.gov/localoffice.htm

[4] For a definition of Level of Service (LOS) and Average Daily Traffic (ADT), see Traffic Manual, Section 1-04

[5] ITE Journal, July 1997, p.23

[6] For further information on Transverse Rumble Strips (TRS), see MUTCD, 2003 Edition and MUTCD 2003 California Supplement, Section 3B.106

[7] Highway Design Manual Topic 309.1(3) (c)

[8] Highway Design Manual Topic 309.1(2)

[9] For more information, see Design Information Bulletin (DIB) 80-01 website at: http://www.dot.ca.gov/hq/oppd/dib/dib80-01.htm

[10] FHWA "Roundabouts: An Informational Guide" (June 2000) and other Roundabout guidance are available on FHWA's website at: http://www.tfhrc.gov/safety/00068.htm

[11] FHWA MUTCD, 2003 Edition and MUTCD 2003 California Supplement, Chapter 2B

[12] California Vehicle Code (CVC) section 22354 and 22354.5 at Department of Motor Vehicle's website: http://www.dmv.ca.gov/pubs/vctop/vc/tocd11c7a1.htm

[13] FHWA MUTCD, 2003 Edition and MUTCD 2003 California Supplement, refer to Parts 1A, 2B, 3B, 6C

[14] Highway Design Manual, Chapter 1000 – Figure 1003.2A for bike lane and parking configurations

[15] Highway Design Manual, Index 902.1(1) (b) and (c)

[16] Highway Design Manual, Index 902.2(2)

[17] Highway Design Manual, Topic 105

[18] Check with the District Encroachment Office for Permit Requirements at: http://www.dot.ca.gov/hq/traffops/developserv/permits/pdf/manual/Appendix_G_(WEB).pdf

[19] American Disabilities Act Title 28 of the Code of Federal Regulations (CFR) Part 35, all pedestrian facilities constructed must meet accessibility requirements

[20] Highway Design Manual, Index 1003.3

[21] FHWA MUTCD, 2003 Edition and MUTCD 2003 California Supplement, Part 7

[22] Must meet criteria specified for crosswalks in FHWA MUTCD, 2003 Edition and MUTCD 2003 California Supplement

[23] Chapter 4.L. "In-Roadway Lights" of the FHWA MUTCD, 2003 Edition and the MUTCD 2003 California Supplement

[24] For additional information see North Carolina Highway Safety Research Center Report on In-Pavement Flashing Lights Crosswalk Warning System, April 1998.

[25] For the appropriate Headquarters Traffic Operations Liaisons contact the District Traffic Office

[26] For more information on the Safe Routes to School (SR2S) Program see the website at: http://www.dot.ca.gov/hq/LocalPrograms/

[27] Caltrans adheres to lighting requirements as warranted in the FHWA MUTCD, 2003 Edition and MUTCD 2003 California Supplement

[28] Encroachment Permits Manual, Sections 501.7

[29] Encroachment Permits Manual, Section 501.3F
Project Development Procedures Manual, Chapter 29, Section 9

[30] Project Development Procedures Manual, Chapter 29, Section 6

Caltrans Contact Information:

For additional copies of this document, please contact the publications staff.

(916) 323-5606 and (916) 445-3520 phone
(916) 324-8997 fax

California Department of Transportation
Publication Distribution Unit

1900 Royal Oaks Drive
Sacramento, CA 95815-3800
or view online at
http://www.dot.ca.gov/hq/oppd/guidance.htm

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to:

(916) 227-9408 Voice
(916) 227-8428 TTY

Caltrans Office of Equal Opportunity
1120 N Street, Rm. 1220, MS 48
Sacramento, CA 95814