

City of Holtville Complete Streets Plan

February 2016



A project of the California Department of Transportation's (Caltrans) Transportation Planning Grant Program.



Holtville Complete Streets Plan

Prepared for
City of Holtville

Prepared by
Alta Planning + Design
Local Government Commission
Michael Baker International

February 2016



The preparation of this document has been financed, in part through the Office of Community Planning's Transportation Planning Grant Program from the California Department of Transportation (Caltrans). Views and opinions expressed in this report do not necessarily represent the views or opinions of Caltrans, or the California State Transportation Agency.

This page intentionally left blank.

Acknowledgements

City Council

Ginger Ward, Mayor
David Bradshaw
Mike Goodsell
Richard Layton
Jim Predmore

City Management

Nick Wells, City Manager
George Morris, City Treasurer

Special Thanks To

Holtville Unified School District
City of Holtville Staff
Imperial County Sheriff's Office
Caltrans District 11
The Holt Group, Inc.

Alta Planning + Design

Bryan Jones, PE, AICP, Principal and Project Manager
Jonathan Schuppert, AICP, Associate Planner and Assistant Project Manager
Laurentiu Dusciuc, PE, Engineer
Evan Burbridge, Designer
James Powell, Designer
Leah Stender, LEED-AP, Associate Planner
Connery Cepeda, Associate Planner
Lola Torney, Planner

Local Government Commission (LGC)

Paul Zykofsky, AICP, Associate Director
Anthony Leonard, Project Manager

Michael Baker International

Howard Blackson, Urban Design and Community Planning Manager

Table of Contents

1. Executive Summary	1
A Commitment to People	1
Overview	1
Plan Process.....	1
Plan Function.....	2
Plan Outline.....	2
Complete Streets Goals.....	2
Priority Projects.....	3
Action Steps	4
2. Existing Conditions	5
Schools.....	7
Streets and Blocks	7
Vehicle Speeds and Lane Configuration	8
Community Engagement	8
3. Community Engagement.....	9
Overview	9
Outreach Methods.....	10
Design Charrette Activities	11
Community Input from Aerial Map Exercises.....	15
4. Recommendations.....	18
Priority Project 1: East Gateway Monument and Crossing	20
Priority Project 2: Curb Extensions at Holt Park	24
Priority Project 3: Curb Extensions at Cedar Avenue.....	27
Priority Project 4: Beale Avenue Extension Pathway.....	32
Priority Project 5: Fifth Street Functionality Improvements.....	34
Priority Project 6: School Zones	38
Priority Project 7: Seventh Street Reconfiguration	39
Priority Project 8: City Loop.....	42
5. Implementation Plan.....	43
Action Steps	43
Prioritization	43
Cost Estimates.....	46
Potential Funding Sources	50
6. Complete Streets Toolkit.....	55
Caltrans Compatibility.....	55
Complete Streets Goals.....	57
Relinquishment.....	59
Road Rightsizing.....	61
Holtville Roadway Functionality	62
Phasing and Demonstration Projects.....	63
Diagonal Parking.....	67
Pedestrian Improvements.....	68
Bicycle Improvements.....	76
Speed Management.....	82
Appendix A – Caltrans Comment Letter.....	89
Vision of the Caltrans of the Future	92
Response to Comments.....	93

1. Executive Summary

A Commitment to People

The objective of the Holtville Complete Streets Plan (“Plan”) is to move and connect people, schools, and businesses by enhancing the built environment for people who ride a bike, walk and use transit to create safer, healthier, and a more economically prosperous and connected community.

This objective is analogous to the mission of the California Department of Transportation (Caltrans): *Provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability.*

This Plan provides the tools needed to rework those resources, ingredients, and information that have been around for a long time and turning them into new models that make streets and neighborhoods more valuable.

Overview

Holtville, the “Carrot Capital of the World,” is a city in Imperial County and serves as a stop between southeast and southwest California (although not located along a predominant interstate route, as I-8, constructed in 1964, is located 2.5 miles south). In 2013, over 6,000 residents called the 1.1 square mile city home.

The Holtville Complete Streets Plan provides recommendations for a citywide active transportation network of bicycle paths, pedestrian improvements, and support facilities intended to ensure active transportation continues to be a viable transportation option for people of all ages and abilities to live, work, and play in Holtville.

Bicycling and walking offer residents a number of benefits, including improved health, reduced air pollution, and reduced traffic congestion. These benefits, combined with Holtville’s generally flat terrain and ample number of sunny days, make bicycling and walking a viable form of transportation and an enjoyable recreational activity. However, in many cases, roadways are too wide for the number of vehicles served, costing the city extra money for maintenance. Reconfiguring some roadways and repurposing other roadway elements will make Holtville feel more like a city for people rather than solely for cars. In addition, repurposing excess pavement can reduce maintenance costs. This can be done opportunistically and strategically as repaving projects occur and other capital improvement projects are constructed.

Plan Process

Holtville successfully applied for an Environmental Justice Transportation Planning Grant through Caltrans to prepare a comprehensive, community-driven Complete Streets Plan for the city that looks at improving safety and mobility for all users. Two key areas of focus were around the downtown square, Holt Park, and on children as they traveled to and from school. The City of Holtville Complete Streets Plan process kicked off with a public meeting on March

30, 2015. An initial round of targeted public input led to extensive fieldwork, walk audits, and data collection conducted by consultants and City staff, as shown in **Figure 1-1**. Potential solutions and recommendations were found and presented in a final public meeting on April 2, 2015. These recommendations are shown in detail in **Chapter 4: Recommendations**.



Figure 1-1: City staff, police, and consultants conducted walk audits to find target areas of improvements

Plan Function

The City of Holtville recognizes the economic and social benefits of active transportation through improving the walking and bicycling environment and establishing itself as a more livable and healthy city. This Plan outlines a broad vision, strategies, and actions for improving the quality of life in Holtville for people of all ages.

The Plan serves as a mechanism for Holtville to seek funding for complete streets projects outlined in **Chapter 4: Recommendations** and **Chapter 5: Implementation Plan**. Having an adopted active transportation or complete streets plan is helpful when applying for funding from state, federal, and private agencies. Adopting this Plan does not commit the City to dedicate or allocate funds, but rather indicates the intent of the City to implement this Plan over time, starting with the priority recommended projects. **Chapter 6: Complete Streets Toolkit** serves as a guide for complete streets best practice treatments and provides the need, and purpose of each treatment in Holtville and how each is compliant with the design flexibility allowed by Caltrans.

Plan Outline

The full Plan chapters are as follows:

1. Executive Summary (this chapter)
2. Background
3. Community Engagement
4. Recommendations
5. Implementation Plan
6. Complete Streets Toolkit

Complete Streets Goals

Complete streets are streets that safely and effectively accommodate all roadway users. Complete streets come with many benefits, such as:

- Creating welcoming and inviting streets
- Improving quality of life



Figure 1-2: A boy skateboarding along Sixth Street

- Balancing moving people, not just cars
- Encouraging walking, biking, and public transportation
- Enhancing safety
- Enhancing economic vitality

These benefits reflect the goals identified throughout the community engagement and plan preparation processes. While the traditional street perspective focused on the vehicles, complete and livable streets perspectives focus on all roadway users and adjacent buildings as illustrated in **Figure 1-3**.



Figure 1-3: Complete Streets Perspective

Priority Projects

This Plan presents a series of projects that provide new approaches and guidelines for future infrastructure projects. The top three recommended projects all derive from the fact that Fifth Street/State Route 115 (SR-115) is seen by community members as one of the biggest barriers to people walking and bicycling due to the roadway design speed and width, and associated safety issues and concerns. These projects are:

- East Gateway Monument and Crossing
- Curb Extensions at Holt Park
- Curb Extensions at Fifth Street and Cedar Avenue

The complete list of recommended projects is presented in **Chapter 4: Recommendations**.

Action Steps

1. Seek Multiple Funding Sources

Multiple approaches should be taken to facilitate complete streets development. It is important to secure the funding necessary to undertake priority projects and to develop a long-term funding strategy to allow continued development of the overall system. Capital and local funds for sidewalk and crosswalk construction should be set aside each year – even if only for a small amount – as local funding can be matched to outside funding sources. A variety of local, state, and federal options and sources exist and should be pursued. These funding options are described in **Chapter 5: Implementation Plan**.



Figure 1-4: Walkway with bicycle parked along Fifth Street

2. Seek Partnerships

Partnerships between the City, Caltrans, and other stakeholders help create synergy through collaboration. This can help in the resurface and repurpose projects as well as during routine maintenance. Maintenance projects are a great opportunity to repurpose roadways and cost savings may be possible.

3. Implement Priority Recommended Projects

Holtville has many gaps in its active transportation network and areas where walking and bicycling is hindered because of automobile circulation. Providing better pedestrian and bicycle facilities has shown to quickly increase walking and bicycling within a community. Addressing near-term key gaps with targeted investment, facilities, and traffic calming, will generate substantial benefits to residents and businesses (and thus the local economy), as described in **Chapter 4: Recommendations**.

4. Review Plan Progress

During annual budget preparation or when funding categories become available through grants, the City should review progress and determine next implementation priorities, as described in **Chapter 5: Implementation Plan**. The City may also decide to reevaluate progress and make Plan updates as needed.

2. Existing Conditions

Incorporated in 1908, the City of Holtville is a rural community in Imperial County with an estimated population of 6,067 (2010-2014 American Community Survey) and an additional 1,274 in the rural outskirts (City of Holtville Sphere of Influence Statistics). SR-115, shown in **Figure 2-1**, was the original east-west interstate roadway connecting California and Arizona. The construction of Interstate 8 (approximately 2.5 miles south of and parallel to SR-115) in 1964 bypassed Holtville and became the major east-west interstate artery, carrying approximately 11,500 motorized vehicles daily as of 2012. While SR-115 is a Caltrans roadway, the need and intent has changed as it now serves more local traffic. This is demonstrated by its relatively low daily traffic volume of less than 7,000 motorized vehicles as of 2012. **Figure 2-2** shows a map of Holtville with parks, schools, and churches labeled.



Figure 2-1: Fifth Street Holtville, CA

Holtville Complete Streets Plan



Figure 2-2: Map of Holtville

Schools

A recent survey of elementary school parents found that 55 percent lived within a quarter mile from school, but less than 30 percent of the students walked or bicycled to school. Parents generally cited distance, safety at intersections and crossings, and amount/speed of traffic along the routes as the reasons for students not walking or bicycling to school. As with other parts of California and the nation, childhood obesity rates are high in Imperial County with 41 percent of children 5-20 years old found to be overweight or obese in 2010 (Pediatric Nutrition Surveillance System).

Streets and Blocks

The city is built on a block-level grid system with the majority of buildings, parks, schools, and other uses located on or north of Fifth Street, although new developments have occurred south of Fifth Street adding parks, housing, and jobs. Streets generally consist of wide travel/parking lanes and relatively narrow sidewalks with and without parkway strips. Most streets could be considered “incomplete” in that they are designed primarily for travel by motor vehicles with little consideration for people walking, bicycling, or using transit. The desert climate and deferred roadway maintenance have caused buckling and cracking in the pavement and sidewalks. The excessive lane width can encourage speeding, increase the urban heat island effect, and significantly increase maintenance costs for the City.

Excessively wide streets, while potentially accommodating additional capacity for through-moving or parked vehicles, significantly increase costs for cities, create barriers for pedestrians to cross, increase vehicular speeds which can lead to more severe injuries (even death). If a collision occurs, wide streets require more traffic enforcement, result in poor utilization of infrastructure, and create higher infrastructure costs for development, which reduces the likelihood of new development. **Figure 2-3** shows the correlation between pavement condition and age. As pavement ages, the condition deteriorates. Ongoing maintenance can extend pavement life.

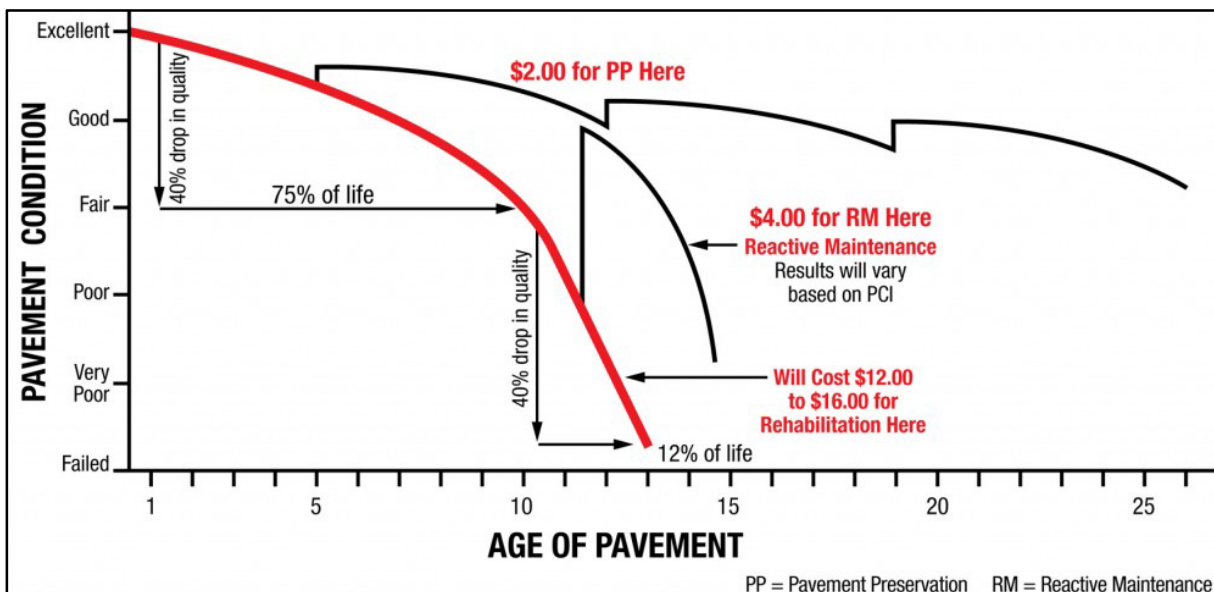


Figure 2-3: Pavement Condition Index

Vehicle Speeds and Lane Configuration

SR-115 is a rural highway on either side of the city limits and transitions into a city street. From the west, SR-115 is a four-lane divided highway with posted speed limits at 55 MPH. Speeds drop to 35 MPH and 25 MPH in the city where the highway transitions into a city street with buildings and sidewalks adjacent to the roadway. Approaching the eastern end, speeds increase to 35 MPH between Walnut Avenue and Maple Avenue and to 55 MPH around Grape Avenue where the roadway transitions into a two-lane undivided highway with 12 foot lanes. East of Grape Avenue, the street character transitions to rural/agricultural on the north side and on the south side the transition occurs after a large apartment complex.

Observed speeds from the west are generally lower at the approach to the city than from the east, due to the sharp curve onto Fifth Street at Palm Avenue. There are no physical changes to the roadway from the eastern approach as there are on the western approach. In fact the roadway widens from the east providing a greater design speed and capacity near Grape Avenue where a trail crossing and suggested route to school crossing is located. Speeds entering Holtville from the east were generally observed to be higher on the west approach. Likewise, speeds leaving town towards the east were generally observed to be higher. **Figure 2-4** illustrates the existing lane and speed configuration of SR-115.

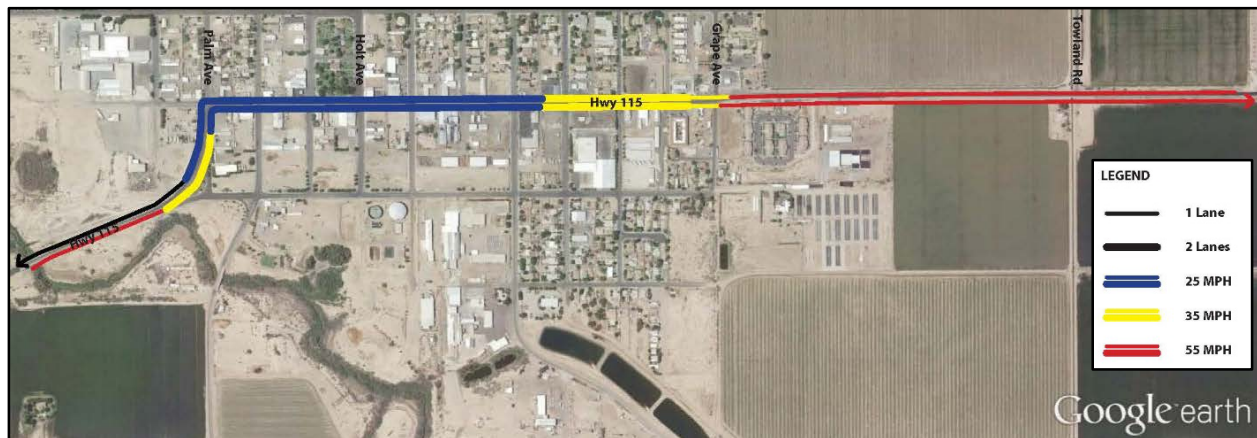


Figure 2-4: SR-115 Speeds and Lane Configuration

Other roadways throughout Holtville have wide lanes (often wider than 12 feet), which has been shown to encourage speeding.¹

Community Engagement

The Local Government Commission (LGC), Alta Planning + Design, and Michael Baker International, in partnership with the City of Holtville (City), conducted fieldwork, facilitated a series of community engagement activities, and prepared this report to address the critical needs of the community, to identify existing conditions, and develop implementation strategies and priorities to create more complete streets. Refer to **Chapter 3: Community Engagement** for additional information.

¹ <http://www.citylab.com/design/2014/10/why-12-foot-traffic-lanes-are-disastrous-for-safety-and-must-be-replaced-now/381117/>.

3. Community Engagement

Overview

The process to prepare this Plan was centered on a design charrette process held from March 30 to April 2, 2015 in the City of Holtville. Charrettes are community-based design exercises that come out of a sincere intent to have the public involved in a meaningful way to craft their own future. This format allows residents, users of a street, or other targeted populations to be the primary force behind the designs.

Several partner organizations were involved in this project. City of Holtville staff provided oversight and guidance for the project. Local Government Commission (LGC) staff handled tasks related to managing the project team, development of the schedule, and in leading the outreach to community members. Alta Planning + Design (Alta) and Michael Baker International provided the main transportation planning, engineering, and design services to develop the plan and graphics used throughout the charrette.

From November 2014 to February of 2015, two advisory group meetings were held to help guide the project partners with outreach and plan development. During that time, project team members from the LGC and Alta conducted an initial review of the issues of concern for the City of Holtville, and led site visits to better understand the existing street conditions.



Figure 3-1: The pre-charrette visit revealed a variety of bicyclists using SR-115



Figure 3-2: The pre-charrette visit revealed issues with current infrastructure such as on Figueroa Avenue north of Fifth Street



Figure 3-3: The pre-charrette visit revealed well-organized SRTS practices, such as this student pickup at Finley Elementary School

What We Learned:

- The city has a well-established street grid.
- Homes generally front north-south avenues.
- Alleys provide access on east-west streets.
- Holt Park is the center of community and a focal point for economic opportunities.
- Businesses front Fifth Street and Holt Park.
- Some buildings are near the sidewalk. Others are set back with parking lots in front.
- Better connections to destinations and trail are needed.
- Seventh Street connects all three schools and two parks.
- Shade from trees & buildings make a more comfortable environment for people walking in warm temperatures.
- Marked crossings and enhanced safety designs are vital across Fifth Street.
- Crossing Fifth Street is challenging because of width and speed of vehicles.
- Change takes time and costs money.
- There are temporary and cost effective solutions.

Outreach Methods

Several outlets were used to conduct outreach to the community for this project. English and Spanish-language materials were distributed to help publicize the events for the design fair activities. Outreach efforts included:

- English and Spanish language flyers were posted at several locations throughout the City such as City Hall, other City offices, the Holtville Unified School District office, the Meyer Memorial Library, churches, Holtville Chamber of Commerce, local shops, medical office, and other public venues. The flyers were also sent home with Finley Elementary School students. All charrette events and the Safe Routes to School workshop were advertised in the flyer.
- Media releases were sent to area papers, and an advertisement for the charrette events was run for two weeks in the Holtville Tribune leading up to the charrette.
- Emails with digital copies of the flyer were sent to elected officials, staff, local organizations, and others to encourage participation and spread the word.
- City and project staff conducted direct talks with some local business owners and others about the upcoming workshops prior to the charrette.

Attempts were also made to work through the school district and other organizations to reach out to Spanish-speaking residents and other community members.

Design Charrette Activities

From March 30 to April 2, 2015 the design team held various public events in English and Spanish to engage the community and solicit input for the plan.

Talleres sobre Plan para Calles Completas de Holtville

¿Cómo podemos asegurar que nuestras calles funcionen para todas las personas que caminan, andan en bicicleta, o manejan?

Necesitamos su ayuda:

- Para mejorar la vitalidad de la Calle 5
- Para fomentar desarrollo económico
- Para mejorar la seguridad para peatones, ciclistas y conductores
- Para mantener el carácter histórico de la comunidad

Participe en uno o más de los siguientes eventos:

Calles Completas

Lunes, 30 de marzo, 2015
Asesoría peatonal
 ■ 5 - 6 pm – Parque de Holt

Taller de Diseño de Apertura
 ■ 6 - 8 pm – Centro Cívico de Holtville
 Habrá refrigerio ligero

Jueves, 2 de abril, 2015
Presentación de Recomendaciones
 ■ 6-7:30 PM – Centro Cívico de Holtville
 Habrá refrigerio ligero

Rutas Seguras a la Escuela

Martes, 31 de marzo, 2015
Taller para crear Rutas Seguras a la Escuela
 ■ 8:15 – 11:15 am
 Escuela primaria Finley, Cuarto 22
 Habrá refrigerio ligero

TODOS LOS EVENTOS SE CELEBRARÁN EN INGLÉS Y ESPAÑOL

Una calle completa es "una calle que se planea, diseña, opera y mantiene para proporcionar acceso seguro a todos los usuarios, incluyendo los peatones, ciclistas, transportistas y automovilistas." Holtville está preparando un plan para Calles Completas y necesitamos sus ideas y comentarios.

Patrocinado por la Ciudad de Holtville y el Departamento de Transporte de California (Caltrans)

Plan preparado por la Local Government Commission y Alta Planning. **Para más información:** Tony Leonard en el 916-448-1198 x315 o aleonard@lgc.org

How should we balance our streets for all people who walk, drive, or bike, in Holtville?

HOLTVILLE COMPLETE STREETS DESIGN WORKSHOPS

Monday, March 30
Guided Walking Tour
 5:00 - 6:00 pm

Community Design Workshop
 6:00 - 8:00 pm

Thursday, April 2
Closing Presentation of Plan
 6 - 7:30 pm

Events at:
 Holtville Civic Center, 121 W. 5th Street

Join the conversation! Events will be held in Spanish and English. Refreshments will be provided.

For more information about other project activities, contact Tony Leonard at 916-448-1198 x315 or aleonard@lgc.org

Figure 3-4: The charrette flyer was offered in Spanish and an ad ran in the local newspaper

Technical Focus Group

Early in the week, the project team held a technical focus group with City staff, members of the Holtville City Council and Planning Commission, and Imperial County Transportation Commission. The Southern California Association of Governments. Caltrans District 11 staff were invited, but were unable to attend the March 30th meeting. However, the project team met with Caltrans staff after the charrette to provide an update on the community engagement, discuss the plan outline, and review potential recommendations.



Figure 3-5: Meeting with City staff and regional agencies

Walking Tour

Prior to the first workshop on March 30, 2015, team members led a walking tour with participants along Fifth Street and side streets in downtown Holtville. They observed and

discussed existing land uses and street conditions, including design, walkability, traffic patterns, intersections, crossings, sidewalk conditions, and other features. During the walk, a near collision was witnessed at the corner of Fifth Street and Holt Avenue, the one intersection with a stop sign. The near-collision was caused by one motorist attempting to turn left while the other motorist was traveling straight on SR-115. Participants discussed issues with the current configuration and possible treatments to remedy these. After the walk they regrouped at the Civic Center to discuss Complete Streets principles and possible design solutions for the City.



Figure 3-6: These kids show the walking group what bicyclists can face on SR-115 at Cedar Avenue



Figure 3-7: Discussing engineering options for the intersection of Holt Avenue at SR-115

Opening Presentation and Community Design Workshop

The opening community workshop for the design charrette process was held on the evening of March 30 at the Holtville Civic Center. City Manager Nicholas Wells welcomed participants to the workshop. Paul Zykofsky, Associate Director at the LGC, and Bryan Jones, Principal at Alta provided background on the Complete Streets Plan project and illustrated the principles of Complete Streets with examples from other communities.

After the presentation the design team asked participants to break up into smaller groups for a design exercise. For this exercise everyone was asked to identify critical issues on large aerial maps of the city, as well as put down some of their own street design solutions. Participants held energetic conversations as they discussed problems and alternative solutions. Key issues



Figure 3-8: Participants during the opening workshop

included safety concerns and crossing Fifth Street/SR-115. The group looked at options for crossing near Grape Avenue and improving routes for connections identified by city Plans. During this exercise, project team members joined the group to observe, commenting if appropriate, and answering questions when asked.

Safe Routes to School Workshop

Since one of the goals was to work with the schools in Holtville to look at Safe Routes to School (SRTS) issues, LGC staff offered a SRTS workshop in English and Spanish for parents and staff at Finley Elementary School on March 31.



Figure 3-9: Presenting on Safe Routes to School at Finley Elementary School

Prior to the workshop, staff from Alta distributed information about upcoming charrette events to parents and students. Staff also witnessed school drop off procedures and spoke with crossing guards, teachers, and others as available. Key issues included safety, speeding, crossing the streets, and non-compliance with signage, parking, and U-turns.

Spanish-Language Popup Activity



Figure 3-10: Taking the charrette directly to Spanish-speaking residents

Spanish-language engagement was incorporated into the charrette process. Since attendance of the opening workshop by Spanish-language speakers was low, LGC staff improvised and decided to go directly to Spanish-speakers on the street. They grabbed a table and aerial map of Holtville, and put together a popup activity outside the Del Sol Market. This offered passers-by the opportunity to voice their concerns and identify safety improvements they would like to see to make Holtville's streets work better for everyone. This approach also allowed for engaging dialog. Key

issues included safety, crossing SR-115/Fifth Street, and sidewalk maintenance.

Design Team Working Sessions

The design team started the week taking measurements and photos of the study area and observing how the street network functioned. After gathering initial input from the opening workshop and technical focus group meeting, the design team started refining draft recommendations for this Plan. During this time, the design team furthered concepts and prepared maps to reflect existing conditions and test recommendations for improvements.

The design team spent three days reviewing the concepts developed from the public input opportunities and preparing draft recommendations for the closing session presentation. This included ongoing discussions between team members and City staff along with additional site visits as needed for fact checking.



Figure 3-11: Team members worked on drawing up maps for improvements



Figure 3-12: Team members documented conditions on the ground at Holt Avenue and Fifth Street



Figure 3-13: Team members refining engineering solutions

Presentation of Initial Recommendations

On April 2, 2015, the design team held a public workshop at the Holtville Civic Center to present the first preliminary draft recommendations to residents. Paul Zykofsky of the LGC and Bryan Jones of Alta reviewed key findings from previous public events and shared illustrations of initial recommendations, including before and after visuals of potential changes. A question and answer period followed.



Figure 3-14: Presenting initial recommendations

After this workshop, the design team began drafting the Plan. Input gathered from the charrette helped form the basis for recommendations in this Plan.

Subsequent meetings were held on May 4, 2015 and June 15, 2015 with Caltrans District 11 staff to outline the report, receive final project recommendations, and address issues related to proposed recommendations. These meetings mostly focused on issues and proposed solutions for the east gateway.

Community Input from Aerial Map Exercises

Aerial maps at public meetings allow community members to identify exact locations of problem areas. The maps can also be used to show potential area improvements so that meeting attendees can see how the improvements would look.

Summary of Aerial Map Comments

In no particular order:

- Slow traffic on eastern end of city.
- Grape Avenue and Chestnut Avenue are difficult to cross.
- There is poor visibility at the corner of Cedar Avenue and Fifth Street.
- There could be angled parking on Cedar Avenue near Fifth Street.
- Add curb extensions and better around Holt Park.
- Paint red curb in front of Hot Rods and Beer.
- Possible 2-way left turn lane on Fifth Street.
- Use striped crossings on Fifth Street.
- Construct a better gateway sign on east end of Fifth Street.
- Add missing sidewalks and fix where in disrepair.
- Sometimes parking blocks visibility at corners.
- Sometimes trees block visibility at corners.
- Some street signs are missing.
- Olive Avenue and Fifth Street are difficult to cross. Need a stop sign at intersection.
- Need better lighting throughout Holtville, but especially in Downtown, along Fifth Street, and near schools.
- Cars don't always yield to pedestrians near schools.
- Steep valley gutters at some intersections function as traffic calming, but also create challenges for pedestrians and bicyclists to navigate.

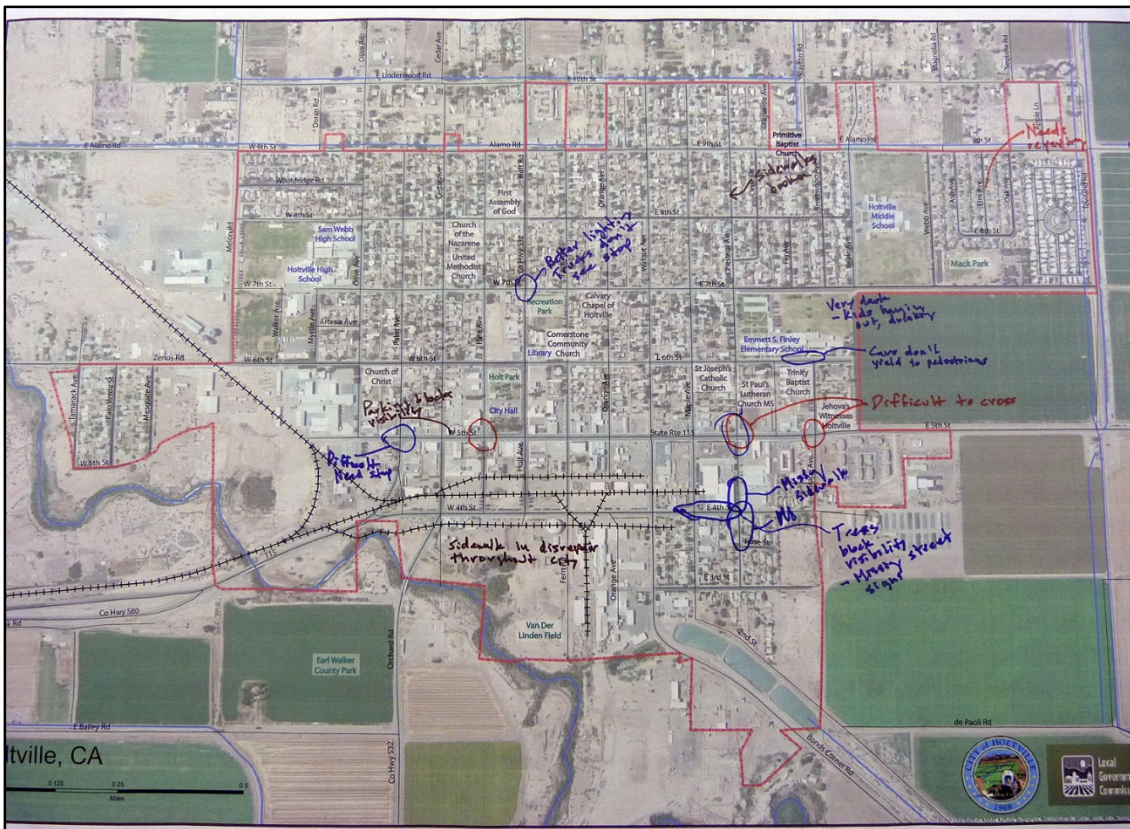
Marked-up Maps from Opening Workshop

The previous section summarizes the comments shown on these maps.



Holtville Complete Streets Plan





4. Recommendations

Based on comments from City staff, public feedback, and coordination with Caltrans, this chapter identifies recommendations to transform Holtville roadways into “complete streets” by providing safe connections between destinations for all roadway users. Many recommendations have more than one option offered for funding availability.

Complete streets simply put are streets that accommodate all roadway users. Complete streets come with many benefits, such as:

- Creating welcoming and inviting streets
- Improving quality of life
- Balancing moving people, not just cars
- Encouraging walking, biking, and public transportation
- Enhancing safety
- Enhancing economic vitality

These benefits are essentially the goals identified throughout the community engagement and plan preparation processes.

This chapter presents the priority projects are identified by City staff and community members. The projects are ranked and shown in **Figure 4-1**.

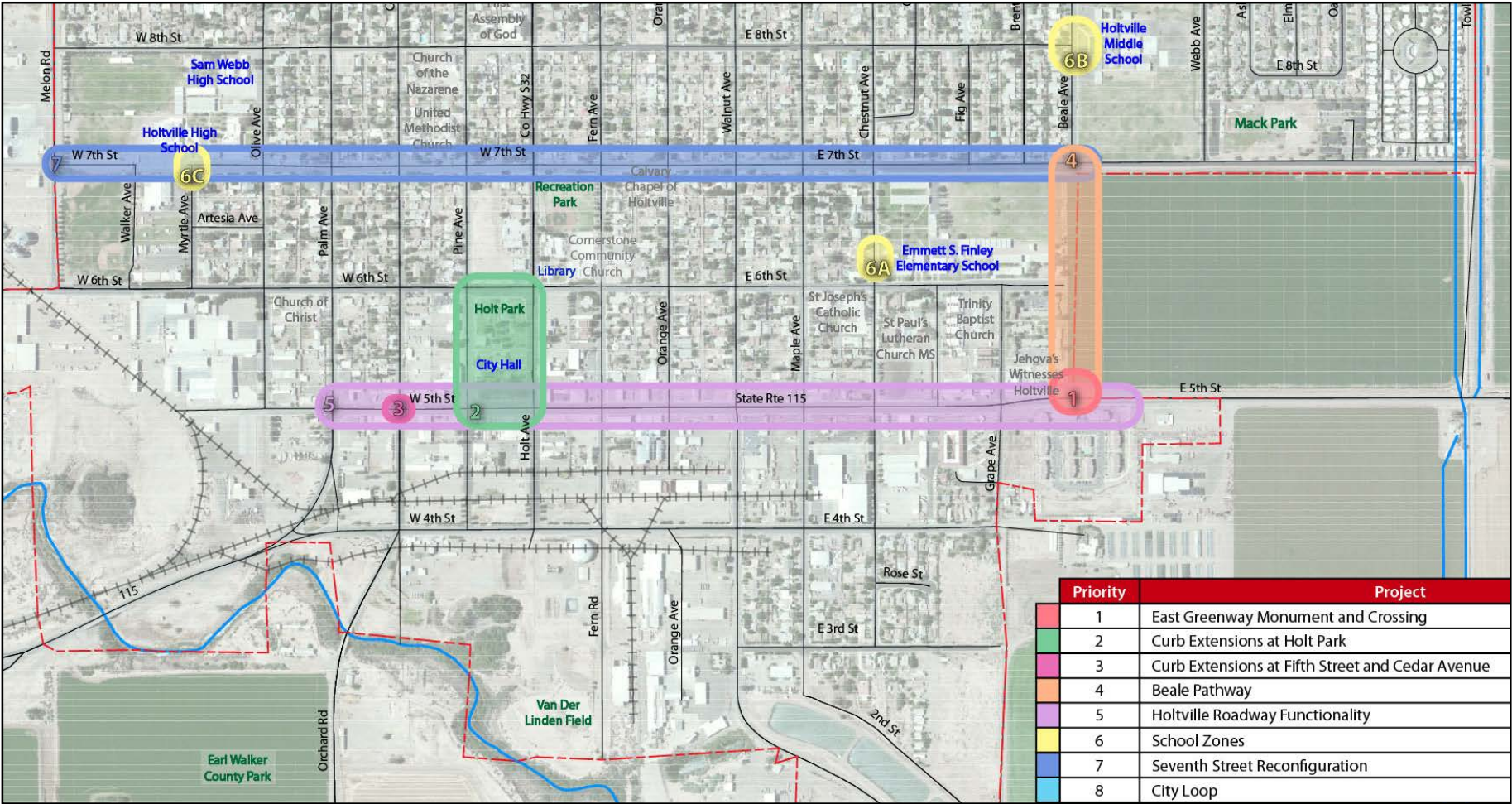


Figure 4-1: Map of Priority Projects. Priority Project 8 is not shown on this map as many portions overlap with other Priority Projects

Priority Project 1: East Gateway Monument and Crossing

This Plan recommends improving the eastern entrance to Holtville on Fifth Street to slow down motorists as they enter Holtville and to provide a sense of arrival.

Existing Conditions

Although the posted speed limit is 35 miles-per-hour just east of Grape Avenue, the public reported many vehicles traveling at higher speeds while entering Holtville from the east and while leaving the city, especially around Grape Avenue. At Grape Avenue, Fifth Street/SR-115 has a 75-foot crossing distance.



Figure 4-2: Fifth Street entrance to eastern Holtville

Recommendation

The community expressed a desire to have an iconic gateway feature along Fifth Street near the east entrance to Holtville to complement the gateway at the west entry. This Plan recommends creating a gateway monument and pedestrian crossing across Fifth Street that would connect the Beale Avenue Extension Pathway (Priority Project 4) to the Orchard View Apartments. This movement is already done repeatedly, especially during school commute. A two-stage crossing is recommended so pedestrians and bicyclists can cross one-half of the roadway at a time and reduce wait time for motorists.

It is recommended that the speed transition from 55 MPH to 35 MPH east of the Orchard View Family Apartments driveway. This relatively new development extended the city limits east from its prior location, generally where the posted 35 MPH sign is located (near Grape Avenue). Moving the posted speed limit east will enhance safety of all roadway users. Caltrans will allow the reduced speed transition to occur farther to the east if a traffic study is conducted for roadway reconfiguration. **Figure 4-3** shows the speed reduction locations. For more information, see **Chapter 6: Complete Streets Toolkit** and **Appendix A**.

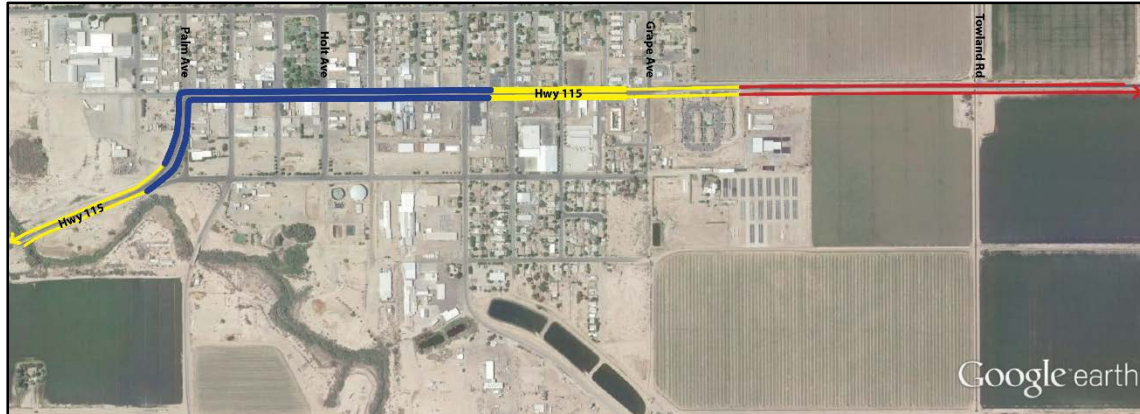


Figure 4-3: Proposed Speed Zones in Holtville

Additional and/or enhanced warning signs should be installed to alert westbound motorists of the speed limit reduction and pedestrian crossing. Examples of electronic speed feedback signs and speed reduction warning signs are used in many communities along US 395, a Caltrans (District 9) owned, operated, and maintained 4-to-5 lane highway that goes through similar sized rural communities as Holtville. Many crosswalks along US 395 are high visibility with advanced yield lines and transition from 55 MPH to 25 MPH upon entering each city.

In addition, Nevada DOT introduced raised medians along US 395 in the City of Carson. Raised medians are not allowed on Caltrans facilities (because they are considered a fixed object) unless the design speed and 85th percentile speed can be under 35 MPH to allow for *Main Street, California* Guideline use and design flexibility. More information on treatments can be found in **Chapter 6: Complete Streets Toolkit**. **Figure 4-4** shows how these recommendations could offer a potentially safer and more comfortable crossing for bicyclists and pedestrians.

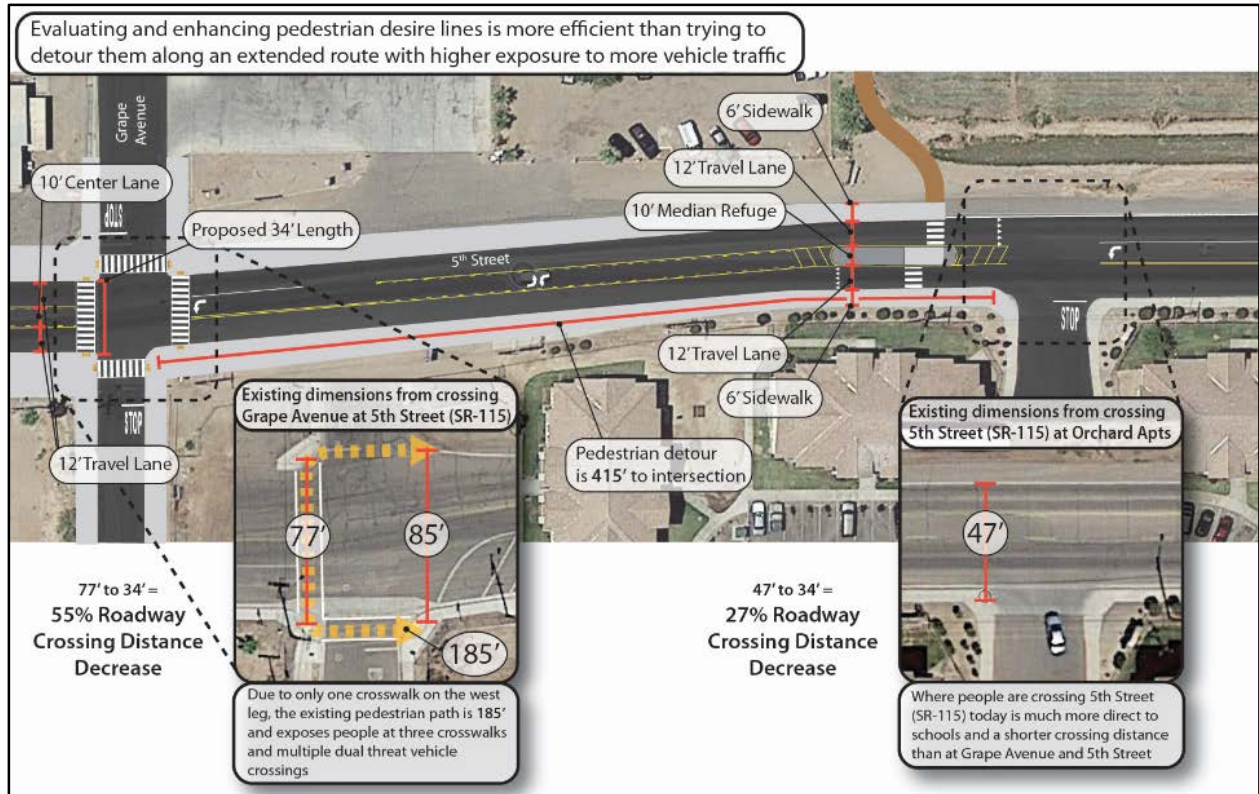


Figure 4-4: The Eastern Gateway crossing could provide a safer crossing for people who walk and ride a bike as it reduces the crossing distance and provides for two stage crossing.

The Eastern Gateway can take many forms. **Figure 4-5** offers design suggestions, not including two-stage crossing. For more information about two-stage crossing, see **Chapter 6: Complete Streets Toolkit**. The final gateway monument design will be freestanding and either outside clear recovery zone or protected by a guardrail, per Caltrans Traffic Manual Chapter 7. The final design will require Caltrans approval.





Figure 4-5: Eastern Gateway concepts

Considerations

Caltrans encourages design flexibility for multimodal projects, noting that, “A ‘one-size-fits-all’ design philosophy is not Departmental policy”² (see **Chapter 6: Complete Streets Toolkit**). Moreover, Principle 1 of *Main Street, California: A Guide for Improving Community and Transportation Vitality* (2013) published by Caltrans, grants flexibility in design for state highways that are also community main streets, (such as Fifth Street/SR-115 in Holtville).³ The California Manual for Setting Speed Limits (2014) and the National Cooperative Highway Research Program Report 737: Design Guidance for High-Speed to Low-Speed Transition Zones for Rural Highways (2012) by Caltrans are available as references for speed zone transitions. A reduction in vehicle speeds upon entering Holtville will greatly reduce the risk of pedestrian fatality in the event of a collision, as shown **Figure 4-5**. **Figure 4-3** shows the recommended speed reduction locations.

² <http://www.dot.ca.gov/hq/oppd/design/2014-4-2-Flexibility-in-Design.pdf>;
<http://www.dot.ca.gov/hq/oppd/design/2014-9-Design-Flexibility-FAQ.pdf>.

³ http://www.dot.ca.gov/hq/LandArch/16_livability/main_street/main_street_3rd_edition.pdf.

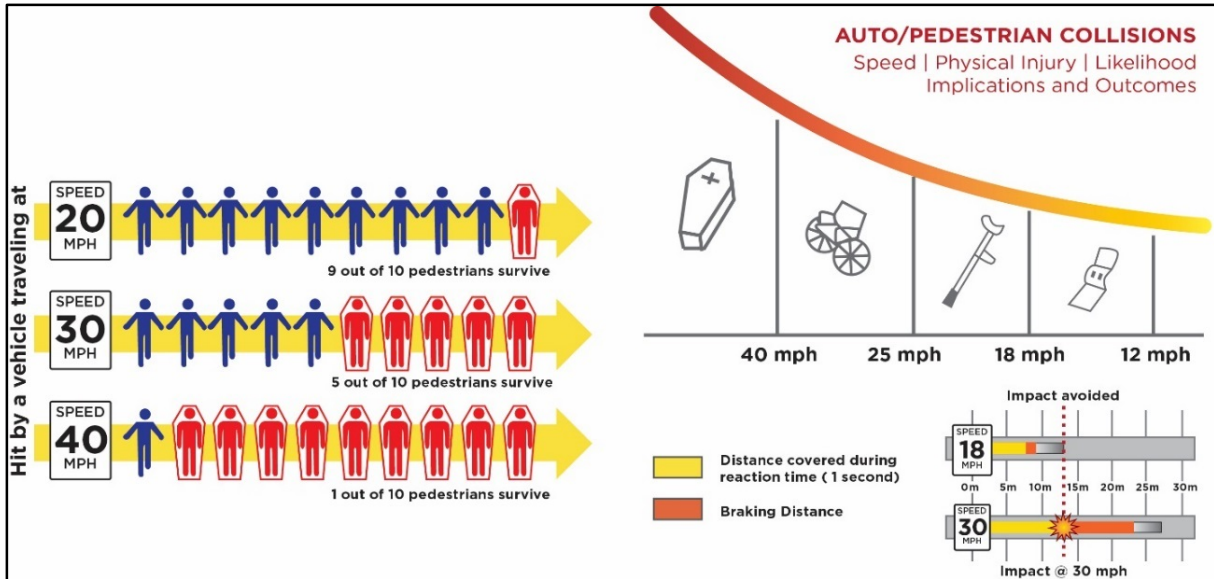


Figure 4-6: Relationship between motor vehicle speed at impact and pedestrian fatality rates

Another consideration is the existing crosswalk on the west side of the intersection of Fifth Street and Grape Avenue. This crosswalk is approximately 400 feet from the proposed mid-block crossing and therefore a midblock crosswalk is determined by Caltrans to not be allowed at this location. Instead, Caltrans recommends to close off the informal trailhead to encourage people to travel farther to use the crosswalk on Fifth Street and Grape Avenue. Grape Avenue at Fifth Street can also be considered for an all-way stop sign control to better facilitate people crossing at this location. See **Appendix A** for more information.

Priority Project 2: Curb Extensions at Holt Park

Holt Park was repeatedly described as the heart of the city by many community members. This major gathering hub for residents is also home to many City services. Access to the park was identified as a challenge due to crossing distances and motor vehicle speeds. This Plan recommends adding curb extensions/bulbouts on all corners of each intersection surrounding Holt Park to reduce pedestrian crossing distances, improve pedestrian visibility, and reduce motor vehicle speeds as motorists turn corners. Affected intersections are:

- Sixth Street at Pine Avenue
- Sixth Street at Holt Avenue
- Fifth Street at Holt Avenue
- Fifth Street at Pine Avenue

As mentioned in **Chapter 3: Community Engagement**, during a charrette walking tour, participants witnessed a near collision at the all-way stop at Fifth Street and Holt Avenue, caused in part by a lack of dedicated left-turn lanes. An eastbound left-turning vehicle and a westbound through-moving vehicle nearly collided as it was not evident that one of the vehicles would be turning left. To resolve this issue, a left turn lane should be provided so on-coming motorists know that a vehicle in that lane is turning.

Existing Conditions

Crosswalks on Holt Avenue at Fifth Street are approximately 89 feet in length. As shown in **Figure 4-7**, the current crosswalk design is unconventional and not compliant with Caltrans standards which call for the crosswalks to connect to the sidewalk, not to another crosswalk. Most crosswalks and curb ramps around Holt Park do not meet ADA or Caltrans standards, and should be reconstructed with improvements. In addition, best practices would suggest installing crosswalks across all approaches of an intersection to reduce exposure and distance a pedestrian has to cross. Having crosswalks across all approaches enhances mobility, safety, and connectivity for pedestrians at intersections. Additionally, as shown in **Figure 4-8**, the pavement is in poor condition which makes the crossing difficult, especially for someone in a wheelchair. Any upgrades would involve repaving the crosswalk.



Figure 4-8: Aerial view of Fifth Street at Holt Park. Current crosswalk design does not meet ADA or Caltrans standards



Figure 4-7: Poor crosswalk condition around Holt Park

On the north side of Holt Park, people must walk over 100 feet within the crosswalk to cross Pine Avenue on Sixth Street. The crossing of Sixth Street along Holt Avenue is 90 feet. **Figure 4-9** shows the crosswalk configuration north of Holt Park. **Figure 4-10** shows the intersection design on the ground.



Figure 4-9: Aerial view of Sixth Street at Holt Park



Figure 4-10: Looking southwest toward Holt Park from Sixth Street and Holt Avenue

Recommendation

This recommendation has two options and can be upgraded in phases as funding becomes available.

Option 2A

Option 2A repaints the crosswalks to a “continental” or “ladder-style” design (two styles of high visibility crosswalks) to increase visibility between pedestrians and drivers; see **Figure 4-11**. This option also converts the parallel parking on the south side of the park to diagonal parking. Caltrans will allow diagonal parking along Fifth Street if a buffer space is included; see **Appendix A**.



Figure 4-11: Phase one of intersection reconfiguration on Fifth Street at Holt Park

Option 2B

Option 2B, which can be done in conjunction with Option 2A, installs bulbouts to reduce crossing distances and risks of conflict between drivers and pedestrians as well as installs ADA-compliant curb ramps. **Figure 4-12** offers various bulbout configurations ranging from paint to concrete. These could also be installed in phases.



Figure 4-12: Clockwise from top left: painted bulbouts; concrete bulbouts solely in City right-of-way; concrete bulbouts solely in City right-of-way with painted extension with Caltrans right-of-way; and full concrete bulbouts (the ideal solution)

Chapter 6: Complete Streets Toolkit shows these bulbout options with Fifth Street reconfigured to three lanes (two travel lanes and a center turning lane). This configuration reduces “dual threats” by reducing the number of lanes a person walking has to cross and provides clarity for when motorists are turning left rather than going straight through the intersection.

Priority Project 3: Curb Extensions at Cedar Avenue

The community expressed challenges in crossing Fifth Street at Cedar Avenue. Many people cross the street here to go between businesses and to get to parked vehicles. This Plan recommends adding curb extensions to the corners of Fifth Street at Cedar Avenue. This can be done in two phases based on funding availability.

Existing Conditions

Cedar Avenue is an unprotected intersection with a fair amount of truck traffic. At the intersection with Fifth Street, the crossing distance across Cedar Avenue is 50 feet and 70 feet across Fifth Street. Cedar Avenue has parallel parking along the whole block. The community expressed concerns regarding vehicles parked on SR-115/Fifth Street directly in front of business that block the view for drivers wishing to turn left onto Fifth Street from Cedar Avenue. **Figure 4-13, Figure 4-14, and Figure 4-15** show the current intersection configuration. Most of the curb ramps are not ADA compliant or up to current standards. Deficient ADA curb ramps are replaced citywide as funds become available. The southeast curb ramp at this intersection is scheduled for replacement in FY 2016-2017 and the sidewalk will be extended to Fourth Street.



Figure 4-13: Current intersection design at Cedar Avenue and Fifth Street



Figure 4-14: Northeast corner of Cedar Avenue and Fifth Street, looking east



Figure 4-15: Looking north at Fifth Street and Cedar Avenue

Recommendation

This Plan recommends reconfiguring the northern corners of Cedar Avenue and Fifth Street. This has two options based on funding availability. Several parts of Option 3A can be applied to Option 3B.

Option 3A

Option 3A adds continental or ladder-style crosswalks to this intersection. This will better alert drivers of the possible presence of people crossing the street; see **Figure 4-16**, **Figure 4-17**, and **Figure 4-18**. This crosswalk style is a Caltrans standard in the California Manual on Uniform Traffic Control Devices (CA MUTCD).

It is also recommended to convert parallel parking along Cedar Avenue (Sixth to Fifth Streets) to angled parking, to accommodate more parking, better utilize the excess roadway, and promote business access.

A partial red-painted curb for fire access should be added in front of the business on the northeast corner of Cedar Avenue and Fifth Street. The red curb will enhance safety of sight distance.

A bicycle corral can be added near the intersection to increase bicycle parking availability in Holtville. Caltrans allows intersection corner bicycle parking as it does not interfere with vehicle sight lines.

Non-ADA-compliant and substandard curb ramps should be improved to meet the requirements of the ADA and current standards, including truncated domes, appropriate slope, and landing area.



Figure 4-16: Intersection of Fifth Street and Cedar Avenue with continental crosswalks



Figure 4-17: Simulation of the northeast corner of Fifth Street and Cedar Avenue with Option 3A - painted crosswalks and bulbouts



Figure 4-18: Intersection of Cedar Avenue and Fifth Street after Option 3A is complete, looking north

Option 3B

Option 3B adds permanent - and possibly landscaped - bulbouts at these corners. These would include directional ramps for wheelchair and ADA users. Directional ramps lead users onto crosswalks instead of into the intersection, as with the existing configuration. **Figure 4-19** and **Figure 4-20** shows possible bulbout designs.



Figure 4-19: Simulation of Option 3B with permanent bulbouts to reduce crossing distances and increase sidewalk space for pedestrians



Figure 4-20: Looking north at Cedar Avenue and Fifth Street after Option 3B is complete

Priority Project 4: Beale Avenue Extension Pathway

It is recommended that the informal Beale Avenue Extension Pathway east of Grape Avenue between Seventh Street and Fifth Street (see **Figure 4-21**) be formalized.

Existing Conditions

The informal dirt path next to Finley Elementary School is well utilized, but is not well maintained and does not easily accommodate people who ride bicycles in its current condition, as shown in **Figure 4-22**. The path is used primarily by parents and students as they walk to and from the housing development south of Fifth Street to Finley Elementary School to the west or Holtville Middle School to the north. This path is the most direct route to both schools.



Figure 4-21: Beale Avenue Extension Pathway in eastern Holtville



Figure 4-22: A family and bicyclist use the informal Beale Avenue Extension Pathway between Seventh Street and Fifth Street

Recommendation

This recommendation has two options based on funding allocations.

Option 4A

The first option is to use decomposed granite to widen the existing path and provide an even surface for all users, as shown in **Figure 4-23**.



Figure 4-23: Beale Avenue Extension Pathway option A

Option 4B

The second option involves fully paving the pathway for a more even surface for users over time. Paving the pathway will also offer unpaved shoulders for pedestrian or bicyclist overflow. **Figure 4-24** shows what this pathway could look like.



Figure 4-24: Beale Avenue Extension Pathway after paving (option B)

Should the land to the east be developed prior to the formalization of the pathway, it is recommended to require the land developer to upgrade the path as part of a future development agreement. If the City plans to formalize the pathway prior to development, right-

of-way acquisition, the city limit line, agricultural uses, and more will need to be taken into consideration.

Priority Project 5: Fifth Street Functionality Improvements

Earlier priority projects focused on specific points along Fifth Street. However, the entire corridor can be “right-sized” and upgraded to improve functionality for all roadway users.

Existing Conditions

The posted speed limit along Fifth Street is 25 MPH between Palm Avenue and Maple Avenue. In 2012, average daily traffic along Fifth Street was less than 7,000 vehicles. There are only six marked crosswalks in the 11 intersections between Palm Avenue and Grape Avenue. A complete street corridor would have crosswalks on both sides of every approach, or 22 crosswalks in this instance. Today, less than 1/3 of the crossings are marked, limiting connectivity and safety for pedestrians. **Figure 4-25** shows the current roadway conditions and land uses on Fifth Street at Holt Avenue, looking east.

Between 2009 and 2013, 28 reported collisions occurred on Fifth Street, and one of those collisions involved a bicyclist.⁴ According to the Statewide Integrated Traffic Records System (SWITRS) there are three reported collisions within this time window; however, this system was not consistently used until recently and may not accurately reflect all reported collisions. Additionally, the deputy sheriff of Imperial County has noticed and responded to several near collisions between motor vehicle drivers and student-age pedestrians. He reported that within the last two years, two students had been hit by motorists at or near Grape Avenue.



Figure 4-25: Fifth Street at Holt Avenue looking east

⁴ Cycle 6 Highway Safety Improvement Program (HSIP) application, Application ID: 11-Holtville-1, Submitted by City of Holtville.

Recommendations

This plan recommends several upgrades along the Fifth Street corridor to make it feel like it is part of a community. Upgrades include installing high visibility crosswalks across all legs of each intersection, additional lighting, and stop signs; reducing the number of travel lanes from four to three; replacing parallel parking with angled parking near Holt Park; providing left-turn lanes at intersections (and possible two-way left turn lanes throughout the blocks) for improved predictability and reduced vulnerability; identifying opportunities for bicycle infrastructure such as bike lanes, buffered bike lanes, separated bikeways, and bike parking; and improving curb ramps. At crosswalks without a traffic control device such as a stop sign, advance yield lines should be used (see **Appendix A**). **Figure 4-26** and **Figure 4-27** offer examples of how Fifth Street (at Holt Road) could be rearranged to encourage walking and bicycling, promote economic development, and create a more inviting downtown.



Figure 4-26: Phase one of the Fifth Street reconfiguration could include bulbouts, high visibility crosswalks, bicycle routes, and street trees

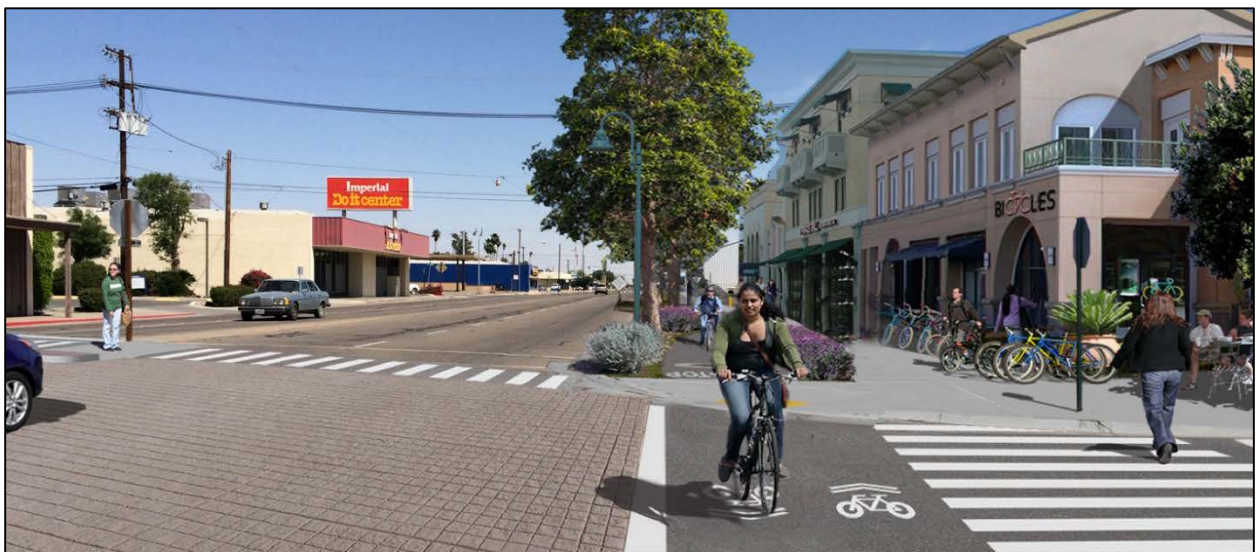


Figure 4-27: Over time, the changes to the street could result in new investment and activity along the corridor

There is a national trend in the reduction of vehicle miles driven. Holtville is no exception. SR-115 has seen dramatic reductions in traffic since the installation of Interstate 8 (I-8). In 2013, the Governor signed Senate Bill 743. This prompted the state to remove Level of Service as an environmental impact evaluation as part of the California Environmental Quality Act (CEQA).

In general, traffic volumes of 15,000 vehicles per day (vpd) are considered acceptable for a three lane section (two travel lanes with a center turn lane), while traffic volumes between 15,000 and 25,000 vpd are worth analyzing, and over 25,000 vpd typically require 4 or 5 travel lanes.⁵ The average daily traffic (ADT) along SR-115 is 6,500. This would suggest that the theoretical capacity of this corridor is three times higher than the current volume. As volumes decrease, “road diets” can be used to reallocate underutilized vehicular lane area to other modes, including facilities for biking, walking, and transit. Other recommended improvements such as increased connectivity, improved pedestrian and bicycle facilities, and better transit service will also reduce volumes. See Chapter 6: Complete Streets Toolkit for more information,

While the transportation profession often evaluates “daily” volumes to size roadways, historically peak hour volumes are also another consideration to determine the number of lanes. Daily volume thresholds are developed from assumptions based on the percentage of traffic during the day in the peak hour. However, sizing roadways based on one or two peak hours of the day may not be the best utilization of financial resources, create the safest roadway for all roadway users, or allow for the most choices in mobility along the corridor.

To improve safety, connectivity, and accessibility for people that walk, bike, and use transit may require a balance of prioritization and how the roadway is designed so the roadway functions and meets the needs of all roadway users for all hours of the day rather than just motorists for one to two hours of the day. For example, if the capacity threshold of a travel lane during the peak hour was 1,500 and for one hour of the day it exceeded that 1,500 by 1 to 100 vehicles but the other 23 hours of the day it was below that threshold, it might be a good policy decision not to widen the roadway because of one hour or a hundred vehicles that could be spread over the adjacent hours. This phenomenon is called “peak hour spreading” whereby excess demand for one hour is served by the adjacent hours. Some congestion and queuing maybe experienced for a short period of time but will dissipate. In addition, since the City of Holtville has a well-designed grid system that is also oversized for the vehicle volumes, there is excess capacity on many of the surrounding streets.

The excess right-of-way along the roadway could be used for features such as two-way left turn lanes, bike lanes, angled parking, separated bikeways, and other similar features to create a more complete street. Additionally, transforming vacant or underutilized parcels into high-quality development that serves to activate the street and sidewalk will create more vibrant spaces that serve as destinations and economic development generators.

⁵ Road Diets Information Guide. Chapter 3.3.5 Average Daily Traffic. FHWA. http://safety.fhwa.dot.gov/road_diets/info_guide/.

Figure 4-28 is taken from the Caltrans *Main Street, California "A Guide for Improving Community and Transportation Vitality"* (*Main Street, California*) report. The guide is compilation of potential options for California State Highway main street projects that reflects many of the recent updates to Caltrans manuals and policies that improve multimodal access, livability, and sustainability within the transportation system. It emphasizes why planning streets for people rather than cars provide cities with the best value. When reconfiguring Fifth Street, it is important to keep these ideals at the forefront of the projects. More information about *Main Street, California* can be found in **Chapter 6: Complete Streets Toolkit**.

Besides the roadway itself functioning better for users, the surrounding land uses and amenities are important to the City of Holtville. The Holtville Municipal code includes a section regulating plan and street typologies and standards for the Downtown area. It describes Fifth Street as the "main street" of Holtville and, "the primary arterial and commercial corridor of the community. It also functions as a state highway route. As such, special design considerations and approvals will be necessary for development along the street." The Municipal Code also outlines the desired characteristics of the roadway which include:

- Street trees should frequently interrupt the parking lanes to soften visual impact of the parked vehicles and to help cool the air heated by the pavement.
- Primary intersections should provide pedestrians with safe passage. Features may include pedestrian bulbouts, differentiated accent paving within the intersection, and in-street crossing lights (if there is no crosswalk signal).
- Because 5th Street is an arterial roadway, it provides unique opportunities for gateway monumentation... at the entrances to the downtown area.

The final bullet point directly addresses Priority Project 1 (East Gateway Monument and Crossing).

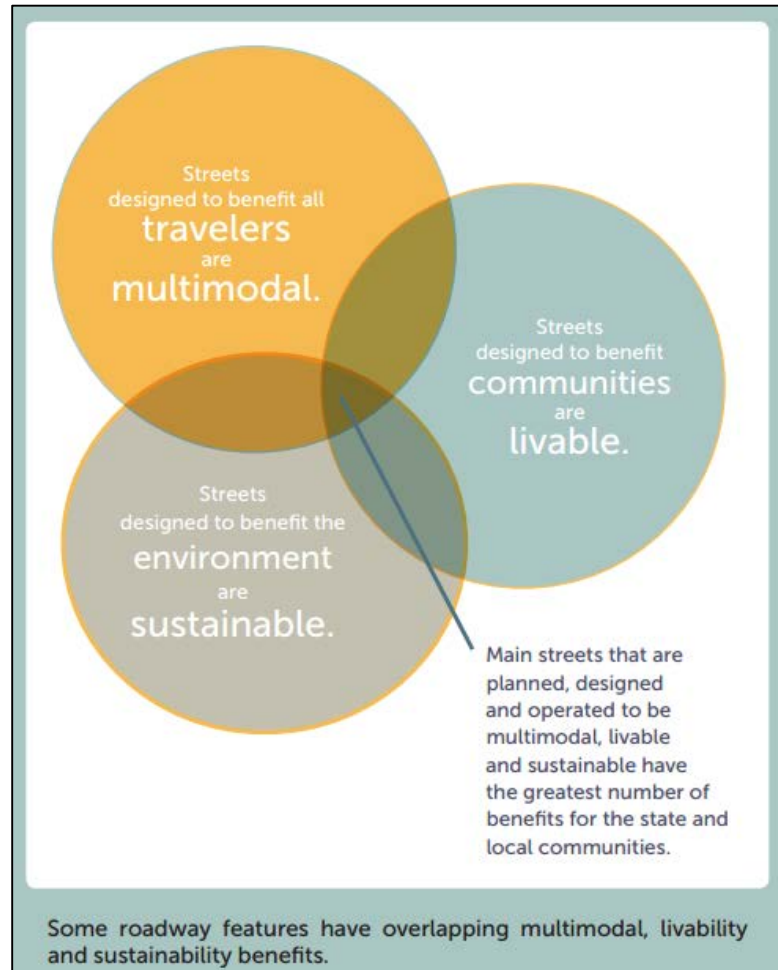


Figure 4-28: Caltrans *Main Street, California* (pg 7) shows benefits to all communities

Priority Project 6: School Zones

Overall, school zones function relatively well. Finley Elementary showed the highest level of effort to create an efficient and orderly pick-up and drop-off routine. The following recommendations are based on community input, interviews with school staff, and observations at drop-off and/or pick-up times.

6A: Finley Elementary School Recommendations

Cones are placed along the streets to create a one-way flow north on Grape Avenue and west on Sixth Street for drop-off and pick-up times. This creates a major node near the intersection of Sixth Street and Grape Avenue. Crossing guards are located at the intersections of Fifth Street and Sixth Street at Grape Avenue. Additional locations include along Chestnut Avenue and Seventh Street.

Observations and interviews showed high levels of non-conformance with crosswalks along Fifth Street as children go to the Orchard View Family Apartments. Many students use the informal Beale Avenue Extension Pathway or cut through the gas station at the corner of Fifth Street and Grape Avenue. This Priority Project reinforces the recommendations from Priority Project 1: Beale Avenue Extension Pathway. The Plan also recommends formally calling these routes as “routes to schools” which allows for Holtville to apply and receive funding for SRTS improvements.

6B: Holtville Middle School

The majority of drop-offs and pick-ups occur along Beale Avenue near Eighth Street. A crossing guard is located at this intersection to help students cross Beale Avenue and Eighth Street. Traffic generally flows in both directions, although the northbound movements appear to be higher. School buses use the drop off loop off Beale Avenue at Eighth Street. Cones are placed at the entrance to restrict access.

Observations and interviews showed decent numbers of drivers making U-turns along Beale Avenue, drivers parking in parking lots or along the street for extended periods of time, and speeding as vehicles leave the area. Interviews concluded that traffic flow could be restricted as is done for Finley Elementary where traffic would be restricted to one way along Beale Avenue or the intersection with Eighth Street and Beale Avenue would force right turn movements. It is recommended to add temporary stop signs at the intersection of Beale Avenue and Eighth Street to assist crossing guards and slow traffic. Increased enforcement and signs could help address longer-term parking, use of parking lots, U-turn movements, and speeding.

6C: Holtville High School

The drop-off and pick-up situation appears to be more spread out here than at the other two schools. Seventh Street, Eighth Street, Myrtle Avenue, and Olive Avenue are major access corridors, with a relatively heavy concentration of users along Olive Avenue and at the intersections with Eighth Street and Seventh Street.

Observations and interviews showed relatively smooth drop-off and pick-up times. However, one-way movement diversion and improvement crossings at the intersections of Olive Avenue at Eighth Street and Seventh Street could improve flow. A deep valley gutter on the south side

of the Seventh Street and Olive Avenue intersection tends to slow traffic heading north or south. Improvements along Seventh Street such as bike lanes and shade trees would make this corridor more attractive for walking and bicycling.

Priority Project 7: Seventh Street Reconfiguration

Seventh Street is a major east-west connection that connects Finley Elementary School, Holtville Middle School, and Holtville High School. The wide street is commonly used by students before and after school and could be transformed into a more welcoming street for pedestrians and bicyclists.

Existing Conditions

Seventh Street connects three schools and two parks. It has a posted speed limit of 25 MPH. On average, it is 62 feet across. Since it is greater than 40 feet in width it does not qualify as a residential street as defined by the California Vehicle Code with a prima facie speed of 25 MPH. The generally wide and unstriped nature can encourage speeding and does not provide dedicated space for bicyclists. Parking is generally parallel on at least one side, with multiple blocks having angled parking on one side. **Figure 4-29** shows the current roadway configuration along Seventh Street.



Figure 4-29: Seventh Street at Cedar Avenue looking east

Recommendation

It is recommended to plant more shade trees along this roadway. It is also recommended to add bike lanes along Seventh Street and to convert the existing parallel parking to angled parking on the north side. This configuration could look one of three ways.

Option 7A

Figure 4-30 shows Option 7A where the bike lanes are located next to the travel lanes.



Figure 4-30: Option A for Seventh Street reconfiguration with bike lanes next to travel lanes

In this scenario, bicyclists could potentially be hit by vehicles in the parking spaces backing up into the bike lane on the north or hit by the doors of parked vehicles on the south side of Seventh Street. **Figure 4-31** shows an example of this.⁶



Figure 4-31: Bicyclist weaves to avoid being hit by parallel parked car

Option 7B

Figure 4-32 shows another option for roadway reconfiguration where the bike lanes are on the outside of the roadway and the parking lanes “protect” the bike lanes from the travel lane on the north side. Caltrans released guidelines for Class IV Separated Bikeways in December 2015.

⁶ "Door zone open" by VinnyR - Photo of Scott Ehardt taken by VinnyR and released by him into the public domain.



Figure 4-32: Option 7B for Seventh Street reconfiguration with bike lanes next to the sidewalks

In option two, parking is removed from the south side to allow for a one-way Caltrans Class IV Separated Bikeway, also known as cycle tracks or protected bike lanes, to be installed for eastbound bicyclists. The angled parking on the north is shifted south several feet to allow for another one-way cycle track to be installed for westbound bicyclists.

Option 7C

The final option, as shown in **Figure 4-33**, keeps the angled parking on the north side next to the sidewalk, but removes the parallel parking on the south side and replaces it with a two-way cycle track.



Figure 4-33: Option 7C would provide a two-way cycle track on the south side of Seventh Street

The cycle track can be protected by other barriers besides concrete curbs such as landscaped planters, bicycle parking, or bollards. For more information about cycle tracks, see **Chapter 6: Complete Streets Toolkit**.

Priority Project 8: City Loop

To complement the active transportation facilities being installed throughout Holtville, this Plan recommends creating a walking and bicycling “loop” around the city. This can serve as a primary bike route. This loop will connect nearly every park, school, and trail in Holtville.

This route may change over time, but it is recommended to follow this route (non-directional):

- Pete Mellinger Alamo River Trail
- Sixth Street
- Myrtle Avenue
- Seventh Street
- Beale Avenue Path
- Grape Avenue
- Fourth Street

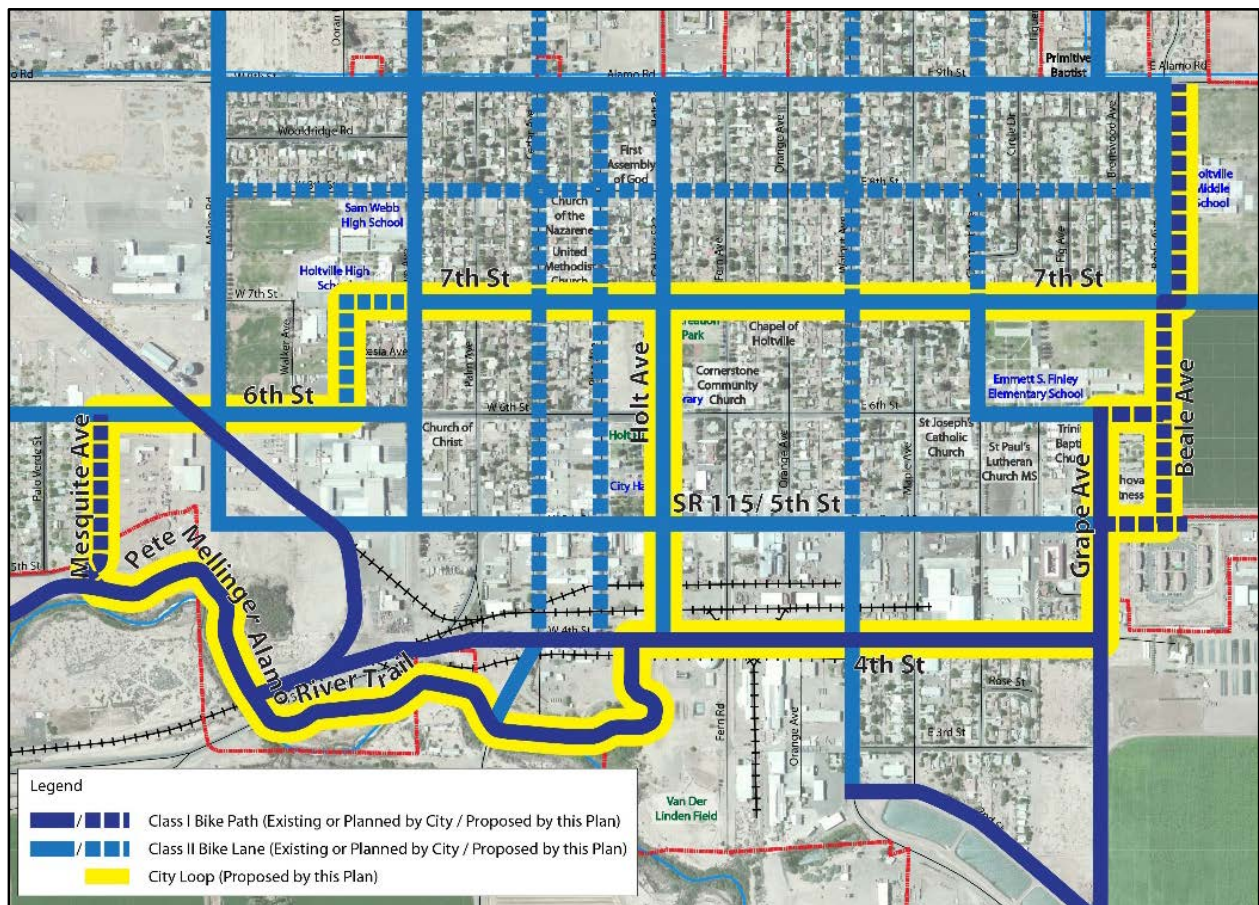


Figure 4-34: Conceptual Holtville City Loop

5. Implementation Plan

This chapter provides a strategy for implementing capital project recommendations in this Plan. This implementation strategy and sequence is guided by a ranking system based on a prioritization list developed with the City of Holtville and community members. Phased implementation of the recommended projects and programs will take time and are subject to many variables. The most important of these variables include availability of funding for active transportation. This plan is aimed at increasing the City of Holtville's success in obtaining competitive grant funding and local community and political support.

In the near-term, it is important to focus on a group of achievable, high priority projects. Three projects were identified as the highest priority for the community, shown in **Table 5-1**. The estimates are offered as a range as there are options for each treatment based on the permanence of each.

Table 5-1: Top Three Priority Projects

Priority	Project	Cost Estimate (Rounded)
1	East Gateway Monument and Crossing	\$88,000-\$200,000
2	Curb Extensions at Holt Park	\$260,000-\$540,000
3	Curb Extensions at Fifth Street and Cedar Avenue	\$45,000-\$135,000

These projects are intended for near-term implementation in the next one to five years. The City's commitment to implementing the mobility goals of the General Plan and commitment to the preparation of the Holtville Complete Streets Plan will attract the wide variety of transportation funding and generate other financing required to complete the remaining project list.

Action Steps

For each recommended project, the following steps could be taken in order to allow the project the greatest opportunity for success.

1. Gather City Council support
2. Finalize partnership with Caltrans
3. Secure funding
4. Outreach to community members
5. Design project
6. Outreach to community members
7. Secure City Council approval
8. Implement project

Prioritization

The three priority projects are listed above. All of the recommendations from **Chapter 4: Recommendations** are listed in **Table 5-2**.

Table 5-2: Plan Prioritization

Priority	Project
1	East Gateway Monument and Crossing
2	Curb Extensions at Holt Park
3	Curb Extensions at Fifth Street and Cedar Avenue
4	Beale Pathway
5	Holtville Roadway Functionality
6	School Zones
7	Seventh Street Reconfiguration
8	City Loop

These priority projects are shown in Figure 5-1, except for Priority Project 8, which is shown in **Figure 4-34**.

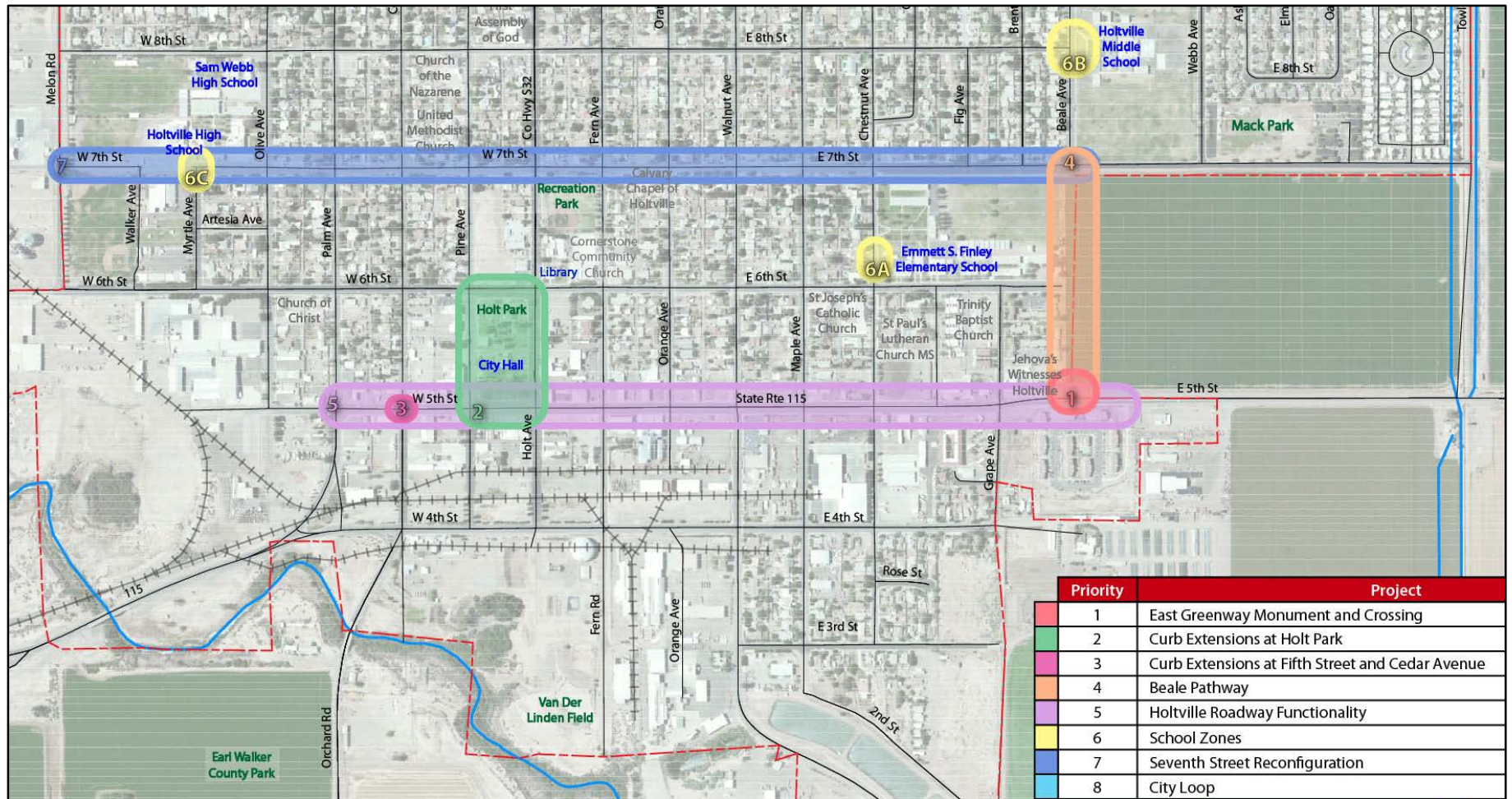


Figure 5-1: Prioritization Map, excluding Priority 8

Cost Estimates

Alta Planning + Design prepared cost estimates for projects discussed in the plan on October 5, 2015. These cost estimates represent the best estimates known at that date and represent best planning, engineering, and design practices. Right-of-way acquisition is not included in these estimates as these costs can vary over time and by location. More detailed cost estimates will be needed as these projects are further defined and developed. Utilizing an incremental approach to these projects allows more opportunities to implement complete street solutions.

Table 5-3: East Gateway and Crossing

Item #	Description	Estimated Quantity	Unit	Unit Cost	Cost
1	Mobilization (10%)	1	LS	\$7,000	\$7,000
2	Traffic Control	1	LS	\$5,000	\$5,000
3	Median Island with Concrete Curb	1	EA	\$10,000	\$10,000
4	RRFB Assembly	4	EA	\$7,500	\$30,000
5	High Visibility Crosswalk and Yield Line	2	EA	\$2,000	\$4,000
6	Sign and Post	4	EA	\$500	\$2,000
7	Roadway Striping	1	LS	\$7,000	\$7,000
8	ADA Curb Ramp	2	EA	\$4,000	\$8,000
				Subtotal Items	\$73,000
				CONSTRUCTION CONTINGENCY	20%
					\$14,600
				Total	\$87,600
Optional Items					
				Add Sidewalk with Curb & Gutter along north side	\$60,000 - \$70,000
				Gateway (Spanning roadway)	\$50,000 - 200,000
				Gateway (In Median)	\$25,000 - 50,000
				Gateway (Monument)	\$10,000 - 25,000

Table 5-4: Curb extensions at Holt Park Phase I (4 Intersections Total)

Item #	Description	Estimated Quantity	Unit	Unit Cost	Cost
1	Mobilization (10%)	1	LS	\$20,000	\$20,000
2	Traffic Control	1	LS	\$6,000	\$6,000
3	High Visibility Crosswalk	16	EA	\$2,000	\$32,000
4	Painted Curb Extension	16	EA	\$1,500	\$24,000
5	Replace Curb Ramp with New ADA Curb Ramp	12	EA	\$4,000	\$48,000

Item #	Description	Estimated Quantity	Unit	Unit Cost	Cost
6	Paint Angled Parking on 5th Street (Pine to Holt, one side)	1	LS	\$4,000	\$4,000
7	Mill and Overlay Crosswalk Pavement	16	EA	\$5,000	\$80,000
8	STOP pavement marking	12	EA	\$200	\$2,400
Subtotal Items					\$216,400
CONSTRUCTION CONTINGENCY					20% \$43,300
Total					\$259,700

Table 5-5: Curb extensions at Holt Park Phase II (4 Intersections Total)

Item #	Description	Estimated Quantity	Unit	Unit Cost	Cost
1	Mobilization (10%)	1	LS	\$41,000	\$41,000
2	Traffic Control	1	LS	\$20,000	\$20,000
3	Concrete Curb Extension	16	EA	\$20,000	\$320,000
4	Sign and Post	16	EA	\$500	\$8,000
5	Drainage Inlet and pipe connection	8	EA	\$7,500	\$60,000
Subtotal Items					\$449,000
CONSTRUCTION CONTINGENCY					20% \$89,800
Total					\$538,800

Table 5-6: Curb Extensions at Cedar Avenue Option 3A

Item #	Description	Estimated Quantity	Unit	Unit Cost	Cost
1	Mobilization (10%)	1	LS	\$3,000	\$3,000
2	Traffic Control	1	LS	\$1,000	\$1,000
3	High Visibility Crosswalk	4	EA	\$1,800	\$7,200
4	Painted Curb Extension	4	EA	\$1,500	\$6,000
5	Replace Curb Ramp with New ADA Curb Ramp	3	EA	\$4,000	\$12,000
6	Paint Angled Parking on Cedar Ave (Fourth to Sixth, both sides)	1	LS	\$8,000	\$8,000
7	STOP pavement marking	2	EA	\$200	\$400
Subtotal Items					\$37,600

Item #	Description	Estimated Quantity	Unit	Unit Cost	Cost
			CONSTRUCTION CONTINGENCY	20%	\$7,500
Total					\$45,100

Table 5-7: Curb extensions at Cedar Avenue Option 3B

Item #	Description	Estimated Quantity	Unit	Unit Cost	Cost	
1	Mobilization (10%)	1	LS	\$10,000	\$10,000	
2	Traffic Control	1	LS	\$5,000	\$5,000	
3	Concrete Curb Extension	4	EA	\$20,000	\$80,000	
4	Sign and Post	4	EA	\$500	\$2,000	
5	Drainage Inlet and pipe connection	2	EA	\$7,500	\$15,000	
Subtotal Items					\$112,000	
				CONSTRUCTION CONTINGENCY	20%	\$22,400
Total					\$134,400	

Table 5-8: Beale Avenue Pathway Option 4A- DG Path

Item #	Description	Estimated Quantity	Unit	Unit Cost	Cost	
1	Mobilization (10%)	1	LS	\$14,000	\$14,000	
2	Traffic Control	1	LS	\$3,000	\$3,000	
3	DG Path (12' wide)	1,250	LF	\$80	\$100,000	
4	Concrete Sidewalk with Curb	50	LF	\$140	\$7,000	
5	ADA Curb Ramp	1	EA	\$4,000	\$4,000	
6	Sign and Post	8	EA	\$500	\$4,000	
7	Chain Link Fence	1250	LF	\$20	\$25,000	
Subtotal Items					\$157,000	
				CONSTRUCTION CONTINGENCY	20%	\$31,400
Total					\$188,400	

Right of way acquisition/easement for path is not included in this estimate.
 Note: Approximate total acreage is 0.03 acres.

Table 5-9: Beale Pathway Option 4B- AC Path

Item #	Description	Estimated Quantity	Unit	Unit Cost	Cost
1	Mobilization (10%)	1	LS	\$20,000	\$20,000
2	Traffic Control	1	LS	\$3,000	\$3,000
3	AC Path (8' AC path with 2' DG shoulders)	1,250	LF	\$125	\$156,300
4	Concrete Sidewalk with Curb	50	LF	\$140	\$7,000
5	ADA Curb Ramp	1	EA	\$4,000	\$4,000
6	Sign and Post	8	EA	\$500	\$4,000
7	Chain Link Fence	1250	LF	\$20	\$25,000
8	Path Striping	1250	LF	\$1	\$1,300
				Subtotal Items	\$220,600
				CONSTRUCTION CONTINGENCY	20% \$44,100
				Total	\$264,700

Note: Right of way acquisition/easement for path is not included in this estimate.

Table 5-10: Seventh Street Reconfiguration Option 7A - Bike Lanes

Item #	Description	Estimated Quantity	Unit	Unit Cost	Cost
1	Mobilization (10%)	1	LS	\$6,000	\$6,000
2	Traffic Control	1	LS	\$3,000	\$3,000
3	Bike Lane (Striping and Signage)	5000	LF	\$12	\$60,000
				Subtotal Items	\$69,000
				CONSTRUCTION CONTINGENCY	20% \$13,800
				Total	\$82,800

Table 5-11: Seventh Street Reconfiguration Option 7B - Protected Bike Lanes

Item #	Description	Estimated Quantity	Unit	Unit Cost	Cost
1	Mobilization (10%)	1	LS	\$13,000	\$13,000
2	Traffic Control	1	LS	\$6,000	\$6,000
3	Protected Bike Lane (Separation, Striping and Signage)	5000	LF	\$25	\$125,000
				Subtotal Items	\$144,000

Item #	Description	Estimated Quantity	Unit	Unit Cost	Cost
			CONSTRUCTION CONTINGENCY	20%	\$28,800
Total					\$172,800

Table 5-12: Other Planning Level Estimates

Treatment	Cost
Convert parallel to angled parking, one side of road (Short Block 300-foot)	\$1,000
Convert parallel to angled parking, one side of road (Long Block, 600-foot)	\$2,000
Street Tree (in existing planter strip)	\$1,250
Add additional street trees to fill in gaps, one side of road (Short Block - assumed 4 trees)	\$5,000
Add additional street trees to fill in gaps, one side of road (Long Block - assumed 8 trees)	\$10,000
High Visibility Crosswalk and 2 ADA curb ramps	\$10,000
Sign and Post	\$600

Potential Funding Sources

Table 5-13: Potential Funding Sources

Funding Source	Remarks
Federal	
Bus and Bus Facilities Program: State of Good Repair	Can be used for projects to provide access for bicycles to public transportation facilities, to provide shelters and parking facilities for bicycles in or around public transportation facilities, or to install equipment for transporting bicycles on public transportation vehicles.
Bus Livability Initiative	Can be used for bicycle and pedestrian support facilities, such as bicycle parking, bike racks on buses, pedestrian amenities, and educational materials
Federal Transit Act	Typical funded projects have included bike lockers at transit stations and bike parking near major bus stops. FTA funds can also be used for First/Last Mile bicycling and pedestrian improvements within 3 miles of a transit stop. Guideline for the use of 10 percent of the annual CMAQ funds starting in fiscal year 2012-2013 for bike/pedestrian projects through a competitive call to local agencies.
Land and Water Conservation Fund	Federal fund provides matching grants to state and local governments for the acquisition and development of land for outdoor recreation use. Lands acquired through program must be retained in perpetuity for public recreational use. Individual project awards are not available. Recent call deadline was February 2015.
FAST Act - Surface Transportation Block Grant Program (STBGP)	The FAST Act replaced MAP-21 in 2015 and provides long-term funding certainty for surface transportation projects, called STBGP. A wide variety of bicycle and pedestrian improvements are eligible, including on-street bicycle transportation facilities, off-street trails, sidewalks, crosswalks, bicycle and pedestrian signals, parking, and other ancillary facilities.

Funding Source	Remarks
FAST Act - Highway Safety Improvement Program (HSIP)	This program provides funds for the implementation of bicycle transportation facilities that address safety concerns, especially along corridors with high bicycle-involved collision rates. Projects may include education and enforcement programs.
FAST Act Set Aside - Transportation Alternatives Program	Transportation Alternatives Program (TAP) has been folded into the STBGP as a set-aside. Improvements eligible for this set-aside fall under three categories: Transportation Enhancements, Safe Routes to School, and the Recreational Trails Program. These funds may be used for a variety of pedestrian and streetscape projects including sidewalks, multi-use paths, and rail-trails. TAP funds may also be used for selected education and encouragement programming such as Safe Routes to School and non-profit organizations are now eligible to apply.
FAST Act - Congestion Mitigation and Air Quality Improvement Program (CMAQ)	The amount of CMAQ funds depends on the state's population share and on the degree of air pollution. There is a broader emphasis on projects that are proven to reduce PM-2.5. Eligible projects include: "Constructing bicycle and pedestrian facilities (paths, bike racks, support facilities, etc.) that are not exclusively recreational and reduce vehicle trips; (and) non-construction outreach related to safe bicycle use." Studies that are part of the project development pipeline (e.g., preliminary engineering) are eligible for funding. "An assessment of the project's expected emission reduction benefits should be completed prior to project selection."
National Center for Environmental Health - Health Impact Assessment for Improved Community Design	The grant program aims to increase the capacity of public health departments to include health considerations in transportation and land use planning decisions. The grant provides an average of \$145,000 per year for 3 years to 6 awardees. The grant is generally available every 3 years.
New Opportunities for Bicycle and Pedestrian Infrastructure Financing Act	A proposed bill in Congress to set aside one percent of TIFIA's \$1 billion for bicycle and pedestrian infrastructure projects, such as the conversion of abandoned rail corridors for trails, bicycle signals, and path lighting. For these projects, TIFIA's minimum project cost would be \$2 million. Eligible costs include: planning & feasibility studies, construction, and land acquisition. The bill reserves 25 percent of project funding for low-income communities.
Rivers, Trails, and Conservation Assistance Program	RTCA staff provides technical assistance to communities so they can conserve rivers, preserve open space, and develop trails and greenways.
Transportation Investments Generating Economic Recovery (TIGER) Program	Can be used for innovative, multimodal and multi-jurisdictional transportation projects that promise significant economic and environmental benefits to an entire metropolitan area, a region, or the nation. These include bicycle and pedestrian projects. Project minimum is \$10 million.
U.S. Environmental Protection Agency - Brownfields Program	Assessment grants provide funding for a grant recipient to inventory, characterize, assess, and conduct planning and community involvement related to brownfields sites (locations that have been host to a hazardous substance, pollutant, or contaminant). Revolving Loan Fund (RLF) grants provide funding for a grant recipient to capitalize a revolving loan fund and to provide sub-grants to carry out cleanup activities at brownfield sites. Cleanup grants provide funding for a grant recipient to carry out cleanup activities at brownfield sites.

Funding Source	Remarks
State of California	
Affordable Housing and Sustainable Communities (AHSC) Program	AHSC grants are available for projects that integrate walking and bicycling improvements with affordable housing developments and transit connectivity. Requirements for housing and transit project components vary based on the frequency of transit in the project vicinity and by the density of the community. The primary criteria for project selection is reduction of greenhouse gas emissions. The 2015 application cycle closed in February and offered approximately \$120 million in grant funding.
Caltrans Active Transportation Program (ATP)	Funds construction, planning, and design of facilities for pedestrians, bicycle riders, and other non-motorized forms of transportation, while also funding non-infrastructure programs related to active transportation. The second application cycle closed in the spring of 2015. The ATP uses MAP-21 federal funds for a portion of the funded projects, so local agencies must adhere to certain federal guidelines.
Clean Water State Revolving Fund Program	The CWSRF program offers low interest financing agreements for water quality projects, which can include “implementation of nonpoint source projects or program.” Annually, the program disburses between \$200 and \$300 million. Stormwater management components of bicycle infrastructure projects may be eligible for this funding source. Applications are accepted on a continuous basis.
Climate Ready Grant Program	Climate Ready grants are available for projects located along the coast and coastal watersheds. Shared-use trails are eligible. \$1.5 million total; \$50,000 minimum grant; \$200,000 maximum. Managed by California Coastal Conservancy.
Environmental Enhancement and Mitigation Program (EEMP)	Funds may be used for land acquisition. Individual grants limited to \$350,000.
Habitat Conservation Fund	Provides funds to local entities to protect threatened species, to address wildlife corridors, to create trails, and to provide for nature interpretation programs which bring urban residents into park and wildlife areas. \$2 million available annually. Application deadline is typically in October of each year.
Office of Traffic Safety (OTS) Grant Program	Funds safety improvements to existing bicycle transportation facilities, safety promotions including bicycle helmet giveaways, and studies to improve traffic safety. The grant cycle typically begins with a Request for Proposals in November/December, which are due the following January. For 2015, OTS awarded \$102 million to over 200 agencies.
Petroleum Violation Escrow Account (PVEA)	Funds programs based on public transportation, computerized bus routing and ride sharing, home weatherization, energy assistance and building energy audits, highway and bridge maintenance, and reducing airport user fees.
Public Access Program	Funds the protection and development of public access areas in support of wildlife-oriented uses, including helping to fund construction of ADA trails.
Recreational Trails Program	Administered in California as part of the ATP. \$5.8 million guaranteed set-aside. Managed by the California Department of Parks and Recreation.
Safe Routes to School (SRTS)	In 2014, federal SRTS funds were rolled into the State’s ATP to streamline grant allocation. \$24 million combined in ATP for state and federal Safe Routes to School projects for the 2014 cycle. SRTS is primarily a construction program to enhance the safety of pedestrian and bicycle transportation facilities near schools. A small percentage of funds can be used for programmatic improvements. Improvements can be made to target students of all grade levels.

Funding Source	Remarks
Sustainable Communities Planning Grant and Incentives Program	<p>Funded by Prop 84 bond funds, this grant program funds the development and implementation of plans that lead to significant reductions in greenhouse gas emissions, such as rehabilitation of existing infrastructure and the enhancement of recreational resources. The minimum grant award is \$50,000; the maximum award is \$500,000, unless the application is a joint proposal, in which case the maximum award is \$1 million.</p> <p>The 10 percent local match requirement is waived for a proposal that qualifies for the Environmental Justice set-aside.</p>
Watershed Protection Program (Proposition 13)	<p>Grants to municipalities, local agencies, or nonprofit organizations to develop local watershed management plans (maximum \$200,000 per local watershed plan) and/or implement projects (maximum \$5 million per project) consistent with watershed plans. Administered by the Division of Financial Assistance.</p>
Regional and Local	
Clean Air Fund (AB 434/2766 – Vehicle Registration Fee Surcharge)	<p>Administered by San Joaquin Valley Air Pollution Control District. Local jurisdictions and transit agencies can apply. Funds can be used for projects that encourage biking, walking, and/or use of public transit. For bicycle-related projects, funds can be used to install Class I shared-use paths (maximum of \$150,000 per project) or Class II bicycle lanes (maximum of \$100,000 per project). Funds are also available to subsidize transit passes and construct park and ride lots.</p>
TDA Article 3 Funds	<p>Administered by Caltrans. TDA Article 3 funds are allocated annually on a per capita basis to both cities and counties for the planning and construction of bicycle and pedestrian facilities. Local agencies may either draw down these funds or place them on reserve. Agencies must submit a claim form by the end of the fiscal year in which they are allocated. Failure to do so may result in the lapse of these allocations.</p>
Private	
Community Action for a Renewed Environment (CARE)	<p>EPA grant program to help community organize and take action to reduce toxic pollution in its local environment.</p>
Health Foundations	<p>Focus pedestrian improvements for an obesity prevention strategy. Examples include California Wellness Foundation, Kaiser, and the California Endowment.</p>
PeopleForBikes	<p>PeopleForBikes (formerly Bikes Belong) provides grants for up to \$10,000 with a 50 percent match that recipients may use towards the engineering, design, and construction of bike paths, lanes, bridges, and end-of-trip facilities, as well as programs.</p>
Rails to Trails Conservancy	<p>Provides technical assistance for converting abandoned rail corridors to use as multi-use trails.</p>
Surdna Foundation	<p>The Surdna Foundation makes grants to nonprofit organizations in the areas of environment, community revitalization, effective citizenry, the arts, and the nonprofit sector.</p>
Other Private Foundations/Organizations	<p>Various private foundations and organizations may fund specific components identified in this Plan, such as community encouragement events and other non-infrastructure programs.</p>

6. Complete Streets Toolkit

This chapter provides an overview of the types of treatments which can be implemented in Holtville. In addition, the need and purpose of each treatment are given as well as how each treatment is compatible with current Caltrans guides and policies. Finally, each section will give an example case study of a city that has implemented that treatment on a Caltrans-owned highway.

Need: Why is this treatment recommended?

Purpose: What is the goal of the treatment?

Caltrans Compatibility

All treatments in this chapter are considered a best practice according to one or more Caltrans documents or policies. The main documents or policies used are listed below.

Deputy Directive-64-Revision 2: Complete Streets - Integrating the Transportation System (2014)

DD-64-R2 establishes a policy that the State highway system provide for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products. This Complete Street policy views all transportation improvements as opportunities to improve the safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system.

Main Street, California: A Guide for Improving Community and Transportation Vitality (2013)

This document, also called the *Main Street, California* Guide, is focused on the design of California State Highways that also serve as the “main street” of a community. The guide does not develop new guidance, but provides information from existing Caltrans manuals and policies, as well as national resources, to help communities improve multimodal access, livability and sustainability, while meeting appropriate engineering standards. It also helps readers find information about standards and procedures described in the Caltrans Highway Design Manual (HDM), the California Manual on Uniform Traffic Control Devices (California MUTCD), and the Project Development Procedures Manual.

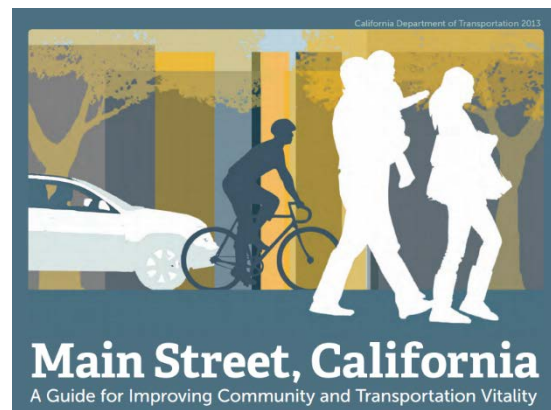


Figure 6-1: Cover of the *Main Street, CA Guide*

Caltrans Class IV Separated Bikeway Design Information Bulletin (DIB 89)

The Protected Bikeways Act of 2014 (Assembly Bill 1193) established Class IV Bikeways, also referred to as separated bikeways or cycle tracks, for California and required Caltrans, in cooperation with local agencies and in consultation with the existing Caltrans advisory committee dedicated to improve access for persons with disabilities, to establish design criteria

for separated bikeways. Approved on December 30, 2015, Design Information Bulletin (DIB) Number 89 was prepared to provide that design criteria and other general guidance on best practices related to separated bikeways to establish uniform guidance for the use of owners of these facilities.

The design criteria and guidance in this DIB was written to allow designers to exercise sound judgment when applying it, consistent with the Project Development philosophy (see Caltrans Highway Design Manual Index 81.1) when designing projects and has been written to allow for flexibility in applying the design criteria, taking into consideration the context of the project location; which enables the designer to tailor the design, as appropriate, for the specific circumstances while maintaining safety.

Complete Streets Implementation Action Plan 2.0 (2014)

The intent of the Complete Streets Implementation Action Plan 2.0 is to describe the current Caltrans complete streets policy framework and to provide an overview of Caltrans' continued complete streets efforts. It offers action items communities could use in order to implement complete streets. In order to bolster the support for this Plan, Caltrans hosted several statewide presentations called "Complete Streets 101: Integrating the Transportation System." The presentation is available online and will also be used as a reference for Caltrans compatibility.

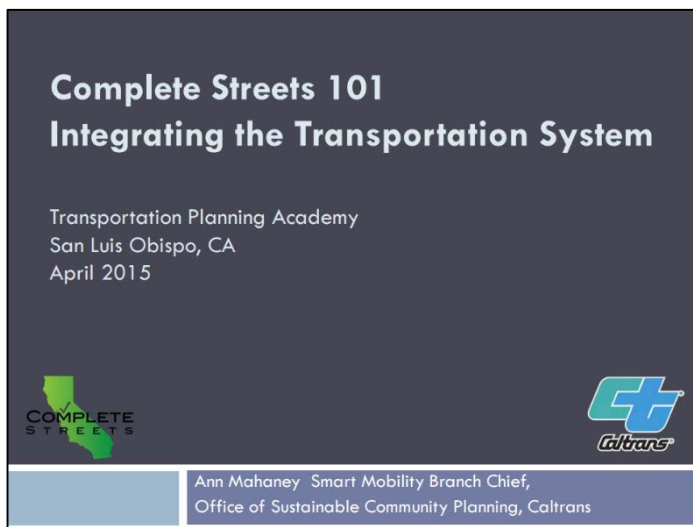


Figure 6-2: Introduction slide to the Complete Streets 101 presentation

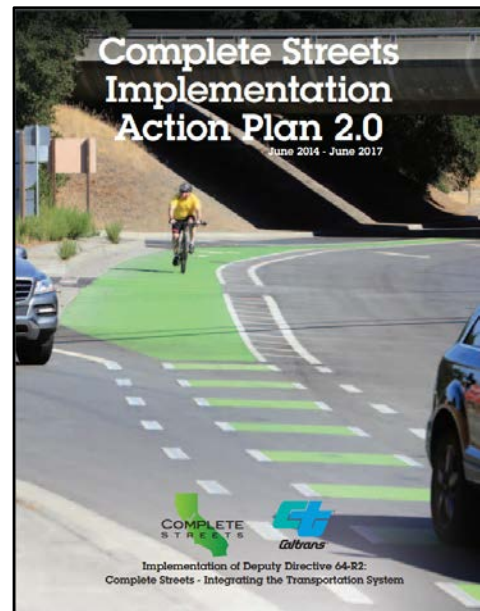


Figure 6-3: Cover of the Complete Streets Implementation Action Plan 2.0

Design Flexibility in Multimodal Design

In 2014, Caltrans issued a memo called, "Design Flexibility in Multimodal Design" as well as NACTO Endorsement Frequently Asked Questions (September 2014), which provides guidance for design flexibility and using designs as provided by the National Association of City Transportation Officials (NACTO), shown in **Figure 6-4**. In the memo, Caltrans reiterates that, "A 'one-size-fits-all' design philosophy is not Departmental policy" quoting the Highway Design Manual chapter 80.

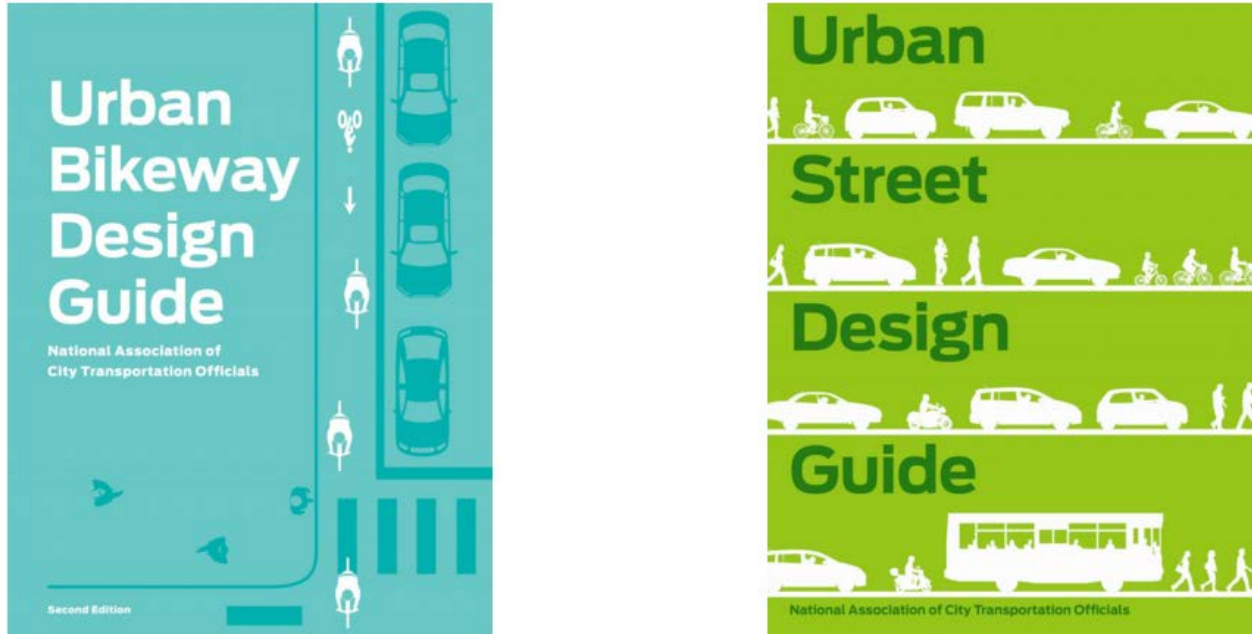


Figure 6-4: NACTO Design Guides

Complete Streets Goals

Caltrans defines a complete street as a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit riders, truckers, and motorists appropriate to the function and context of the facility. For example, US 395 acts as the main street of Bridgeport, CA (District 9) and underwent a Complete Streets transformation in record time. **Figure 6-5** shows this conversion.



Figure 6-5: Before and after of US 395 through Bridgeport (District 9). Source: Project for Public Spaces

Need: The roads in Holtville, especially SR-115 were designed for vehicular traffic only.

Purpose: Complete streets come with many benefits, such as:

- Creating welcoming and inviting streets
- Improving quality of life
- Balancing moving people, not just cars
- Encouraging walking, biking, and public transportation
- Enhancing safety
- Enhancing economic vitality

These benefits mirror the goals identified throughout the community engagement and plan preparation processes.

Caltrans Compatibility: Caltrans Deputy Directive 64-R2.

Case Study: State Route 35 in San Francisco (District 4), as shown in **Figure 6-6** from the Complete Streets 101 presentation.

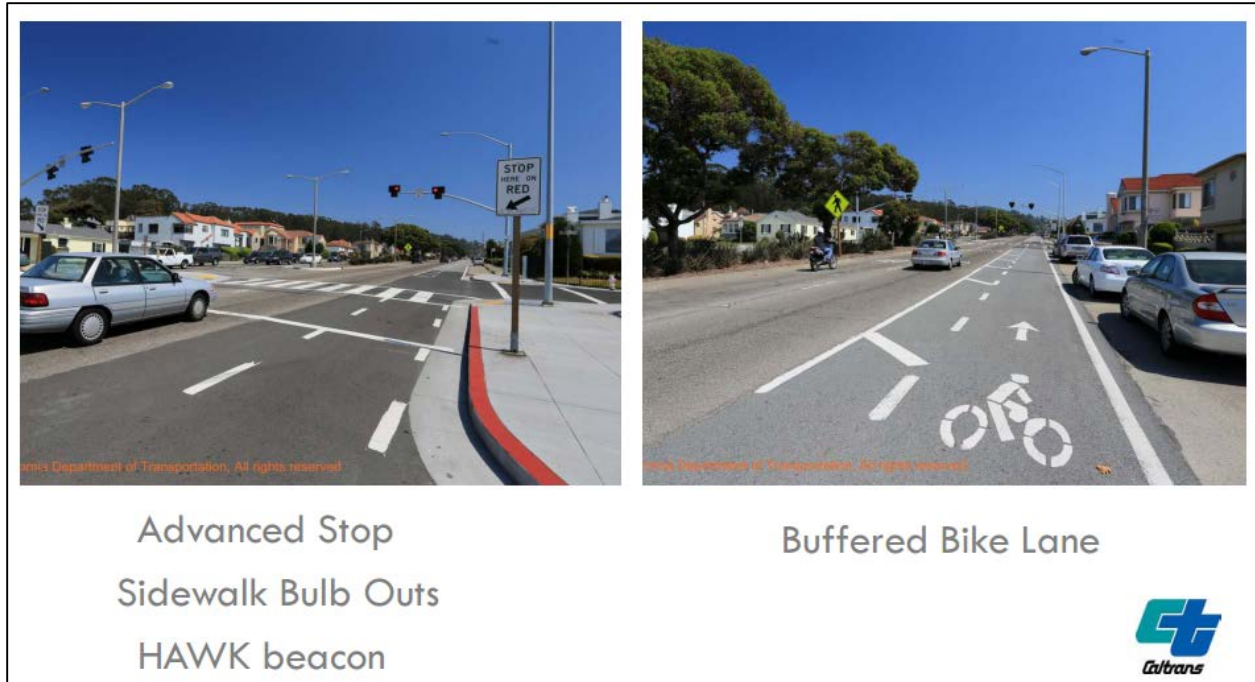


Figure 6-6: Sloat Boulevard complete street implementation measures

Relinquishment

Need: Fifth Street/SR-115 is a barrier to active transportation mobility.

Purpose: For the City to have significantly greater flexibility and local decision-making in order to make Fifth Street a complete street.

Many community members identified Fifth Street as the biggest barrier to safety due to the speed of motorists, the challenges for pedestrians to cross, and the lack of a more walkable community core. This Plan recognizes that this roadway has excess capacity and may not need four travel lanes (two in each direction) given that I-8 serves as the regional bypass to the City of Holtville.



Figure 6-7: Enhanced aerial view of Fifth Street at Holt Park shows a crosswalk leading to another crosswalk, which do not conform to Caltrans standards

There is only one all-way stop sign through town on Fifth Street at the intersection with Holt Avenue. Six marked crosswalks are provided at the 11 intersections between Palm Avenue and Grape Avenue. Most curb ramps and crosswalks do not meet ADA or Caltrans standards as one crosswalk currently leads pedestrians to another crosswalk rather than the sidewalk (**Figure 6-7**), are poorly maintained (**Figure 6-8**), and as a result are not as visible as they could be to alert motorists transition from a rural highway to a community with people.

Caltrans has expressed interest in relinquishing SR-115 to Holtville to allow Fifth Street to be a locally-operated roadway. SR-115 is not needed as a state facility now that Interstate 8 serves that purpose. According to the SR-115 Transportation Concept Report by Caltrans District 11 (2011), the existing SR-115 alignment between I-8 and West Junction Evan Hewes Highway is to be relinquished by 2025. Per Chapter 25 of the Caltrans Project Development Procedures Manual (2014), there are several benefits to relinquishing facilities that are no longer required to serve regional and statewide needs, including an increase in local agencies' responsiveness to community interest in the administration, planning, construction, and operation of facilities,



Figure 6-8: Poorly maintained roadway infrastructure along Fifth Street

resulting in a cost savings to taxpayers by eliminating the need for State encroachment permits. The City has expressed challenges with adequately maintaining its existing infrastructure and may not be able to take on additional infrastructure. However, if SR-115/Fifth Street were to become a locally-operated roadway, there may be significantly greater flexibility and local decision-making ability to utilize state of the practice solutions, implement safety measures, and spur economic development along the corridor. As such, taxpayers do not realize who owns or operates a roadway, only that it serves their purpose.

Caltrans Compatibility: While Caltrans offers relinquishment to local jurisdictions through a California Transportation Commission resolution, the roadway must adhere to Caltrans standards to qualify for relinquishment and be brought up to acceptable conditions of repair. Fifth Street/SR-115 does not serve regional or statewide transportation needs. As identified in Article 3 of Chapter 25 – Relinquishments of the Caltrans *Project Development Procedures Manual*,

“There are several benefits to relinquishing facilities that are no longer required to serve regional and statewide needs:

- The relinquishments of applicable facilities allow local agencies to be more responsive to community interest in the administration, planning, construction and operation of that facility. The result is a cost savings to taxpayers by eliminating the need for State encroachment permits.
- Reduction of ongoing maintenance costs.
- Reduction in tort liability.
- Decreased incidence response efforts.
- Decreased competition for capital funds for regional and statewide improvements.

When relinquishing a state highway, there may be occasions when it is appropriate for Caltrans to perform work or to provide financial contributions to the local agency to ensure that the facility is safe and drivable. Additional work

or financial contributions may be considered if in the best interest of the public, as evaluated by the Relinquishment Advisory Committee.”⁷

For all recommendations in this report, if Caltrans and the City cannot come to a mutual agreement, changes could only be installed on the non-Caltrans roadways.

Case Study: Tracy Boulevard/SR-4 (District 10), a major north-south roadway in Tracy, was relinquished to the County of San Joaquin in 2013.

Road Rightsizing

Road rightsizing, also known as a road diet or road reallocation, typically occurs when a four lane road is reconfigured to a three lane road and bicycle lanes are added, see **Figure 6-9**.

Need: The lane sizes and configuration in Holtville encourage speeding and are unfriendly to pedestrians and bicyclists.

Purpose: To slow vehicles as they travel through Holtville and to better accommodate active modes of transportation.



Figure 6-9: On the left: a four lane roadway. On the right, a five lane roadway: three vehicle lanes and two bicycle lanes

While it may be counterintuitive for some, the road on the left with four vehicle lanes carries approximately the same number of motorized vehicles as the road on the right (15,000 average daily traffic). For roadways which see plenty of left turns such as SR-115 with 11 intersections, the left turn lane provides a space for left turning vehicles to move out of the travel lane prior to turning left instead of waiting in the travel lane and preventing other vehicles from passing, as with the four lane configuration on the left in **Figure 6-9**.

Additionally, the configuration on the right reduces the risk of all types of collisions between roadway users and provides a safer space for bicyclists to use the roadway alongside motor vehicles. This makes roadway rightsizing preferred by local businesses because it allows those without access to a motorized vehicle (2.1 percent of Holtville residents according to 2009-2013 ACS) to travel to their businesses more easily.

⁷ <http://www.dot.ca.gov/hq/oppd/design/State-Highway-RelinquishmentwAttach.pdf>.

Although there are many case studies available on transitioning from 4 to 3 lanes for under 15,000 ADT, a traffic study will be required by Caltrans for a 5th Street road reconfiguration.



Figure 6-10: Fifth Street after road rightsizing. Clockwise from top left: painted bulbouts; concrete bulbouts solely within City right-of-way; concrete bulbouts solely within City right-of-way with painted bulbouts beyond; and concrete bulbouts

Caltrans Compatibility: Figure 6-9 is used in the Complete Streets 101 presentation.

Case Study: State Route 227 in San Luis Obispo (District 5) was put on a “road diet” by reducing the four-lane arterial to two, adding center medians, pedestrian refuge areas, center left-hand turn lanes, and dedicated bus pullouts. With the extra roadway space, the existing bike lanes were widened to better accommodate cyclists.

Holtville Roadway Functionality

This Plan recommends maximizing roadway functionality around all of Holtville.

Need: The current roadway configuration and land directly adjacent to roadways are unfriendly to pedestrians.

Purpose: To make roadway crossings feel safer and to be more pedestrian- and bicycle-friendly.

The following list is not exhaustive and can be done in phases. It complements previous recommendations in this Plan.

- Convert parallel parking to angled parking
- Add crosswalks and bulbouts to major intersections
- Add benches along areas with high numbers of pedestrians
- Add waste receptacles along areas with high numbers of pedestrians
- Add street trees
- Add bike lanes where feasible
- Add/upgrade street lighting
- Add public art to beautify the street
- Install bicycle parking outside businesses, parks, and churches

Caltrans Compatibility: The *Main Street, California* Guide gives examples of several of these treatments and explains their uses.

Case Study: From the *Main Street, California* Guide, “Street trees on State Route 75... in Coronado beautify the street and provide shade for waiting transit riders,” (District 11). Also, decorative lighting and street furnishing can be found on US 395 in Independence (District 9). Lastly, “Aesthetic treatments, such as the pedestrian paving pattern in Redding (District 2), do not require participation in the Caltrans Transportation Art Program.”

Phasing and Demonstration Projects

As previously mentioned, project phasing is an effective way to break larger, more costly projects into smaller ones that are more attractive for grant opportunities. Additionally, cities often choose to implement demonstration projects to test concepts and refine design in a cost-effective manner. Demonstration projects are low-cost, temporary design treatments to test out concepts such as bike lanes, curb extensions, roundabouts, or public spaces. The City may consider demonstration projects, which may be paired with community events, as funding is available to encourage community feedback.





Figure 6-11: Pin-down concrete medians are a lower-cost and quicker solution

Demonstration projects range from weekend installations to multi-month installations. The following images are from a 2014 demonstration project in Morgan Hill on a former Caltrans highway, which included both a weekend temporary demonstration testing out various designs and a longer demonstration project that included striping the roadway. Community feedback was critical throughout this process to assess the effectiveness of the changes.





Figure 6-12: Before and after concepts for a demonstration project in Morgan Hill, California





Figure 6-13: Weekend demonstration projects in Morgan Hill, California

Caltrans Compatibility: Caltrans has several examples of phased projects and does not disallow them in any policies or guides. An Encroachment Permit would be required for demonstration projects.

Case Study: The I-80/I-680/SR-12 Interchange in Solano County (District 4) is a multi-phase process, called “packages.” Construction of Package I near the I-80/Green Valley Road exit started in summer 2014 and be completed as early as summer 2016. Package II through Package VII will be constructed and completed subject to funds available. Mar Vista held a demonstration event on State Route 187 (District 7) including a “pop-up” separated bikeway and temporary parklet in November 2015.

Diagonal Parking

Need: Reduce vehicle speed along Holtville roadways.

Purpose: To reduce the roadway size which subconsciously slows drivers down.

On wide roadways such as Fifth Street in Holtville, parallel parking can be converted to diagonal parking to reduce the vehicle travel lanes which subconsciously slows drivers down. The recent (2014) edition of the California MUTCD says diagonal parking stalls are not permitted on State highways.⁸ However, as the Caltrans *Main Street, California* Guide points out, there are several state highways which have recently had diagonal parking installed. U.S. Highways which travel



Figure 6-14: Diagonal parking with buffer space and shared-lane marking in San Jose, CA (not a state highway)

through California cities and act as the main street have also been retrofitted to have diagonal parking installed such as US 395 in Bridgeport, which worked with Caltrans District 9 to have a short nine week period from the first public meeting to installation. Caltrans District 11 staff says that diagonal parking may be allowed on Fifth Street if a buffer is included in the design (see **Appendix A**). This can be implemented through paint and additional space, as shown in **Figure 6-14**.

Back-in Angled Parking

Back-in angled parking is gaining traction across the country. Several cities are converting existing parking configurations to this alternative shown in **Figure 6-15**. According to the Pedestrian and Bicycle Information Center, “Back-in angled parking provides motorists with better vision of bicyclists, pedestrians, cars and trucks as they exit a parking space and enter moving traffic. Back-in angle parking also eliminates the risk that is present in parallel parking

situations, of a motorist may open the car door into the path of a bicyclist. Back-in angled parking also removes the difficulty that drivers, particularly older drivers, have when backing into moving traffic.”⁹

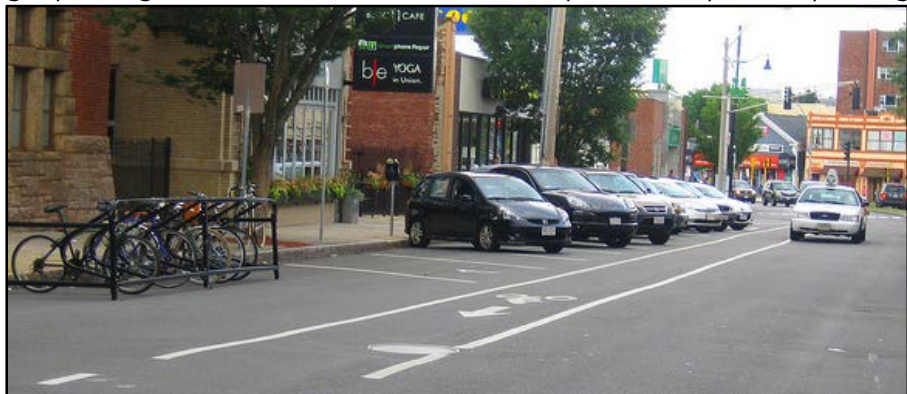


Figure 6-15: Back-in angled parking in Massachusetts

⁸ Section 3B.19 paragraph 17.

⁹ http://www.pedbikeinfo.org/data/faq_details.cfm?id=3974.

Caltrans Compatibility: *Main Street, California Guide.*

Case Study: State Route 16 in Esparto (District 3) provides back-in angled parking.

Pedestrian Improvements

Need: Pedestrian crossings in Holtville are long and can feel unsafe.

Purpose: To reduce crossing distance for pedestrians and to make pedestrians more visible to drivers.

Curb Extensions

Curb extensions, also called bulbouts or bumpouts, are areas where sidewalks extend into the roadway (usually in the space where a parked vehicle would reside) near intersections. Curb extensions reduce the crossing distance for pedestrians and increase visibility by moving pedestrians further out. Curb extensions have the added benefits of traffic calming, reducing the speed of turning vehicles (a problem mentioned at public engagement activities), and room for landscaping, benches, or other amenities. New curb ramps should be designed to be ADA and Caltrans compliant.

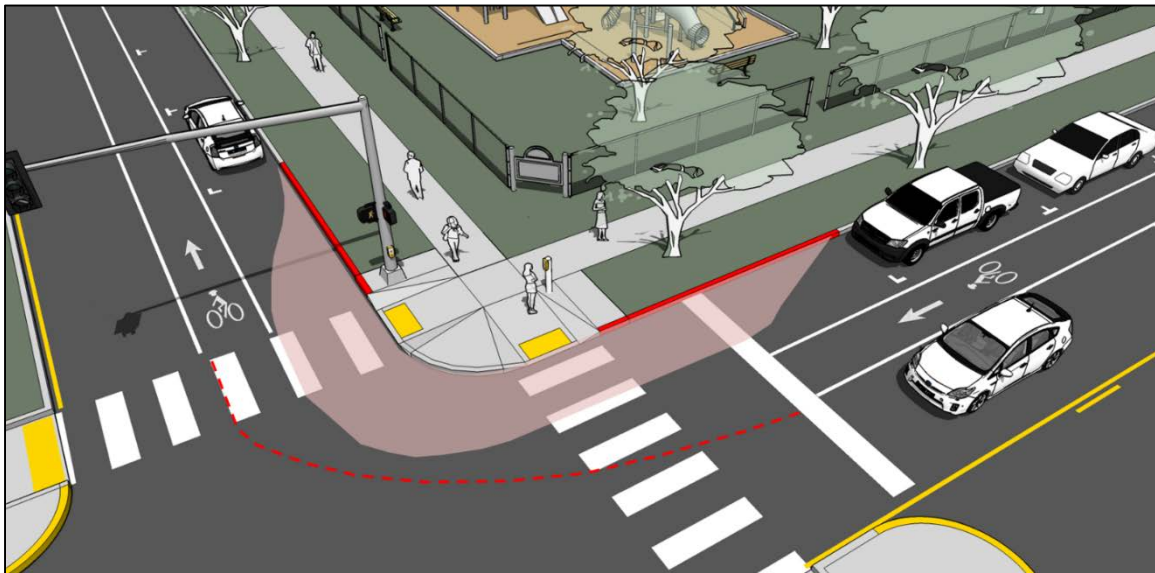


Figure 6-16: Curb extensions in Colorado



Figure 6-17: Interim curb extensions in Jackson Hole, Wyoming

Curb extensions can often better accommodate the turning radius of vehicles by shifting lanes out and better utilizing the roadway space.



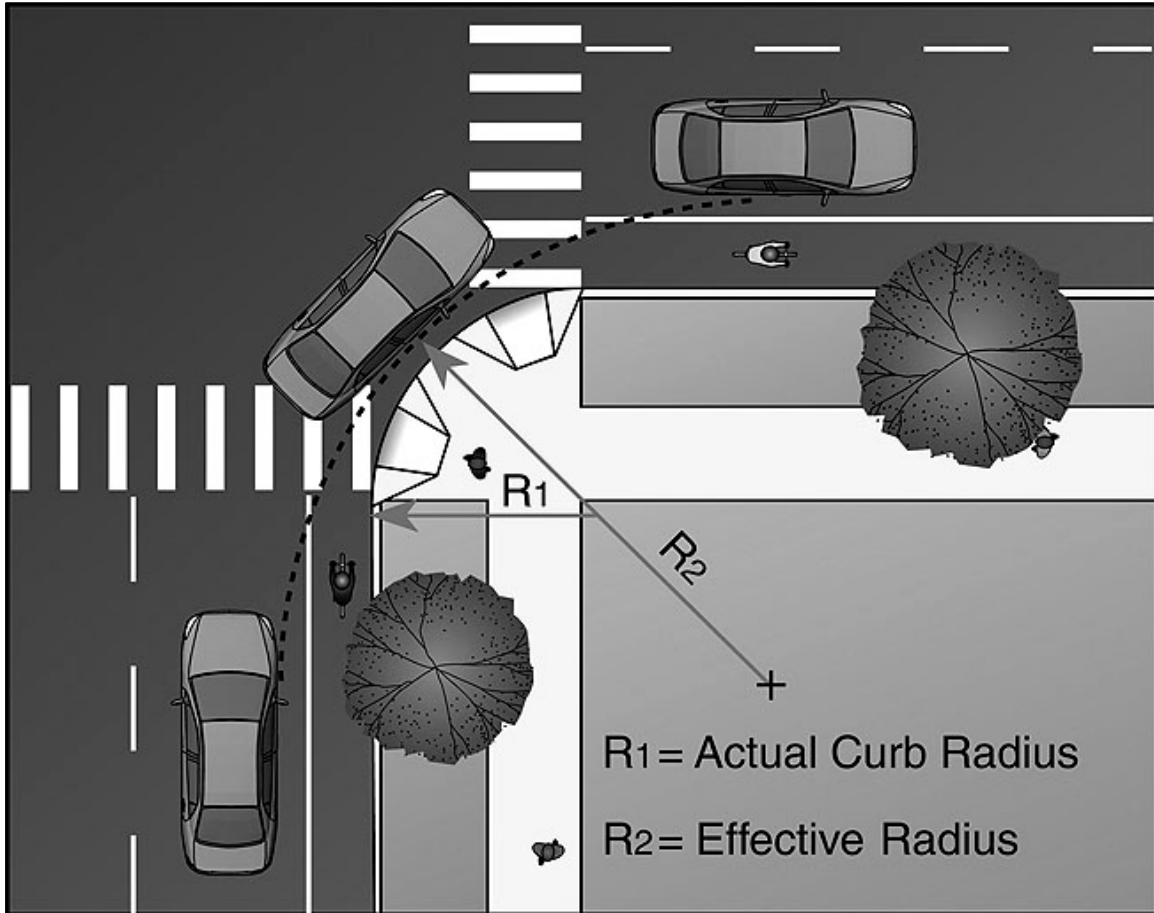


Figure 6-18: Curb extensions and turning radius

Many cities have expressed concerns with bulbouts on truck routes. Curbs designed with tight radii cause truck drivers to encroach into other lanes while turning, which is dangerous for all roadway users; see **Figure 6-19**. Curbs designed with tight radii and a corner apron (as shown in **Figure 6-20**) helps to mediate that issue.

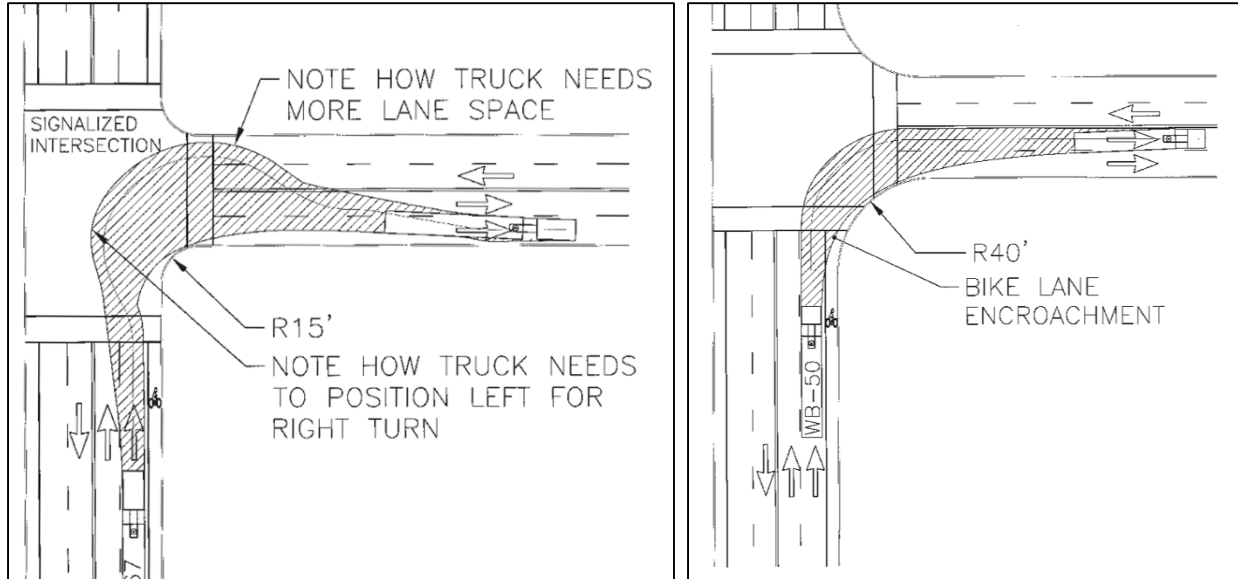


Figure 6-19: It is possible to design and accommodate large trucks through and intersection with a 15' corner radius, but it requires lane encroachment

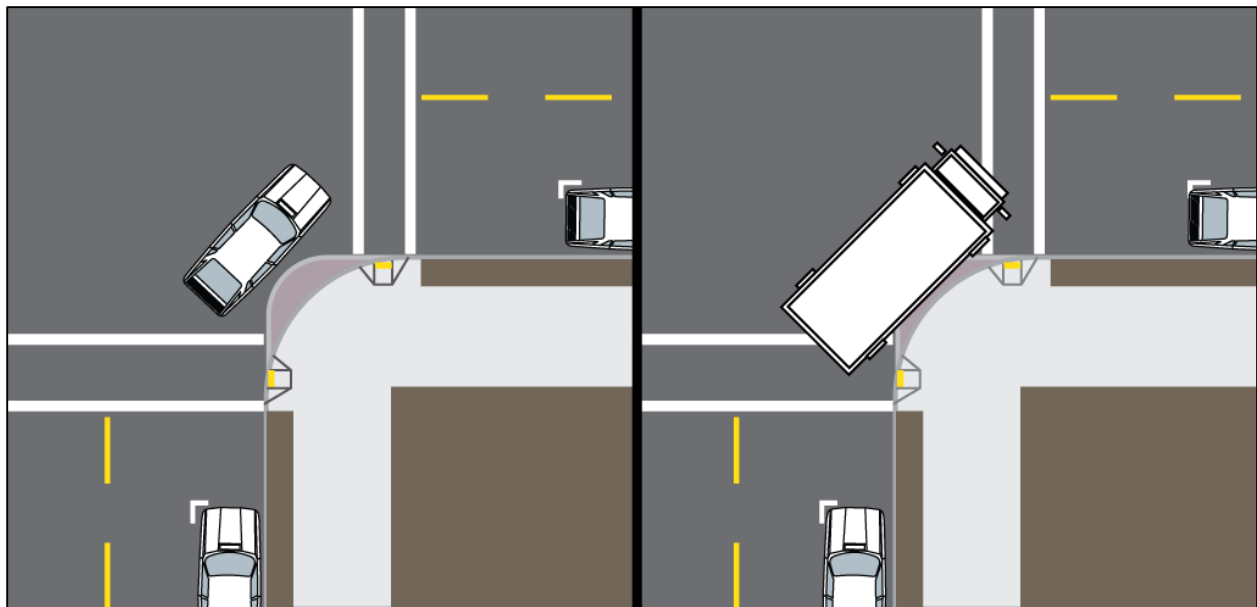


Figure 6-20: A corner apron helps enforce tight turns for standard motorized vehicles while allowing trucks to safely navigate

Caltrans Compliance: *Main Street, California Guide.*

Case Study: State Route 299 in Willow Creek (District 1) accommodates curb extensions.

Crosswalks

Crosswalks come in a variety of designs and can be applied along different roadway types. In general, crosswalks should be kept as compact and direct as possible, facilitating eye contact by moving pedestrians directly into the driver's field of vision. Crosswalks should be striped as wide as or wider than the sidewalk or walkway it connects to. This will better ensure that when two groups of people meet in the crosswalk, they can comfortably pass one another. High visibility ladder, zebra, and continental crosswalk markings are preferable to standard parallel or dashed pavement markings. These are more visible to approaching vehicles and have been shown to improve yielding behavior.

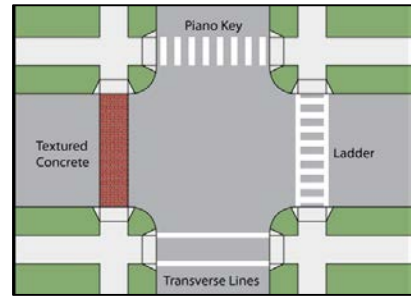


Figure 6-21: Types of crosswalks

Pedestrian crossing facilities range from simple signage and roadway striping to beacons and signals. **Figure 6-22** shows facilities and typical applications for each.

PEDESTRIAN CROSSING CONTEXTUAL GUIDANCE At unsignalized locations	Local Streets 15-25 mph		Collector Streets 25-30 mph			Arterial Streets 30-45 mph							
	2 lane	3 lane	2 lane	2 lane with median refuge	3 lane	2 lane	2 lane with median refuge	3 lane	4 lane	4 lane with median refuge	5 lane	6 lane	6 lane with median refuge
	FACILITY TYPE												
1 Crosswalk Only (high visibility)	✓	✓	EJ	EJ	X	EJ	EJ	X	X	X	X	X	X
2 Crosswalk with warning signage and yield lines	EJ	✓	✓	✓	✓	EJ	EJ	EJ	X	X	X	X	X
3 Active Warning Beacon (RRFB)	X	EJ	✓	✓	✓	✓	✓	✓	X	✓	X	X	X
4 Hybrid Beacon	X	X	EJ	EJ	EJ	EJ	✓	✓	✓	✓	✓	✓	✓
5 Full Traffic Signal	X	X	EJ	EJ	EJ	EJ	EJ	EJ	✓	✓	✓	✓	✓
6 Grade separation	X	X	EJ	EJ	EJ	X	EJ	EJ	✓	✓	✓	✓	✓

LEGEND	
Most Desirable	✓
Engineering Judgement	EJ
Not Recommended	X

Figure 6-22: Pedestrian crossing contextual guidance



Figure 6-23: Continental crosswalk in Oregon

Caltrans Compliance: California MUTCD Chapter 3B – Pavement and Curb Markings.

Case Study: State Highways 70/89 in Quincy (District 2) have transverse crosswalks installed. US 395 in Lone Pine has crosswalks across nearly every intersection.

Midblock Crossings and Raised Medians

Midblock crossings are crosswalks between intersections and help pedestrians cross the street in areas with heavy midblock activity and long blocks. Midblock crossings should be located where there is a significant pedestrian desire line, that is a direct line of sight that pedestrians would likely (and often already do) use. Regardless of the paving pattern or material used, the crosswalk should be striped for increased visibility, especially at night.

On wider streets and streets with higher vehicular speeds, medians may be desired to provide designated waiting areas and allow pedestrians to cross one side of the street at a time. This can improve vehicular traffic flow and create a more comfortable experience for pedestrians. This can be done through raised medians and pedestrian refuge islands. As an option, the median may be staggered (preferably to the right) to further encourage pedestrians to make eye contact with motorists and to encourage the two stage movement.



Figure 6-24: Staggered mid-block crossings help to increase visibility between roadway

Although raised medians are not allowed on state highways per Caltrans District 11 staff, the *Main Street, California* Guide, page shown in **Figure 6-24**, lists several benefits to this treatment such as traffic operational benefits and how, with landscaping, they increase the aesthetic and environmental value of the roadway. It also provides several examples of where raised medians have been installed on state routes.



Raised Median Islands

Raised median islands (raised medians) provide multiple benefits for travelers and the community. Raised medians can reduce traffic conflicts, provide pedestrians a crossing refuge, reduce the scale of the street and with trees and landscaping, improve the aesthetic and environmental value of the street. Raised medians may also be appropriate sites for storm water treatment facilities.

Raised medians help reduce conflicts between pedestrians and traffic by allowing pedestrians to cross only one direction of traffic at a time. In areas of limited roadway width, raised medians may be in competition with other desirable features such as bicycle lanes, sidewalks or sidewalk planting.

A raised median 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 handle the added turning movements. Circulation from the side streets may be affected; therefore bicyclist and pedestrian circulation needs and the impacts on local businesses and neighborhoods should be evaluated.

Features in the island that classify as a fixed object, such as a tree, boulder, bollard, or monument, must meet set back distances from the median curb face. There are also design standards for the placement of trees and landscaping to ensure that vegetation does not obstruct horizontal and vertical sight distances.

To facilitate safe and routine maintenance of raised medians, worker and equipment access needs should be evaluated and accommodated during design. Designs that minimize maintenance activities related to paving, landscaping and irrigation reduce worker exposure to traffic dangers. Raised median designs should also be evaluated for compatibility with snow removal activities and equipment needs.

- HDM Topic 305 - Median Standards; Topic 902 - Highway Planting Standards and Guidelines.
- Encroachment Permits Manual.

46 MAIN STREET, CALIFORNIA

Figure 6-25: Raised Median page in the *Main Street, California* Guide

Actuated pedestrian signals (half signals), hybrid beacons, or rapid flash beacons may be considered at greenway crossings, midblock locations, or unsignalized crossings where infrequent crossings make a traffic signal or stop sign unnecessary. Fixed time signals or passive detection are preferable to push-button detection.

Caltrans Compliance: *Main Street, California Guide.*

Case Study: State Route 16 in Capay (District 3) have high visibility, mid-block crosswalks installed. State Route 275 in West Sacramento (District 3) have landscaped raised medians installed.

Rectangular Rapid Flashing Beacons

Rectangular Rapid Flashing Beacons (RRFBs) are a type of actuated warning beacon using an irregular flash pattern similar to emergency flashers on police vehicles and can be installed on either two-lane or multi-lane roadways. RRFBs utilize a warning yellow LED stutter flash light bar within the standard crossing sign assembly. These have proven increased motorist yield rates versus other flashing beacon warning systems. These are especially useful at multilane crosswalks. RRFBs may be installed at significantly lower costs compared to traffic signals. These are best used at midblock and other locations where full signals are not warranted.



Figure 6-26: RRFB in median crossing (left) and at sidewalk edge (right)

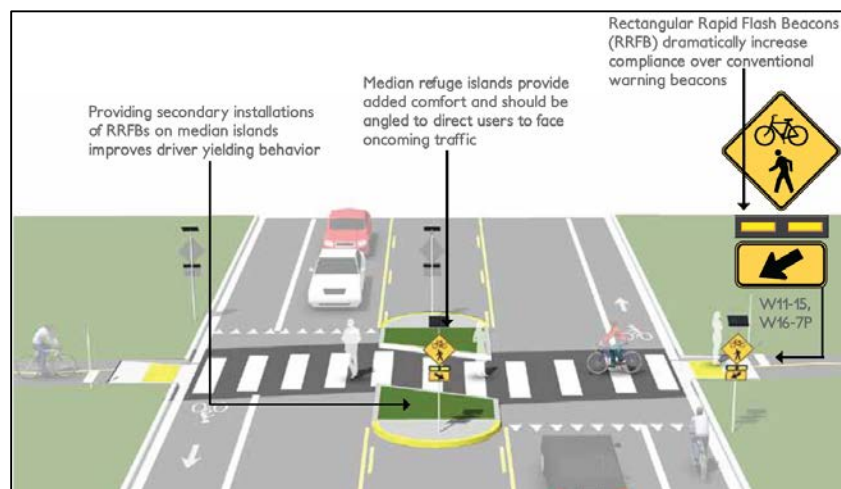


Figure 6-27: RRFB median crossing components

Caltrans Compliance: *Main Street, California Guide.*

Case Study: Historic Route 40 in Davis (District 3) and State Route 2 (District 7) in Santa Monica have RRFBs installed.

Advance Stop Bar

Advanced stop lines benefit pedestrians, as the pedestrians and drivers have a clearer view and more time to assess each other's intentions when the signal phase changes.¹⁰ FHWA does allow for the line to be pushed back from the crosswalk and states, "At signalized pedestrian crossing locations, the vehicle stop line can be moved 15 to 30 feet further back from the pedestrian crossing than the standard four feet distance to improve visibility of through cyclists and crossing pedestrians for motorists (and particularly truck drivers) who are turning right."



Figure 6-28: Advance stop bar at stop-controlled intersection

Caltrans Compliance: California MUTCD Chapter 3B – Pavement and Curb Markings.

Case Study: State Route 35 in San Francisco (District 4) installed advance stop bars.

Advance Yield Markings

Advance yield markings are placed before uncontrolled, mid-block crosswalks to increase yield rates and allow pedestrians to complete a safe crossing.¹¹ They can be particularly helpful on multilane roads to reduce the potential for a multiple threat crash, which involves a motorist in one lane yielding to allow a pedestrian to cross and the driver in the adjacent lane proceeding into the crosswalk, thus causing a collision. Appropriate locations for advance yield markings are at uncontrolled and midblock crossings, as shown in the following figures.

¹⁰ <https://www.fhwa.dot.gov/publications/research/safety/04091/09.cfm>.

¹¹ At controlled intersections, advance yield markings should be placed between four and 30 feet back from the intersection. At uncontrolled intersections, they should be placed 20 to 50 feet in advance of the crosswalk.



Figure 6-29: Advance yield markings in Santa Monica (left) and Bishop along SR 395 (right)

Caltrans Compliance: California MUTCD Chapter 3B – Pavement and Curb Markings.

Case Study: State Route 395 in Bishop (District 9) has advance yield markings installed.

Bicycle Improvements

Need: Holtville has very few bicycle facilities.

Purpose: To better and more safely accommodate those ride a bicycle.

Bicycle facilities range from simple signage and roadway striping to physically separated paths. The following figure provides a range of facilities and typical applications for each.

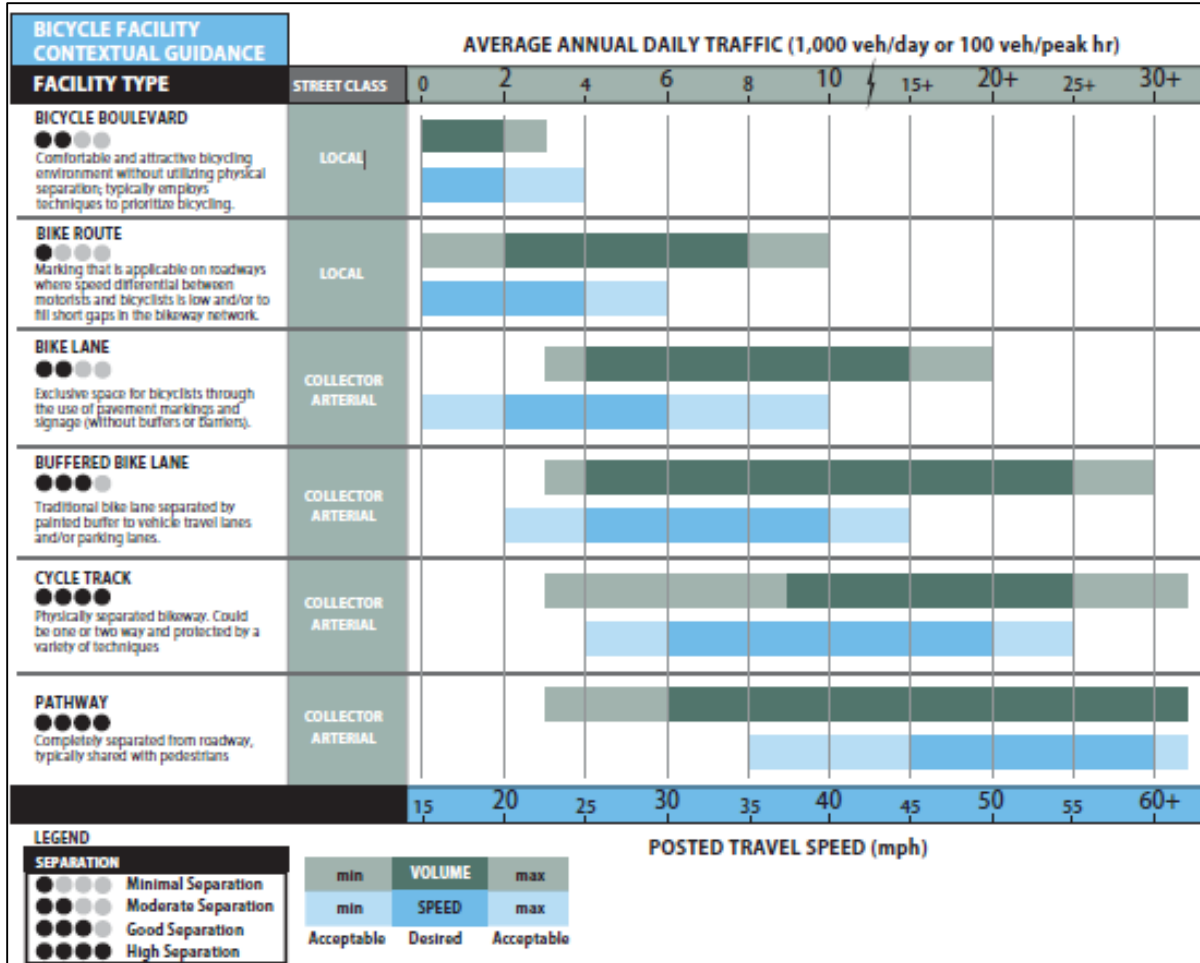


Figure 6-30: Bicycle facility contextual guidance

Bike Corral

Bike corrals typically replace one parking space at the request of a local business or property owner and accommodate 12 to 24 bikes. Corrals can be installed at corners to increase visibility at an intersection since bicycle parking has no effect on the visibility of pedestrians to moving vehicle traffic. Bike corrals can also be installed in existing red curb areas to reduce impacts on motor vehicle parking.



Figure 6-31: Bike corrals offer more parking than a motorized vehicle parking space

Caltrans Compliance: Deputy Directive-64-R2. An Encroachment Permit would be required for this treatment if installed on Fifth Street.

Case Study: While on-street bicycle parking has not been installed on a state roadway, the California Bicycle Advisory Committee has discussed this issue and ruled in favor of allowing it.

Bike Lanes (Caltrans Class II)

Bike lanes are commonly used on streets with moderate vehicular volumes and provide dedicated space for bicyclists. Bike lanes are typically a minimum of five to six feet wide and may include buffers to provide further separation from moving vehicles in travel lanes and/or parked vehicles. The following figures show various bike lane treatments and associated passing distances provided with each. Buffered bike lanes have the added benefit of encouraging bicycle use to users of a wide variety of abilities and ages.



Figure 6-32: Buffered bike lane for a range of ages and abilities

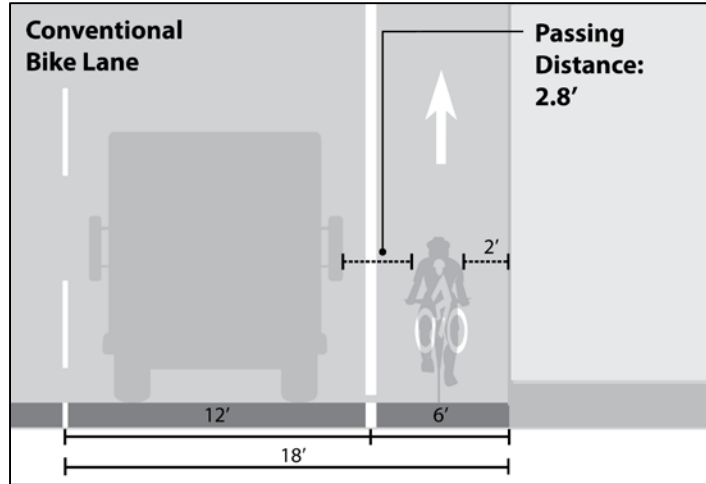


Figure 6-33: Conventional bike lane

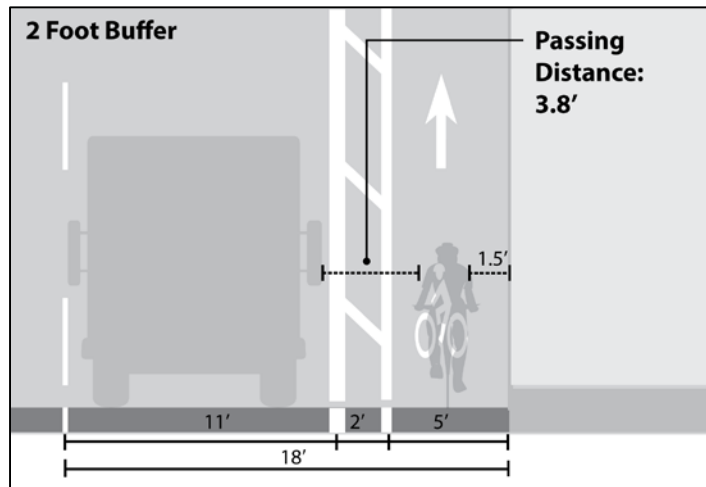


Figure 6-34: Bike Lane with two-foot buffer

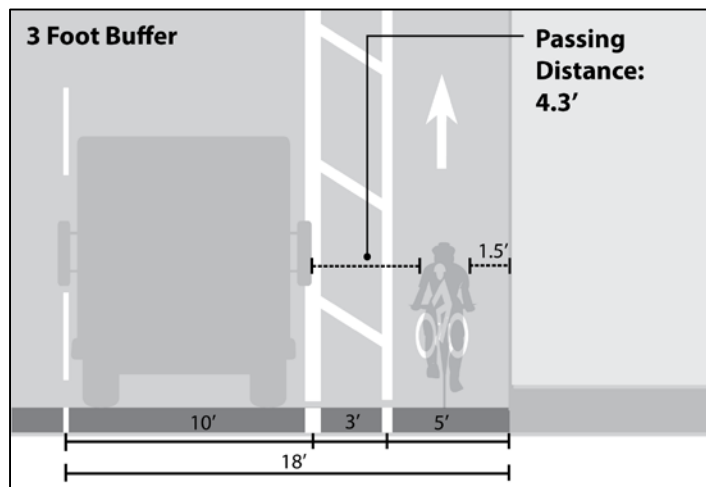


Figure 6-35: Bike lane with three-foot buffer

Caltrans Compliance: California MUTCD Chapter 9C – Markings.

Case Study: State Route 35 in San Francisco (District 4) has buffered bicycle lanes installed.

Separated Bikeways (Caltrans Class IV)

A Separated Bikeway (Caltrans Class IV), also known as a cycle track or protected bike lane is an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. A cycle track is physically separated from motor traffic and distinct from the sidewalk. Cycle tracks have different forms but all share common elements—it provides space that is intended to be exclusively or primarily used for bicycles and are separated by a vertical barrier from motor vehicle travel lanes, parking lanes, and sidewalks. In situations where on-street parking is allowed cycle tracks are located to the curb-side of the parking (in contrast to bike lanes).

Separated bikeways may be one-way or two-way and may be at sidewalk level, at sidewalk level, or at an intermediate level. If at sidewalk level, a curb or median separates it from motor traffic, while different pavement color/texture separates the cycle track from the sidewalk. If at street level, it can be separated from motor traffic by raised medians, on-street parking, or bollards. By separating cyclists from motor traffic, cycle tracks can offer a higher level of security than bike lanes and are attractive to a wider spectrum of the public.

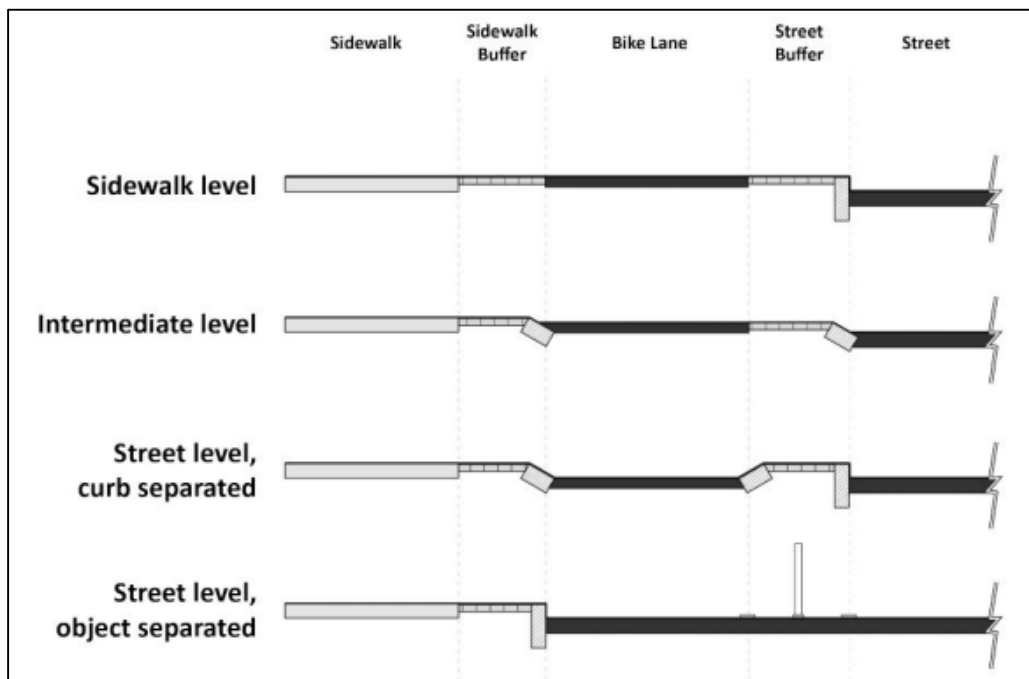


Figure 6-36: Separation shall be at least one of these to discourage the intrusion of motorists into the bikeway and bicyclists from crossing into vehicular traffic lanes. Source: California Bicycle Coalition



Figure 6-37: Separated bicycle lane in Santa Cruz, California



Figure 6-38: Source: <http://77.x-mortgage.com/two-way-cycle-track.php>



Figure 6-39: Source: <https://bikeeastbay.org/cycletrack>



Figure 6-40: Separated bikeway combined with bike corrals

Caltrans Compliance: Caltrans Class IV Separated Bikeway Design Information Bulletin

Case Study: Although there have been no installations of Class IV bikeways on a state route, the Class IV Separated Bikeway Design Information Bulletin gives several examples from District 7 and District 5.

Speed Management

Need: Vehicles speed along Holtville roadways.

Purpose: To use engineering treatments to slow drivers down as they travel through Holtville.

Many of the proposed recommendations and elements in this toolkit are aimed at reducing motor vehicle speeds while also providing additional benefits as previously described. Effective speed management comes from a balance of signage and striping (e.g., crosswalks or speed limit signs), physical improvements (e.g., medians or curb extensions), and enforcement (e.g., sheriff department and crossing guards near schools).

Safety is a major concern for both existing and potential bicyclists and pedestrians. Among all travelers, perceived lack of safety is one of the most frequently cited reasons for not bicycling or walking. Identifying collision sites can draw attention to locations which may be in need of improved safety treatments, particularly if multiple collisions occur at the same location.

With collisions between motor vehicles and pedestrians or bicyclists, the greater the speed of the motor vehicle, the greater the chances become for death or serious injury. The slower drivers move, the greater their awareness is to their surroundings. Additionally, slower to moderate speeds more efficiently move vehicles. The following figures present these concepts.

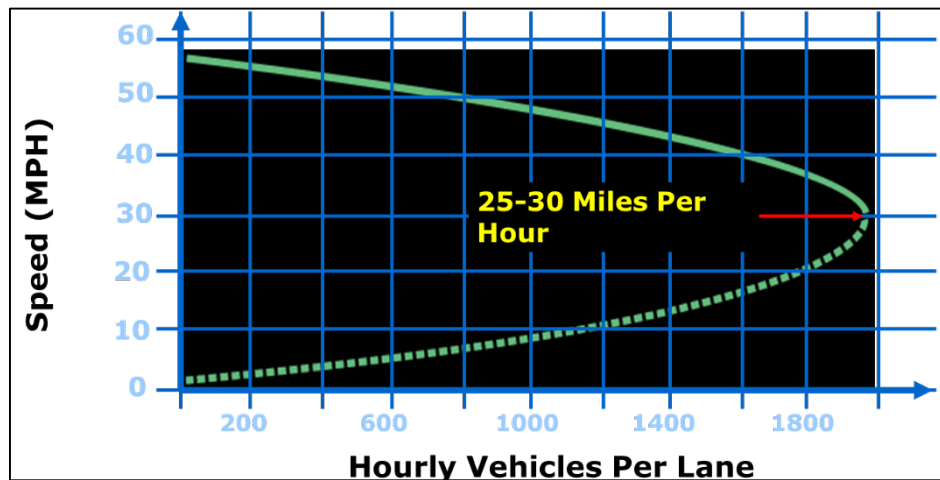
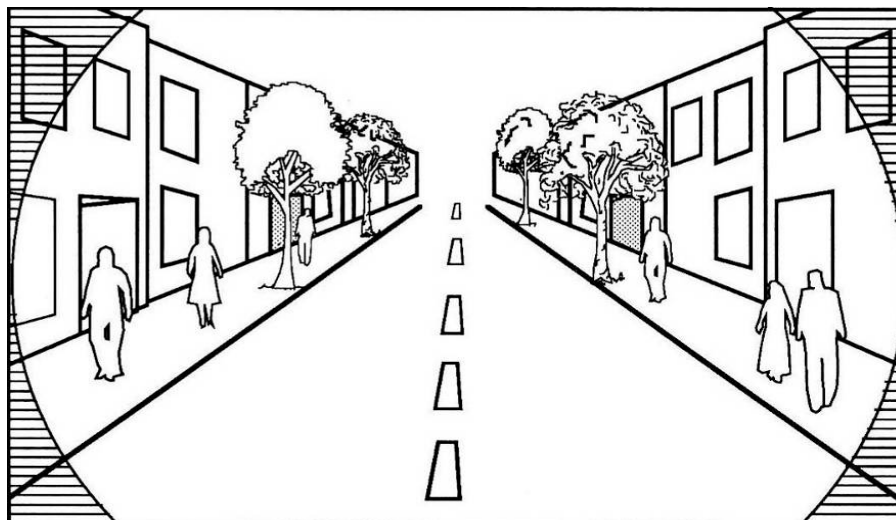


Figure 6-41: Speed to hourly vehicles per lane



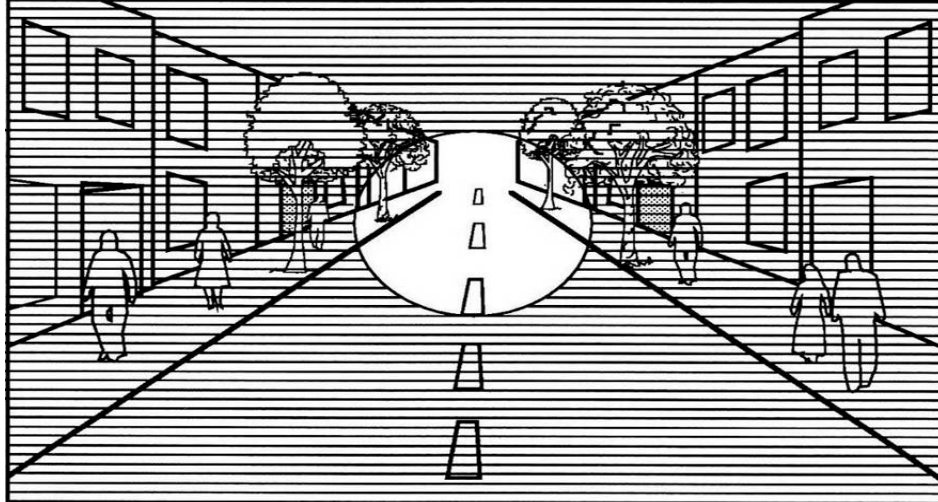


Figure 6-42: Driver's focus at 15 MPH (top) and 30 MPH (bottom). The slower speeds help drivers better see people and storefronts

Speed Feedback Signs

In addition to the previously mentioned tools and recommendations, speed feedback signs have demonstrated improved compliance with posted speed limits. Speed feedback signs may be temporary or permanent and provide motorists with a readout of their current speeds. Often, the text flashes when the current speed exceeds the posted speed limit. These signs may be located near (often before) midblock crosswalks or areas where speeds transition, such as at the east entry into Holtville where speeds go from 55 MPH to 35 MPH. Speed feedback signs may also be used when entering a special area such as a downtown, school zone, or area with high population of seniors or disabled persons.



Figure 6-43: Speed feedback signs indicate a motorist's current speed (Source: US Department of Transportation)

Caltrans Compliance: California MUTCD Chapter 2B – Regulatory Signs, Barricades, and Gates.

Case Study: State Route 4 in Niles Canyon (District 4) has speed feedback signs installed.

Caltrans Gateway Monument Program

Fifth Street is owned and maintained by Caltrans. Any changes such as adding a crosswalk and monument would require Caltrans approval. The Gateway Monument Program became an official Caltrans program in 2008. In this program, Caltrans works with local entities such as cities, counties, or townships to promote enrichment of the cultural and visual environment for transportation system users and local communities by facilitating and coordinating the integration of Gateway Monuments within the operational highway right-of-way through the encroachment permit process.¹² Gateway Monuments are freestanding signs that are not integral or otherwise required for the highway facility that communicate the name of a city, county or township and can include imagery that reflects a community's identity.¹³

Caltrans Compliance: *Main Street, California* Guide and Caltrans Gateway Monument Program.

Case Studies: Caltrans Gateway Examples

A Gateway Monument is defined by Caltrans as any freestanding structure or sign, non-integral or non-required highway feature that will communicate the name of a Local Entity. A Gateway Monument may include the officially adopted seal or slogan of the Local Entity.¹⁴

Willits, CA

SR-20/Highway 101/Redwood Highway – Mendocino County

The gateway arch spans mid-block over a four-lane roadway with 25 MPH posted speed limit. No crosswalk is present and the neon sign lights up at night with different messages shown depending on the direction traveled. As seen in **Figure 6-44**, the standalone archway supports obstruct the majority of the sidewalk on the eastern side of the roadway.



Figure 6-44: Willits archway on SR 20

Mammoth Lakes, CA

SR-203 – Mono County

Mammoth Lakes installed two gateway signs on either side of the town entrance on Highway 203/Main Street. The road is 35 MPH and five lanes wide (two lanes in each direction with a two-way left turn lane). Prior to entering Mammoth Lakes, Highway 203 has a 45 MPH speed limit, which transitions into 35 MPH just prior to the gateway signs.

¹² http://www.dot.ca.gov/hq/LandArch/gateway/gm_guidelines_final_11-2011.pdf.

¹³ http://www.dot.ca.gov/hq/LandArch/index_intro_to_la.htm

¹⁴ http://www.dot.ca.gov/hq/LandArch/gateway/gm_guidelines_final_11-2011.pdf



Figure 6-45: Mammoth Lakes signs along SR 203

Crescent City, CA

US 101 – Del Norte County

Crescent City, CA installed a Hawk Beacon, a high intensity activated crosswalk in early 2015 within the city rather than a monument sign. The crosswalk location was chosen due to the high number of pedestrian crossings along that stretch of US 101/Redwood Highway, a five-lane roadway with a 45 MPH posted speed limit.



Figure 6-46: HAWK beacon on Highway 101 in Crescent City

Sebastopol, CA

SR-116/Gravenstien Highway – Sonoma County

SR-116 splits into two-lane, one-way streets through downtown Sebastopol. The posted speed limit is 25 MPH. At several unsignalized T-intersection, bulbouts and flashing signs were added to reduce the crossing distance for pedestrians and to increase driver/pedestrian visibility. **Figure 6-47** shows one of these intersections.



Figure 6-47: High visibility crosswalk on SR 116 in Sebastopol

San Francisco, CA

SR-35/Sloat Boulevard – San Francisco County

State Route 35 through San Francisco was converted from a six-lane roadway to a four-lane roadway with buffered bike lanes in 2012. As a part of the road diet design, mid-block crosswalks were added along with Hawk Beacon crosswalks at unsignalized intersections. The posted speed limit is 40 MPH. **Figure 6-48** shows one of continental or “ladder-style” crosswalks installed along this roadway. **Figure 6-49** shows a HAWK beacon along a segment of the roadway with buffered bike lanes.



Figure 6-48: Continental crosswalk on SR 35 in San Francisco



Figure 6-49: HAWK beacon on SR 35 in San Francisco

Tucson, AZ

Sixth Avenue - Pima County

Although not a Caltrans route, Tucson has installed a wide variety of high visibility of pedestrian and bicycle crossings around the city. Sixth Avenue is a four-lane roadway with a 30 MPH posted speed limit. At two unsignalized intersections along Sixth Avenue, Tucson installed a Pelican crossing, a two-stage crossing for pedestrians where a pedestrian uses the crossing by pressing a button to activate the first signal. When the light turns red, a “WALK” signal prompts them to proceed to the median. The pedestrian then walks a short distance along the median to activate the second signal. A second “WALK” indication appears when the traffic signal turns red. The PELICAN uses a standard Red-Yellow-Green signal for motorists and remains green unless activated by a pedestrian. Bicyclists should yield to pedestrians, dismounting if necessary.¹⁵ Figure 6-50 shows the covered crossing, but at other locations, artwork is displayed along the median.



Figure 6-50: Two-stage Pelican crossing in Tucson, AZ

¹⁵ <http://www.tucsonaz.gov/tdot/pedestrian-traffic-signal-operation>.

Appendix A – Caltrans Comment Letter

On December 4, 2015, Caltrans District 11 staff submitted a response letter to the Draft Holtville Complete Streets Plan and an additional letter on January 28, 2016. The January letter addressed comments made in the previous letter. This appendix shows the letters and provides responses to each comment. Each paragraph is numbered and responses are listed in order below. The numbers from the December 4th letter are shown in the January 28th letter for consistency.

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION

DISTRICT 11, DIVISION OF PLANNING

4050 TAYLOR ST, M.S. 240

SAN DIEGO, CA 92110

PHONE (619) 688-6960

FAX (619) 688-4299

TTY 711

www.dot.ca.gov



*Serious Drought.
Serious drought.
Help save water!*

December 4, 2015

11-IMP-115

PM L9.54

Complete Streets Study 2015

Mr. Bryan Jones
Alta Planning & Design
233 A Street, Suite 703
San Diego, CA 92101

Dear Mr. Jones:

The California Department of Transportation (Caltrans) has reviewed Holtville's Complete Streets Study dated October 2015 for State Route 115 (SR-115). Caltrans has the following comments:

1

The proposed lane configurations along SR-115 will need a Traffic Study in the future to further analyze. Once the lane configurations on Fifth Street are changed, Caltrans would allow the transition to 25 MPH to just east of the Orchard View apartments.

2

The mid-block crossing, while allowable per MUTCD code, will not be allowed at this location as there is an existing cross-walk that is only 400 feet away from the proposed mid-block crossing. Although it is observed behavior that students are currently crossing at this location and using the informal trail to get to school, Caltrans recommends that a barrier be placed at the trail head and that the students should follow Grape Street and the existing cross-walk. There is a potential safety issue with moving the cross-walk as drivers would not be prepared to stop at this new location.

3

Median curb will not be allowed.

4

Diagonal parking stalls along 5th Street will not be permitted per 2014 CA MUTCD Section 3B.19 paragraph 17.

5

Any gateway monument supports shall be outside clear recovery zone or protected by guardrail per Caltrans Traffic Manual Chapter 7.

6

The monument spanning over SR-115 will not be allowed due to the Caltrans Gateway Monument policy of the "monument shall be freestanding."

Mr. Bryan Jones
December 4, 2015
Page 2

- 7 For relinquishment of the route, the requirements of Section 23 of the Streets and Highways Codes Manual, which establishes the parameters of relinquishment through legislative action must be followed.
- 8 A map with the locations of the schools in Holtville would be helpful for the reader.
- 9 On page 34, the figures are referred to incorrectly. Where it is stated 4-19, it should indicate 4-17 & 4-18. Please clarify.
- 10 Figure 4-45, it would be helpful to the reader if a legend were provided and the colors explained.
- 11 Page 57, please provide estimates for each project in Table 5-1. Some projects from long-term estimated are included while some priority projects are not.
- 12 Table 5-10; many of these funding opportunities are no longer available; and have been consolidated into the ATP program.

If you have any questions, please contact Beth Landrum of the Development Review branch at (619) 688-6017 or beth.landrum@dot.ca.gov.

Sincerely,



JACOB ARMSTRONG, Branch Chief
Development Review Branch

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

DEPARTMENT OF TRANSPORTATION

DISTRICT 11, DIVISION OF PLANNING

4050 TAYLOR ST, M.S. 240

SAN DIEGO, CA 92110

PHONE (619) 688-6960

FAX (619) 688-4299

TTY 711

www.dot.ca.gov



*Serious Drought.
Serious drought.
Help save water!*

January 28, 2016

11-IMP-115

PM 19.54

Complete Streets Study 2015

Mr. Bryan Jones
Alta Planning & Design
233 A Street, Suite 703
San Diego, CA 92101

Dear Mr. Jones:

Thank you for the opportunity to further discuss Caltrans' District 11 comments on the Holtville Complete Streets Study. We appreciate the time you have taken to help clarify some points as well as provide additional input into certain aspects of the Study. This letter serves to address further specific items identified in Caltrans letter dated December 4, 2015 related to recommendations on the technical aspects of the Study. Upon further review, the following design concepts in the Holtville Complete Streets Study have been discussed and reviewed in detail with Caltrans staff to better assist the City in facilitating the implementation of the concepts of the Study and City's vision for SR-115 and the community.

4 The diagonal parking along SR-115 can be pursued by the City of Holtville. In order to meet Caltrans guidelines, a buffer between the parking spots and the active traffic lanes is recommended. This does not have to be a physical barrier, the buffer could be as simple as a bicycle lane or stripes dividing the parking from the travel lane. As-builts and right of way plans will need to be researched to determine the portions of SR-115 where there is sufficient space to allow this feature to be implemented.

3 The proposed "mid-block" crossing identified in the Study near the Grape Street Apartments and SR-115 is not recommended. Although observations may have shown that this crossing location will directly access the unimproved pathway leading to the schools; Caltrans position remains that this is not the safest location to install the additional crosswalk. As there is no step-down in speed when entering the City of Holtville from the east, the travelling public is not apprised of the possibility of pedestrians on the State facility. Further, the intersection of Grape and SR-115, while currently 60' in width, can have improvements made – such as curb bulb-outs – which would decrease the width of the facility to more easily allow pedestrians to cross the highway.

We appreciate the recommendations that have developed from this study. Caltrans looks forward to working with the City of Holtville in implementing those projects which meet our standards, guidelines and goals, and improves the quality of life for the citizens of Holtville.

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

Mr. Bryan Jones
January 28, 2016
Page 2

If you have any further questions, please contact me at (619) 688-6960 or by email at jacob.armstrong@dot.ca.gov.

Sincerely,



JACOB ARMSTRONG, Branch Chief
Development Review Branch

Vision of the Caltrans of the Future

Caltrans, like many public transportation agencies throughout the nation, is working to change the culture from solely designing streets to move vehicles to streets that are inclusive of all roadway users. The transportation profession calls these streets “complete streets.” Many of the complete streets principals are different from historical practices.

Deputy Directive-64-R2, the *Main Street, CA* Guide, the endorsement of NATCO guides, Design Flexibility memo, and Caltrans’s new mission statement all combine to show how Caltrans is changing the way it regulates roadways and treats roadway users. These elements have been extremely helpful; however, the standards that we use to design roadways still encourage wider, higher-speed roadways. The design engineer must, in many cases, seek design exceptions or use engineering judgement to discount or disregard strongly worded guidance. In other words, the concept of design flexibility can still seem challenging and fraught with liability to many engineers when attempting to create a complete street. Caltrans standards say roadways should design for the largest possible vehicle (however infrequent) and for drivers to travel at their preferred speed rather than the community’s. Understandably, this system makes it difficult to achieve safe and comfortable complete streets.

This Plan and the response letters from Caltrans represent a snapshot in time of where Caltrans currently stands on many of the recommendations found in the Plan. All of the recommendations in this plan can and have been implemented as suggested with great success in many communities within the State of California and throughout the nation. These recommendations represent the needs of the community and design engineers can utilize engineering judgement and/or many of the manuals already endorsed or developed by Caltrans. Sometimes the process requires redefining the problem so that new solutions can be identified and implemented. All that would be required is for Caltrans District 11 staff to document that they are implementing complete streets according to DD 64-R2 to enhance the safety, mobility, and connectivity of people walking and biking. This Complete Streets Plan can be used by staff to provide justification. It is anticipated that, over time, the stance on these issues will change to favor the safety of people walking and biking over that of motorized vehicles. The responses to these letters below reflect that expectation.

Response to Comments

1. Noted. While we disagree that a traffic study should be required since the traffic volumes are so low compared to industry standards, a traffic study has been added to the respective section.
2. **Figure 4-3** addresses this comment. No change to the recommendation.
3. While this treatment is not allowed under MUTCD, as the *Main Street, California* Guide points out, there are state highways with median islands/curbs installed. **Figure 4-3** addresses this comment. No change to the recommendation.
4. While this treatment is not allowed under MUTCD, as the *Main Street, California* Guide points out, there are state highways with diagonal parking installed. However, the *Main Street, California* Guide highlights one of the benefits of diagonal parking is a traffic calming. If a buffer is required so that motorists parking do not impede traffic, the full benefit of the diagonal parking will not be experienced to enhance safety via complete streets. **Chapter 6: Complete Streets Toolkit** has been updated to include the buffer recommendation. No change to the recommendation.
5. Noted. If/when Holtville applies for a gateway monument, this will be taken into account. No change to recommendation.
6. Noted. If/when Holtville applies for a gateway monument, this will be taken into account. No change to recommendation.
7. Noted. If/when Holtville applies for relinquishment, this will be taken into account.
8. Noted. This has been added to the recommendations section.
9. Noted. The figure numbers have been updated.
10. Noted. A legend has been added to the map.
11. Noted. Cost estimate tables have been updated.
12. Noted. The funding table has been updated to reflect new funding sources.

