Santa Cruz County Regional Transportation Commission

AGENDA

Thursday, September 5, 2013
9:00 a.m.

NOTE LOCATION THIS MONTH
Watsonville City Council Chambers
275 Main Street, Suite 400
Watsonville, CA

NOTE
See the last page for details about access for people with disabilities and meeting broadcasts.

En Español
Para información sobre servicios de traducción al español, diríjase a la última página.

AGENDAS ONLINE
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COMMISSION MEMBERSHIP

Caltrans (ex-officio)    Tim Gubbins
City of Capitola        Dennis Norton
City of Santa Cruz      Don Lane
City of Scotts Valley   Randy Johnson
City of Watsonville     Eduardo Montesino
County of Santa Cruz    Greg Caput
County of Santa Cruz    Neal Coonerty
County of Santa Cruz    Zach Friend
County of Santa Cruz    John Leopold
County of Santa Cruz    Bruce McPherson
Santa Cruz Metropolitan Transit District Dene Bustichi
Santa Cruz Metropolitan Transit District Ron Graves
Santa Cruz Metropolitan Transit District Lynn Robinson

The majority of the Commission constitutes a quorum for the transaction of business.
Article 8 Transportation Development Act Claims – only City and County representatives vote
Article 4 Transportation Development Act Claims, Policy Issues, and SAFE – all 12 members vote
1. Roll call

2. Oral communications

   Any member of the public may address the Commission for a period not to exceed three minutes on any item within the jurisdiction of the Commission that is not already on the agenda. The Commission will listen to all communication, but in compliance with State law, may not take action on items that are not on the agenda.

   Speakers are requested to sign the sign-in sheet so that their names can be accurately recorded in the minutes of the meeting.

3. Additions or deletions to consent and regular agendas

   **CONSENT AGENDA**

   All items appearing on the consent agenda are considered to be minor or non-controversial and will be acted upon in one motion if no member of the RTC or public wishes an item be removed and discussed on the regular agenda. Members of the Commission may raise questions, seek clarification or add directions to Consent Agenda items without removing the item from the Consent Agenda as long as no other Commissioner objects to the change.

   **MINUTES**

   4. Approve draft minutes of the August 1, 2013 Regional Transportation Commission meeting

   5. Approve draft minutes of the August 1, 2013 Service Authority for Freeway Emergencies (SAFE) meeting

   6. Approve draft minutes of the August 15, 2013 Transportation Policy Workshop special meeting

   7. Accept draft minutes of the August 13, 2013 Elderly and Disabled Transportation Advisory Committee meeting

   8. Accept draft minutes of the August 19, 2013 Bicycle Committee meeting

   9. Accept draft minutes of the August 22, 2013 Interagency Technical Advisory Committee (ITAC) meeting

   **POLICY ITEMS**

   No consent items

   **PROJECTS and PLANNING ITEMS**

   No consent items
BUDGET AND EXPENDITURES ITEMS

10. Accept status reports on Transportation Development Act (TDA) revenues
11. Approve out of state travel for Rail~Volution conference

ADMINISTRATION ITEMS

No consent items

INFORMATION/OTHER ITEMS

12. Accept monthly meeting schedule
13. Accept correspondence log
14. Accept letters from RTC committees and staff to other agencies
   a. Letter to Timothy Gubbins, Caltrans District 5 Director, regarding Highway 1 hazards and maintenance issues
15. Accept miscellaneous written comments from the public on RTC projects and transportation issues
16. Accept information items
   a. Letter from Garth Hopkins, Caltrans Division of Transportation Planning, awarding the RTC a FY13-14 grant of $250,000 to conduct a Santa Cruz County Passenger Rail Study

REGULAR AGENDA

17. Review of items to be discussed in closed session

CLOSED SESSION

18. Conference with legal counsel for anticipated litigation – significant exposure to litigation pursuant to paragraph (2) of subdivision (d) of Section 54956.9

OPEN SESSION

19. Report on closed session
20. Commissioner reports – oral reports
21. Director’s report – oral report
   (George Dondero, Executive Director)
22. Caltrans report and consider action items
   a. District Director’s report
   b. Construction projects update

23. Highway 1 Soquel/Morrissey Auxiliary Lane project update
    *(Kim Shultz, Senior Transportation Planner)*
   a. Staff report
   b. Resolution

24. Regional Transportation Improvement Program (RTIP)
    *(Rachel Moriconi, Senior Transportation Planner)*
   a. Staff report

25. Monterey Bay Area Complete Streets Guidebook
    *(Grace Blakeslee, Transportation Planner)*
   a. Staff report
   b. Monterey Bay Area Complete Streets Guidebook

26. Adjourn to special meeting of the Service Authority for Freeway Emergencies

    *No agenda items this month*

27. Next meetings

    The next RTC meeting is scheduled for Thursday, October 3, 2013 at 9:00 a.m.
    at the County Board of Supervisors Chambers, 701 Ocean Street, 5th Floor,
    Santa Cruz, CA.

    The next Transportation Policy Workshop meeting is scheduled for Thursday,
    September 19, 2013 at 9:00 a.m. at the RTC Offices, 1523 Pacific Avenue,
    Santa Cruz, CA.

**HOW TO REACH US**

Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue, Santa Cruz, CA 95060
phone: (831) 460-3200 / fax (831) 460-3215

Watsonville Office
275 Main Street, Suite 450, Watsonville, CA 95076
(831) 768-8012
email: info@sccrtc.org / website: www.sccrtc.org
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Agenda packets: Complete agenda packets are available at the RTC office, on the RTC website (www.sccrtc.org), and at the following public libraries:

- Aptos Library
- Branciforte Library
- Santa Cruz Downtown Library
- Garfield Park Library
- Live Oak Library
- Watsonville Main Library

- Boulder Creek Library
- Capitola Library
- Felton Library
- La Selva Beach Library
- Scotts Valley Library

For information regarding library locations and hours, please check online at www.santacruzpl.org or www.watsonville.lib.ca.us.

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HOW TO REQUEST

❖ ACCOMMODATIONS FOR PEOPLE WITH DISABILITIES

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❖ SERVICIOS DE TRADUCCIÓN/ TRANSLATION SERVICES

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translation is available on an as needed basis.) Please make advance arrangements (at least three days in advance) by calling (831) 460-3200.
Minutes

Thursday, August 1, 2013

Scotts Valley City Council Chambers
1 Civic Center Drive
Scotts Valley, CA

1. Roll call

The meeting was called to order at 9:07 a.m.

Members present:
Sara Von Schwind (ex-officio)  Dennis Norton
Don Lane                   Randy Johnson
Neal Coonerty              Zach Friend
Dave Reid (alt.)           Virginia Johnson (alt.)
Dene Bustichi              Margarita Alejo (alt.)
Lynn Robinson              Patrick Mulhearn (alt.)

2. Oral communications

In response to a question from Commissioner Norton, Sara Von Schwind, Caltrans, said that she would look into issues of clean-up and maintenance along Highway 1.

3. Additions or deletions to consent and regular agendas

Executive Director George Dondero said there would be a handout during Item 22.

CONSENT AGENDA
(Robinson, Johnson) Unanimous

MINUTES

4. Approved draft minutes of the June 6, 2013 Regional Transportation Commission meeting

5. Approved draft minutes of the June 26, 2013 Transportation Policy Workshop special meeting
6. Accepted draft minutes of the June 10, 2013 Bicycle Committee meeting

7. Accepted draft minutes of the June 11, 2013 Elderly and Disabled Transportation Advisory Committee meeting

8. Accepted draft minutes of the June 13, 2013 Budget and Administration/Personnel Committee meeting

9. Accepted draft minutes of the June 20, 2013 Interagency Technical Advisory Committee (ITAC) meeting

**POLICY ITEMS**

  *No consent items*

**PROJECTS and PLANNING ITEMS**

10. Accepted Scott Creek Project Concept Report Memorandum of Understanding

**BUDGET AND EXPENDITURES ITEMS**

11. Accepted status reports on Transportation Development Act (TDA) revenues

**ADMINISTRATION ITEMS**

  *No consent items*

**INFORMATION/OTHER ITEMS**

12. Accepted monthly meeting schedule

13. Accepted correspondence log

14. Accepted letters from RTC committees and staff to other agencies

   a. Letter to the Honorable Mark DeSaulnier, Senate Transportation and Housing Committee Chairperson regarding support for SCA 8 (Corbett). Transportation project: special taxes: voter approval.
   
   b. Letter to the Honorable Mark DeSaulnier, Senate Transportation and Housing Committee Chairperson regarding support for SCA 4 (Liu). Local government transportation projects: special taxes: voter approval.
   
   c. Letter to John Presleigh, County of Santa Cruz Department of Public Works Director regarding East Cliff Drive Parkway improvement recommendations.
   
   d. Letter to John Presleigh, County of Santa Cruz Department of Public Works Director regarding County’s Capital Improvement Program recommendations
15. Accepted miscellaneous written comments from the public on RTC projects and transportation issues

16. Accepted information items - none

**REGULAR AGENDA**

17. Commissioner reports – oral reports

None

18. Director’s report – oral report

Executive Director George Dondero said that bids for the railroad bridge rehabilitation project are due on August 9th. He said that staff has been working with local jurisdictions and Santa Cruz and Monterey Bay (SC&MB) Railway to address a number of clean up and maintenance items on the rail line. He said that staff has been gathering information and working with the Santa Cruz County Real Property Division to develop policies for the RTC’s management of the rail line. He said that in early June, staff submitted a proposal for a federal TIGER (Transportation Investment to Generate Economic Recovery) grant to rehabilitate the branch line and that announcement of grant awards is expected sometime this fall. He said that the Pedestrian Safety Work Group, a subcommittee of the RTC’s Elderly & Disabled Transportation Advisory Committee, partnered with the Santa Cruz Metropolitan Transit District on public outreach to improve local sidewalks and remove barriers to transit, and are displaying posters in English and Spanish inside Metro’s buses and ParaCruz vehicles to encourage riders to report pedestrian and bicycle hazards via the RTC’s interactive Hazard Report which can be found on the RTC website.

19. Caltrans report and consider action items

Sara Von Schwind, Caltrans, announced that Caltrans is now under the California State Transportation Agency created as part of major state government reorganization, which reduced the number of state agencies from 12 to 10. She said that the pavement rehabilitation project in Watsonville on Highway 1, and the guardrail project on Highway 17 near Santa’s Village Road, were both completed. She said that more guardrail upgrades are underway along Highway 17. She also said that Highway 152 through downtown Watsonville will be closed from August 1 to August 4 to accommodate the Watsonville strawberry festival.

In response to a question from Executive Director George Dondero, Ms. Von Schwind said that transportation planning grants are expected to be awarded soon.

20. Scotts Valley Department of Public Works presentation
Ken Anderson, Public Works Director for the City of Scotts Valley, said that maintenance work would begin soon on Scotts Valley Drive. He said the project, using funds programmed by the RTC, would include overlay treatment for the entire length of the road and some restriping.

21. Highway 1 Soquel/Morrissey Auxiliary Lane project update

Senior Transportation Planner Kim Shultz said that the construction crew successfully, and without incident, disassembled the false work supporting construction of the new La Fonda Bridge, which was the most dangerous item of work for the Auxiliary Lanes project. He said the new La Fonda Bridge is expected to be completed by the afternoon of August 23rd, and that staff is planning a community event for August 24th from 10:30 a.m. to 12:00 p.m. to commemorate the completion of the new bridge. He said that the completion date for the entire project will be somewhat extended due to necessary supplemental drainage work.

Commissioners discussed: the estimated completion date for the project; management of the gap between the soundwall and chainlink fence; whether work on drainage issues could be completed concurrently with current construction activities; and the amount of contingency funds remaining for the project.

Commissioner Robinson moved, and Commission Alternate Alejo seconded, to accept the information item. The motion passed unanimously.

Commissioner Friend left the meeting and Commission Alternate Mulhearn took his seat.

22. Metropolitan Transportation Plan (MTP) Sustainable Communities Strategy (SCS) Priorities and Preferences

Senior Transportation Planner Karena Pushnik said that EMC Research was hired to conduct a public survey to be used as one of the tools for engaging the public in evaluation of the regional Sustainable Communities Strategies (SCS).

Ruth Bernstein, EMC Research, said that the survey was designed to explore attitudes about transportation projects but not designed to develop or prepare for a sales tax measure or to decide funding priorities. She said that the survey of registered voters in Santa Cruz, Monterey, and San Benito counties found very consistent responses throughout the tri-county region, but that in some cases Santa Cruz County was different because it is more urban. She said that key findings include: there is support for long-term planning that can get people out of their cars; there is significant opportunity to expand walking, bicycling, and transit use; large numbers of recurring trips are five miles or less, which are prime trips for non-vehicle uses; voters strongly support
Commissioners discussed: the rationale behind surveying only registered voters; the contradiction of respondents who support car travel, but also agree that greenhouse gasses need to be reduced; the number of young people who are not getting a driver’s license; the importance of people having jobs close to where they live; clarification of the data regarding the percentage of respondents who commute from Watsonville to north of Watsonville; discrepancies between the survey results and opinion expressed by constituents; the consistency of results among the three counties; the opportunity for vanpools for short intra-county trips; the need to focus on long-distance trips; the importance of weighing rights and freedoms versus the collective good in determining possible punitive measures to modify public transportation behavior; the motivating factors of convenience and cost for commuters; the importance of considering issues of connectivity, such as bike and pedestrian infrastructure to connect coastal communities to the San Lorenzo Valley; the importance of cost/benefit analysis; the negative effects of disincentives; the need for express bus service along Highway 1; and the importance of increasing incentives such as a bike trail along the rail corridor.

Commissioner Robinson moved, and Commissioner Lane seconded to receive the results of the Metropolitan Transportation Plan Sustainable Communities Strategy Priorities and Preferences survey. The motion passed unanimously.

At the conclusion of Item 22, at 10:43 am, the RTC decided to adjourn to a special meeting of the Service Authority for Freeway Emergencies prior to initiating the closed session. The RTC reconvened at 10:56 a.m.

23. Review of items to be discussed in closed session

Chair Coonerty said that issues related to the lease of Santa Cruz Branch Rail Line right-of-way property in Capitola would be discussed in closed session.

Commissioners adjourned to closed session at 10:57 a.m.

**CLOSED SESSION**

24. Conference with Real Property Negotiator Pursuant to Government Code 54956.8 for lease of Santa Cruz Branch Rail Line right-of-way property in Capitola

**OPEN SESSION**

25. Report on closed session

Commissioners reconvened to open session at 11:15 a.m. and there was no closed session report.
26. Adjourn to special meeting of the Service Authority for Freeway Emergencies

This occurred out of order after the conclusion of Item 22.

27. Meeting adjourned at 11:15 a.m. Next meetings

The next RTC meeting is scheduled for Thursday, September 5, 2013 at 9:00 a.m. at the Watsonville City Council Chambers, 275 Main Street, Suite 400, Watsonville, CA.

The next Transportation Policy Workshop meeting is scheduled for Thursday, August 15, 2013 at 9:00 a.m. at the Watsonville City Council Chambers, 275 Main Street, Suite 400, Watsonville, CA.

Respectfully submitted,

Jason Laning, Staff

Attendees:

Mark McCumsey  Caltrans
Les White  Santa Cruz METRO
Ruth Bernstein  EMC Research
Ken Anderson  Scotts Valley Dept. of Public Works
Kevin Poncy  Local Resident
The meeting convened at 10:43 a.m.

1. Oral communications
   None

2. Additions or deletions to consent and regular agendas - *none*

   **CONSENT AGENDA**
   *(Lane, Norton) Unanimous*

**MINUTES**

3. Approved draft minutes of the June 6, 2013 Service Authority for Freeway Emergencies (SAFE) meeting

**REGULAR AGENDA**

4. Contract for CASE Systems, Inc. for Call Box Maintenance and ADA Improvements on Highway 1 & Highway 17

Transportation Planner Amy Naranjo said that staff re-released a request for proposals (RFP) in April 2013 for a contractor to perform the call box maintenance work and site retrofits for a 5-year contract, and that proposals were received from CASE Systems, Inc. and Siemens (formerly Republic ITS). She said that Case Systems, Inc., submitted the lowest bid for the entire contract term and demonstrated an ability to perform the required monthly maintenance tasks in accordance with the Scope of Work and provided a superior plan for completing the call box site retrofits within the timeframe specified in the RFP.
Commissioners discussed the relevance of call box systems in the age of cell phone usage; the number of calls received from call boxes per year; the reliability of call boxes versus cell phones; whether funding used for the call box system could be used elsewhere; whether other counties have reduced or eliminated their call box systems; the continued need for call boxes in remote locations; the possibility of getting more specific data on how towing services are most often contacted; and the possibility for thinning out the call box system if call boxes are deemed unnecessary.

Kevin Poncy, local resident, said that call boxes perform a helpful service for the anti-wireless community.

Commissioner Johnson asked if the contract period could be shortened to three years instead of five. Deputy Director Luis Mendez said that the bids received in response to the RFP were intended for a 5 year contract, but that the RTC is not prohibited from reducing the number of call boxes during the 5-year period.

Commissioner Johnson moved, and Commissioner Robinson seconded, to authorize the Executive Director to enter into a 5-year contract with CASE Systems, Inc. for maintenance and ADA improvements of the Santa Cruz County call box system. The motion (Resolution 01-14) passed unanimously.

5. Adjourned at 10:56 a.m.

Respectfully submitted,

Jason Laning, Staff
1. Introductions

The meeting was called to order at 9:03 a.m.

Members present:
Colin Jones (ex-officio)  
Don Lane  
Eduardo Montesino  
Andy Schiffren (alt.)  
John Leopold  
Dene Bustichi  
Lynn Robinson  

Dennis Norton  
Randy Johnson  
Greg Caput  
Zach Friend  
Bruce McPherson  
Ron Graves  

Staff present:  
George Dondero  
Yesenia Parra  
Kareena Pushnik  
Grace Blakeslee  
Luis Mendez  
Jason Laning  
Ginger Dykaar  

2. Oral communications

Jack Nelson, Santa Cruz resident, reminded Commissioners that he discussed a report on climate change at the previous TPW meeting and asked that the link to the report be distributed to Commissioners.

Executive Director George Dondero said there were handouts for Items 3, 4, and 6, and a flyer for the upcoming La Fonda Bridge opening event. He said that Transportation Planner Grace Blakeslee would be making a presentation on complete streets at the American Public Works Association workshop in Watsonville that same day.
CONSENT AGENDA

No items this month

REGULAR AGENDA

3. 2014 Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy: Scenario Development

Heather Adamson, AMBAG, discussed the process for developing two hybrid scenarios for the 2014 Metropolitan Transportation Plan (MTP) and Sustainable Communities Strategy (SCS). She said that the hybrid scenarios are based on input received and incorporate a wide variety of projects and programs. She said that Hybrid Scenario A has a greater emphasis on active transportation facilities and transit service and incorporates a land use pattern that converts commercial corridors near high quality transit into mixed use environments. She said that Hybrid Scenario B has a slightly greater emphasis on maintenance and previously established regional priority transportation projects, including heavy investment in rail, as well as local streets and roads.

Commissioners discussed: the population growth model assumed for the scenario development process; why Hybrid A was said to be slightly better for the low-income population, and why Hybrid B was said to be slightly better for minorities; what each hybrid scenario means specifically for Santa Cruz County locally in contrast to what each means for the overall area; whether local residents are more concerned with streets and roads than transit; the need to plan transportation expenditures based on current realities rather than unrealistic projections; the need for HOV lane development on Highway 1 in order to facilitate expanded bus transportation; the need for more specific breakdowns in the pie charts included in the presentation; whether the scenarios include bus rapid transit along Soquel Avenue in Santa Cruz; the criteria for equity targets, and whether these metrics are dictated by federal regulations; the constrained and inflexible nature of many of the funding sources included in the scenarios; the need for a pie chart that shows which funding sources are movable and which are not; a request for more information about what bus rapid transit means; a request for more projects that involve Scotts Valley; concerns regarding the shortness of the time period within which Commissioners can provide sufficient input to AMBAG; and the reasons for the expedited process.

Jack Nelson, Santa Cruz resident, said that, in his experience as a county planner, the state’s population forecasts are largely based on looking at the past and projecting that forward. He said that future climate change could affect population increases in unforeseen ways, such as immigration by populations displaced by climate change.
Daniel Dodge, Watsonville City Councilmember, expressed concern that the two hybrid scenarios limit Highway 1 projects to only two possibilities: either Soquel Avenue to 41st Avenue, or Soquel Avenue to State Park Drive.

Les White, Santa Cruz METRO General Manager, said that he is concerned that while there are a lot of expectations for transit in the hybrid scenarios, they do not include HOV lane development for Highway 1. He said he would like to have a conversation about HOV lanes before it drops out of the 20 year planning window. He also said that the METRO board has not talked about how it would integrate with a possible passenger rail service.

Commissioners discussed: that the hybrid scenarios do not prohibit the development of an HOV lane project; that construction along the Highway 1 corridor could expand beyond current plans should funding become available; the conceptual and placeholder nature of the inclusion of potential rail passenger service; that the SCS is completed every four years; the lack of reality of funding projections in the plan; the need for clarity of discussion between agencies; that project changes can still be made after the September AMBAG vote; the feeling among Commissioners that they are being rushed and need more time; the robust and focused nature of the process; and the need to remember that the September vote is not the end of the process.

4. Financially Constrained Project List for 2014 Transportation Plans

Transportation Planner Ginger Dykaar presented staff’s recommended project list for the 2014 Regional Transportation Plan (RTP), which identifies the constrained projects proposed for inclusion in the Association of Monterey Bay Area Governments’ (AMBAG) preferred scenario for the Metropolitan Transportation Plan (MTP) Sustainable Communities Strategy (SCS). She said that staff based their recommendations on: Sustainable Transportation Analysis and Rating System (STARS) analysis of five initial scenarios; STARS analysis of two hybrid scenarios; input from the public; input from RTC Commissioners; input from RTC Committees; and information and comments from project sponsors.

Commissioners discussed: the total cost of bike and pedestrian projects; the importance of interconnectivity between constrained projects; where projects from individual jurisdictions originate; whether or not the size and scope of the project list is realistic; the possibility of shortening the project list to only 5 or 6 projects per jurisdiction; the importance of public works departments working with their governing bodies in determining their recommended projects; the flexibility of the project list; the need for increased funding in order to meet increased state-imposed targets; the benefits and value of the STARS process; how often the project list is reviewed; that inclusion of projects on the list does not necessarily mean that they will be funded or implemented; the need to consider issues and possible infrastructure related to electric vehicle travel; that projects are required to be on the RTP in order to qualify for certain federal funding; whether Bus Rapid Transit is realistic.
without an HOV lane project for Highway 1; the viability and potential cost of rail passenger service; the idea of the project list as a “menu” that keeps projects alive for future consideration; the possibility that electric vehicle use will lower greenhouse gas emissions; clarification on the acronyms used for funding sources; whether TDA formulas are remaining the same; and whether it is normal to determine constrained lists of projects based on future funding that doesn’t currently exist.

**Jack Nelson**, Santa Cruz resident, said he appreciates the shift towards sustainability as a priority for the Commission. He said that the Commission is sending mixed signals by identifying greenhouse gas reduction as a goal while planning highway expansion.

**Chris Schneiter**, City of Santa Cruz Department of Public Works, said that as many projects as possible are proposed for the project list because people want a lot of things. He said project proposals are vetted before various commissions and councils. He said it is important to get a large amount of projects on the list in order to qualify for federal funding. He said the process with AMBAG has gone as well as it ever has in the past.

**Amelia Conlen**, People Power, said that trips that are 2 miles or less can be addressed by bike and pedestrian projects and that such projects are cheaper per mile. She encouraged commissioners to look for ways to make bike and pedestrian infrastructure the county’s highest priority.

**Tawn Kennedy**, Sierra Club of Santa Cruz County, said he appreciates the Commission’s shift towards bike and pedestrian projects, and urged that funding be maintained or expanded for such projects.

**Lee Otter**, California Coastal Commission, expressed approval for the project list and applauded the plan’s commitment to the rail corridor. He said that the two projects that should be priorities are the Highway 1/Harkins Slough Road Interchange, and UCSC’s proposal for a new northern entrance.

**Lowell Hurst**, Mayor of Watsonville, said he is glad to have electric vehicle charging stations and bicycle racks at the Watsonville Civic Plaza. He said he appreciates projects that improve traffic flow between north and south county on Highway 1.

Commissioner Leopold moved and Commission Alternate Schiffrin seconded to:

1. Approve the project list, as amended by replacement pages, for the 2014 Regional Transportation Plan (RTP), identifying constrained projects for inclusion in the Association of Monterey Bay Area Governments (AMBAG) preferred scenario for the Metropolitan Transportation Plan (MTP) Sustainable Communities Strategy (SCS) and evaluation in the program-level Environmental Impact Report (EIR); and
2. Amend the RTC Budget and Work Program to add $7,000 to the agreement with the North American Sustainable Transportation Council (STC) for additional scenario analysis related to the RTP.

The motion passed (Resolution 02-14), with Commissioners Johnson, Montesino, Bustichi, and Norton voting “no.”

Commission Alternate Schiffrin moved to switch the order of Items 5 and 6 because Item 6 is an action item requiring a vote on a resolution. Motion passed by general consent.

6. Santa Cruz Branch Rail Line Bridge Rehabilitation

Deputy Director Luis Pavel Mendez said that 3 bids were received in response to the modified bid package released on June 19, 2013, for rehabilitation of over 20 railroad bridges on the Santa Cruz Branch Rail Line (Branch Line). He said that, overall, the lowest bid, which was submitted by Stacy and Witbeck, Inc., is about the same in this second round of bidding as it was in the first round, but that the bid for the La Selva Beach trestle and the Priority 1 bridges is over $400,000 lower. He said that if the RTC establishes a construction contingency of 7% instead of 10%, the RTC could award an initial construction contract that addresses all of the Priority 1 bridges that require attention more immediately.

Bill Baker, Hatch Mott MacDonald, said that his firm reviewed the bids and determined that Stacy and Witbeck, Inc., was the qualifying lowest responsible bidder.

Commissioners discussed: whether Hatch Mott MacDonald considered a 7% contingency to be acceptable; where the funding would come from if the 7% contingency were exceeded; whether funds were still being placed in the RTC’s reserve fund; whether the RTC could expect an especially large number of change orders; the need to inform the construction firm that no further funding is available for the project; liability issues in connection with not funding rehabilitation for bridges determined to need rehabilitation; the level at which bridges can currently be used without rehabilitation; and the timeframe for rehabilitating the non-Priority 1 bridges.

Lee Otter, California Coastal Commission, said he supports staff’s recommendation.

Commissioner Leopold moved and Commission Alternate Schiffrin seconded to:

1. Award the Santa Cruz Branch Rail Line railroad bridge rehabilitation construction contract to Stacy and Witbeck, Inc. as the lowest responsible bidder;
2. Authorize the Executive Director to enter into a contract with Stacy and Witbeck, Inc. for the railroad bridge rehabilitation work requiring attention more immediately and for an amount not to exceed $4,189,001; and

3. Authorize the Executive Director to enter into an agreement with Hefner, Stark and Marois for legal services necessary for this railroad bridge rehabilitation project.

The motion passed (Resolution 03-14) with Commissioners Bustichi and Johnson voting “no."

5. Draft Monterey Bay Area Complete Streets Guidebook

Commission Alternate Schiffrin moved and Commissioner Graves seconded to postpone discussion of Item 6 to a later meeting. Item 6 was postponed by general consent.

7. The meeting adjourned at 11:55 a.m. Next meetings

The next SCCRTC meeting is scheduled for Thursday, September 5, 2013 at 9:00 a.m. at the Watsonville City Council Chambers, 275 Main Street, Suite 400, Watsonville, CA.

The next Transportation Policy Workshop is scheduled for Thursday, September 19, 2013 at 9:00 am at the SCCRTC Offices, 1523 Pacific Avenue, Santa Cruz, CA.

Respectfully submitted,

Jason Laning, Staff

**Attendees**

Mark McCumsey  Caltrans  
James Swofford  
Reed Searle  
Jack Nelson  Resident  
Les White  Santa Cruz METRO  
Bill Baker  Hatch Mott Macdonald  
Lee Otter  California Coastal Commission  
Lowell Hurst  Mayor of Watsonville  
Daniel Dodge  Watsonville City Councilmember  
Chris Schneiter  City of Santa Cruz Department of Public Works  
Amelia Conlen  People Power  
Tawn Kennedy  Sierra Club Santa Cruz County
Santa Cruz County Regional Transportation Commission

Elderly & Disabled Transportation Advisory Committee

Minutes – Draft

Tuesday, August 13, 2013, 1:30 p.m.

Regional Transportation Commission Office
1523 Pacific Avenue, Santa Cruz (2nd Floor)

1. **Call to Order** at 1:32 pm

2. **Introductions**
   
   **Members Present:**
   - Kirk Ance, CTSA Lift Line
   - Hal Anjo, Potential Bus Rider
   - John Daugherty, Metro Transit
   - Veronica Elsea, 3rd District
   - Sally French, Soc. Serv. Provider-Disabled (HOPE)
   - Mike Molesky, Social Service Provider Disabled
   - Patti Lou Shevlin, 1st District

   **Excused Absences:**
   - Sharon Barbour, 5th District

   **Unexcused Absences:**
   - Debbi Brooks, Volunteer Center
   - Clay Kempf, Social Services Provider

   **RTC Staff Present:**
   - Grace Blakeslee
   - Ginger Dykaar
   - Cathy Judd
   - Karena Pushnik

   **Alternates Present:**
   - Bonnie Mc Donald, Community Bridges
   - April Warnock, Metro ParaCruz

3. **Oral Communications**

   John Daugherty announced the passing of Dennis “Pop” Papadopulo. Mr. Daugherty said that Metro would present a resolution at its meeting on September 27 to recognize Mr. Papadopulo for his service to Metro.

   Veronica Elsea announced her recent appointment to the Caltrans Accessibility Committee. The committee meets 4 times per year and she will provide committee meeting information to members.

   Karena Pushnik announced that the RTC is hosting a La Fonda Bridge re-opening event on Saturday, August 24 from 10:30 am to 12:00 pm and invited all to attend. The new bridge includes improved sidewalks and bike lanes. Ms. Pushnik said that the RTC would send an eNews announcement about the event.

   Ms. Pushnik mentioned that links are included in the agenda for Item 9, Information Items and that hard copies are being circulated at the meeting. Ms Pushnik reminded members that comments on the Coordinated Public Transit – Human Services Plan are due to AMBAG by August 21.
4. Additions or deletions to consent and regular agendas

CONSENT AGENDA

Action: The motion (Elsea/Daugherty) - - to approve the consent agenda as corrected- - carries unanimously.

5. Approved minutes from June 11, 2013 meeting – John Daugherty asked for a spelling correction to Item 3, Oral Communications, correcting the spelling of Bob Lagaugh to Bob McGau.

6. Received Transportation Development Act (TDA) Revenues Report as of Aug 2013

7. Received RTC Highlight through June 2012

8. Received 07/02/13 Letters to John Daugherty and Veronica Elsea expressing appreciation for their service as E&D TAC Chair and Vice Chair.

9. Received Information Items:
   a. Mass Transit article titled “Paratransit Made Efficient” 07/11/13
   b. Coordinated Public Transit – Human Services Plan – Comments due to AMBAG by 08/21/13

10. Received Agency Updates
    a. Volunteer Center
       - FY 2012-13: 4th Quarter and Year End TDA Report
    b. Community Bridges serving as the Consolidated Transportation Services Agency
       - FY 2012-13: Revised 1st Quarter TDA Report
       - FY 2012-13: 2nd Quarter TDA Report
       - FY 2012-13: 3rd Quarter TDA Report
    c. Santa Cruz Metropolitan Transit District
       - ParaCruz Report
       - Mobility Management Report
       - Short Range Transit Plan materials
       - Past Metro Report
    d. Santa Cruz County Regional Transportation Commission
    e. Private Operators

REGULAR AGENDA

11. Review Final Draft of Constrained Project List for RTP

Ginger Dykaar, RTC Transportation Planner, provided a PowerPoint presentation on the Review Final Draft of Constrained Project List for 2014 update of the Regional Transportation Plan (RTP). Ms. Dykaar provided information on the transportation investment that will be considered for the first priority or “Constrained” Project List as part of the scenario planning for the 2014 RTP and three-county 2014 Metropolitan Transportation Plan (MTP). The Final Draft of the Constrained Project List will be presented to the Commission for approval at its August 15 Transportation Policy Workshop meeting in Watsonville. Ms. Dykaar provided detailed information about the projects in the preferred scenario.
Ms. Dykaar said the next steps are:

- September 2013 – AMBAG Board will consider approving the preferred scenario, which will determine the transportation projects on the “constrained” list that will be evaluated in the program-level Environmental Impact Report (EIR) for the MTP/RTP. RTC staff will bring the final RTP project list to the RTC at the September Transportation Policy Workshop
- February 2014 – The draft RTP, MTP and EIR released for public review
- June 2014 – Final RTP approved by the RTC and Sustainable Communities Strategy (SCS)/MTP approved by AMBAG

Member discussion included:

- Where audible and visual pedestrian signals fit into the pedestrian portion of the final scenario including updating audible and count-down signals at street crossings
- The need for safer intersection crossings
- How road rehabilitation also addresses pedestrian issues
- Whether sidewalk issues, not addressed in this planning scenario, will be considered

Veronica Elsea thanked Ms. Dykaar and the RTC staff for their outreach effort to solicit input from the community and to reflect the needs of the community.

Ms. Dykaar said she would come back to E&D TAC with the draft plan before the plan is final.

12. Review Complete Streets Guidebook

Grace Blakeslee, RTC Transportation Planner, provided a Power Point presentation on the Draft Monterey Bay Area Complete Streets Guidebook. The Guidebook serves as a resource for local jurisdictions and project sponsors as a regional approach to reducing vehicle miles traveled and green house gas emissions. Ms. Blakeslee is requesting E&D TAC provide input on the Guidebook and requests that the committee recommend that the RTC adopt the Guidebook.

Guidebook:

- Outlines a strategy for transitioning auto oriented streets to complete street particularly in areas that have been identified for growth and more intensified use
- Goals were established on input from local jurisdictions, the public and stakeholders during the development of draft regional transportation plan goals and policies
- The Guidebook is designed to be adopted in full or in part by local jurisdictions and regional agencies to guide the planning and design of streets
- RTC and other regional transportation planning agency staff would like to provide opportunities for project sponsors and committee members to exchange ideas and learn about techniques and skills that support implementation of complete street

Member discussion included:

- Speed limits associated with different street designation, i.e. street, boulevard, etc
- Removal of non-native plants and/or the debris they produce
- Street furniture
- Neighborhood shared streets
- Intersections safety

The next steps:

- August - input from the public on the draft guidebook via email notification
- September – AMBAG to accept Final Monterey Bay Area Guidebook and incorporate into sustainable communities strategy

3
- Fall/Winter – RTC staff works with Project sponsors to provide training opportunities to support implementation of the guidebook
- Ongoing _ RTC staff works with local jurisdictions to adopt the guidebook, all or in part, to support implementation of complete streets

Action: The motion (Elsea/Daugherty) - - to approve the Draft Monterey Bay Area Complete Streets Guidebook in its current form - - carries unanimously.

13. Pedestrian Safety Work Group Update

Veronica Elsea, Pedestrian Safety Work Group Chair, announced that the new in-bus signs, in English and Spanish, are on all fixed route buses and ParaCruz vehicles. The signs encourage riders to report pedestrian and bicycle hazards via the RTC’s online Hazard Report.

Ms. Elsea mentioned that the final draft of the Pedestrian/Motorists brochure will be discussed at the August 28 (rescheduled to Sept 10) meeting of the Pedestrian Safety Work Group.

Ms. Elsea said that she provided input for the update of the CTSA document regarding pedestrian safety in construction areas.

Karena Pushnik mentioned that Theresia Rogerson could attend an upcoming meeting of the E&D TAC to discuss that document.

FAQ’s for sidewalk maintenance will be discussed at a future meeting of the Pedestrian Safety Work Group.

14. Transit Service to La Posada

Karena Pushnik, RTC Transportation Planner, informed members that the Metro Transit Board took action at its June 14 meeting regarding reinstatement of fixed route service to La Posada. Ms. Pushnik said that Metro opted to reinstate fixed route service to the La Posada/Gault Street neighborhood area for a one year trial basis contingent upon receipt of Transportation Development Act (TDA) funds received in excess of the auditor/controller projections. The RTC will consider decisions about the TDA fund surplus at their October meeting when they take action on the RTC’s revised budget.

15. Adjourn 3:27pm

Respectfully submitted,

[Signature]

Cathy Judd, RTC Staff

1:E\DTAC\2013\08-Aug\Draft-Minutes-August-2013.docx
1. Call to Order

2. Introductions

Members Present:
Kem Akol, District 1
David Casterson, District 2, Chair
Peter Scott, District 3
Amelia Conlen, District 4
Rick Hyman, District 5
Bill Fieberling, City of Santa Cruz
Andy Ward, City of Capitola, Vice-Chair
Lex Rau, City of Scotts Valley
Rob Straka, Ecology Action/Bike to Work
Jim Langley, CTSC (Alt.)

Staff:
Cory Caletti, Senior Transportation Planner
Grace Blakeslee, Senior Transportation Planner

Vacancies:
District 4 – Alternate
District 5 – Alternate
City of Watsonville – Alternate

Unexcused Absences:

Excused Absences:
Eric Horton, District 2 (Alt.)
Holly Tyler, District 1 (Alt.)
Gary Milburn, City of Scotts Valley (Alt.)
Will Menchine, District 3 (Alt.)
Piet Canin, Ecology Action/Bike-to-Work (Alt)
Daniel Kostelec, City of Capitola (Alt.)
Leo Jed, CTSC
Carlos Garza, City of Santa Cruz (Alt.)
Myrna Sherman, City of Watsonville

Guests:
Theresia Rogerson and Becky Sox, County Health Services Agency
Alex Page, City of Santa Cruz Planning Dept Intern
Melissa Ott, UCSC IDEASS student
Brenden Fant, UCSC IDEASS student

3. Announcements – Cory Caletti, RTC staff, announced that the RTC’s grant application to the Federal Lands Access Program for the Monterey Bay Sanctuary Scenic Trail Network project was not identified on the short list and is unlikely to be funded. She also updated members on the final stages of the MBSST Network master planning effort, Caltrans’ rumble strip project and upcoming committee review opportunity, as well as the list of projects approved by the RTC for the Regional Transportation Plan
update. Also, she informed members that the RTC was awarded a $250,000 grant to produce a passenger train service study.

4. Oral communications – None

5. Additions or deletions to consent and regular agendas – None

**CONSENT AGENDA**

A motion (Fieberling/Ward) to approve the consent agenda as amended passed unanimously.

6. Approved draft minutes of the June 10, 2013 Bicycle Committee meeting
7. Accepted Bicycle Committee roster
8. Accepted summary of Bicycle Hazard Reports
9. Accepted updated FY 2013-2014 Bicycle Committee meeting schedule
10. Accepted letter to the County of Santa Cruz Public Works Department regarding recommendations for improvements to the East Cliff Drive Parkway
11. Accepted letter from the Bicycle Committee to the County of Santa Cruz Public Works Department with recommendations for changes to the County’s Capital Improvement Program
12. Accepted letter from the Bicycle Committee to Caltrans regarding Highway 1 shoulder and Wilder Ranch multi-use path pavement quality after overgrown vegetation cut-back, and the need for Bike May Use Full Lanes signs to the approach of the Scott Creek and Waddell Creek bridge construction where the shoulder is closed

**REGULAR AGENDA**

13. Draft Monterey Bay Area Complete Streets Guidelines – Grace Blakeslee, RTC Senior Transportation Planner, provided the third presentation on the Complete Streets Guidebook over the past few months and requested that the Committee recommend that the RTC adopt the document so that it may be used by local jurisdictions as a resource. A motion (Conlen/Scott) to recommend that the RTC adopt the Complete Streets Guidebook passed unanimously. A subsequent request was made to agendize a discussion of Caltrans’ Main Street Program, similar to complete streets, and its relationship to Mission Street improvements in the City of Santa Cruz.

14. Innovative Bicycle Facilities and Treatments in Current Regulatory Standard Manuals – Bicycle Committee member Amelia Conlen provided a PowerPoint presentation of recently introduced bicycle facility treatments including but not limited to bike boxes, cycle tracks, buffered bike lanes, etc. and their relationship to regulatory standards. The presentation was provided for information only.

15. 2011 Bicyclist Injuries and Fatalities for Santa Cruz County Report and 2013 Bicycle Safety Observation Study – Becky Sox, Health Education Intern with County of Santa Cruz Health Services Agency (HSA) and Theresia Rogerson, HSA Community Traffic Safety Coalition Program, summarized the staff report and reports and highlighted changes in the reporting format. Most notably, HSA staff reviewed historic observation data and concluded that Santa Cruz County has seen a 167% increase in bicycle ridership over the 2003-2013 time span.
16. UCSC and Westside Santa Cruz Bicycle Transit Planning Study – UCSC IDEASS and members Brenden Fant and Melissa Ott presented the Bicycle Transit Planning project that they produced focusing on routes to and from UCSC that are in need of infrastructure improvements to increase safety and connectivity. Members provided input and suggestions for additional research should the study be expanded in the next school year.

17. Member updates related to Committee functions – Amelia Conlen summarized the ad-hoc sub-committee’s recommendations for the hybrid scenarios developed as part of the 2014 Regional Transportation Plan. Lex Rau mentioned various bicycle traffic actuation deficiencies in the City of Scotts Valley and his efforts to identify improvements in coordination with City Public Works staff.

18. Adjourned: 8:45 p.m.

NEXT MEETING: The next Bicycle Committee meeting is scheduled for Monday, September 23, 2013, from the special time of 6:00pm to 8:30pm at the RTC office, 1523 Pacific Ave, Santa Cruz, CA.

Minutes respectfully prepared and submitted by:

Cory Caletti, Senior Transportation Planner

S:\Bike\Committee\BC2013\BCAug13\BCMinutes_Draft_August19-13.docx
1. Call to Order - Chair Chris Schneiter called the meeting to order at 1:35pm.

2. Introductions - Self introductions were made.

3. Oral communications - None

4. Additions to consent and regular agendas - Handout distributed for item 6

**CONSENT AGENDA (Fontes/Bateman) approved**

5. Approved minutes of the June 20, 2013 ITAC meeting

**REGULAR AGENDA**

6. Status of ongoing transportation projects, programs, studies and planning documents - Verbal updates from project sponsors

   Santa Cruz: Chris Schneiter reported that the city would be opening bids for the Broadway/Brommer-Arana Gulch multiuse path on August 27, with construction scheduled to begin in October and take 14-16 months. The City plans to go out to bid for the Soquel-Park Way traffic signal project nearing completion of the Highway 1...
auxiliary lanes construction. Cape seals on roadways on the lower west side of the city are underway, with work on Branciforte scheduled to start in September. Work on the Mission Street extension project is underway, with K-rail removed; striping and bollards are being installed.

Watsonville: Murray Fontes reported that the City of Watsonville is resurfacing Airport Boulevard on both sides of the highway and several slurry seal projects will begin soon. The City’s Safe Routes to Schools pedestrian signal project will start this fall. Highway 152 relinquishment is still being evaluated. The City continues to work with Caltrans on Highway 1/Harkins Slough Road and Main Street/Green Valley Road area planning.

Santa Cruz Metropolitan Transit District (METRO): Erich Friedrich reported that construction of the operations facility continues, with a Spring 2015 completion schedule. The existing conditions section of the Short Range Transit Plan (SRTP) is finishing up, with the consultant to work on the service planning section next. METRO and the City of Santa Cruz have initiated design work on the Pacific Station project and will be soliciting input from the public on design options. METRO also has four new buses with Q-pod ADA areas, however these will be the last new buses for a while without changes to state and federal funding.

RTC: Rachel Moriconi reported that the La Fonda Bridge opening will take place on Saturday August 24. The RTC authorized award of a contract to rehabilitate several rail bridge structures on August 15.

Caltrans: Mark McCumsey referenced the District 5 monthly construction report that was distributed at the meeting and noted that the bids have been received for the Highway 1 Guardrail Upgrade (project #7), with construction scheduled for this fall.

7. Monterey Bay Area Complete Streets Guidelines

Grace Blakeslee reported that Monterey Bay Area Complete Streets Guidelines have been updated to reflect comments received. She appreciated Chair Schneiter for his review of the draft document on behalf of the ITAC. She highlighted changes made to the document, including text about challenges and constraints for complete streets, opportunities to add complete streets components within roadway rehabilitation projects, and economic benefits of complete streets. She noted that while examples of complete street designs are not applicable in all areas, the document is intended to identify opportunities for complete streets components. The document is scheduled for completion in September. She noted that some funding is available for training local agencies on complete streets. She highlighted the project checklist, which is meant to serve as a guide for agencies to use when developing and evaluating projects. Local jurisdictions will be asked to adopt the guidelines.

In response to questions from ITAC members, Ms. Blakeslee noted that complete streets analysis was part of the project list development for the Sustainable Communities Strategy (SCS) and Regional Transportation Plan (RTP). The goal of
complete streets is to support reduction in vehicle miles traveled. The Guidelines may be included as an appendix to the Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS).

Ms. Blakeslee noted that while many jurisdictions include some complete streets components within their projects, the document provides guidance for agencies to consider adjacent land uses and appropriate complete streets components when defining project scope. Anais Schenk added that the guidelines provide tools to consider and recognize complete street benefits within projects.

Taylor Bateman noted that California Fire Codes combined with right-of-way limits can pose a challenge for implementing complete streets and suggested addressing legal challenges within the guidelines. Chris Schneiter noted “green street” trainings that include complete street components might be useful to local agencies. He recommended not establishing a certification process for complete street projects.

The ITAC recommended that the Regional Transportation Commission adopt the Monterey Bay Area Complete Streets Guidebook (Friedrich/Schneiter, Bateman abstained).

8. Update on 2014 Regional Transportation Plan (RTP) and Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS)

Rachel Moriconi reported that the RTC approved the draft project list for the Regional Transportation Plan (RTP) on August 15, 2013, identifying projects that could reasonably be funded through 2035 using projected revenues (constrained) and projects which are not currently financially feasible given revenue shortfalls (unconstrained). She noted that the RTC-approved project list will be incorporated into the tri-county Metropolitan Transportation Plan (MTP) and preferred scenario for the Sustainable Communities Strategy (SCS) to reduce greenhouse gas emissions.

Anais Schenk reported that the Association of Monterey Bay Area Governments (AMBAG) evaluated two hybrid scenarios for land use and transportation projects and is modeling the proposed preferred scenario now. The preferred scenario includes mixed use, economic/job growth aimed at improving job-to-housing balance in low income residential areas, and growth in “opportunity areas” within ½ mile of transit stops along high quality transit corridors that have headways of 15 minutes or less. AMBAG is scheduled to adopt the preferred scenario in September, and then will start environmental analysis of the MTP and RTPs for each of the counties in the Monterey Bay region.

9. Local Assistance Updates

Garin Schneider and Donn Miyahara joined the meeting by phone and provided updates on behalf of Caltrans Local Assistance. Mr. Schneider noted that Caltrans is surveying agencies regarding expectations for Local Assistance oversight on federal-aide projects.
He noted that District 5 currently has two vacancies that he does not currently have the budget to backfill, which could impact how long it takes to process local project oversight. Ms. Moriconi noted the survey is partly in response to regional agency concerns that an increased amount of funds are being taken off the top of Regional Surface Transportation Program (RSTP) apportionments to fund Caltrans’ Local Assistance. She requested that agencies complete and submit the survey via rmoriconi@sccrtc.org and she would forward to state representatives. Chris Schneiter commented that District 5 Local Assistance does a great job, but expressed concern about Local Capital Outlay review time for projects on the state highway system.

Garin Schneider also noted that Caltrans has developed a summary sheet of common issues identified during FHWA and other audits that have resulted in some local agencies in the state losing federal funds. He urged agencies to especially note changes to Chapter 10 of the Local Assistance Procedures Manual (LAPM) related to contracts and subconsultant contract language, especially if there are contract change orders.

Mr. Schneider also noted that Buy American provisions for non-federally-funded right-of-way will not apply until December 31, 2013. Changes to Buy American requirements are expected in the future, however for most local projects the impact of the MAP-21 requirements are less significant than originally anticipated.

10. Next meeting: The next meeting of the ITAC is scheduled for September 19, 2013 at 1:30 PM at the RTC Conference Room in Santa Cruz. The meeting adjourned at 2:45pm.

Minutes prepared by: Rachel Moriconi
## SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
### TDA REVENUE REPORT
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I:\FISCAL\TDA\MonthlyReceipts\FY13 - 14.xlsx\FY2012
TO: Regional Transportation Commission

FROM: George Dondero, Executive Director

RE: Out of State Travel for Rail~Volution Conference

RECOMMENDATIONS

Staff recommends that the Regional Transportation Commission (RTC) approve out of state travel to the Rail~Volution conference for two staff members.

BACKGROUND

Rail~Volution started in 1989 as a series of outreach and advocacy events geared towards developing advocates for Portland's MAX Light Rail System. In 1995, Rail~Volution became a national conference. In the year 2000, Rail~Volution developed into a 501(c)(3) non-profit charitable organization dedicated to the engagement of thoughtful discussion about building liveable communities with transit.

DISCUSSION

Through its process to produce the 2014 Regional Transportation Plan and Metropolitan Transportation Plan, the RTC has been working to ensure that the plans are more sustainable. In addition, the RTC recently secured two planning grants to study ways to better meet the community’s transportation needs using passenger rail in coordination with existing transit services and other travel modes. To complete these planning efforts, staff will need to research what is being done in other areas for applicability to Santa Cruz County and to determine whether rail transit services that will work in Santa Cruz County can be developed. Rail~Volution with more than 80 workshops, networking events, charrettes and toolbox sessions offers a great opportunity for RTC staff to develop the necessary knowledge, tools and resources to ensure a quality passenger rail planning effort.

Attachment 1 provides some information on the October 2013 Rail~Volution conference which will be held in Seattle, Washington. The fact that the conference will be held in the west coast makes it more convenient and less costly for RTC staff to attend. The cost per staff person to attend the conference will be about $2,300 including registration, hotel and airfare. There are sufficient funds in the RTC’s travel, training and education budget for two staff members to attend this conference. Staff recommends that the Regional Transportation Commission
(RTC) approve out of state travel to the Rail-Volution conference for two staff members.

SUMMARY

Rail-Volution is a national conference dedicated to building liveable communities with transit. The 2013 conference will be held in Seattle, Washington, offering a better opportunity for RTC staff to attend. Knowledge, tools and resources gained from attending the conference will be useful for the RTC’s effort to better plan a transportation system that could include passenger rail service. Staff recommends that the Regional Transportation Commission (RTC) approve out of state travel to the Rail-Volution conference for two staff members.

Attachments:
1. Excerpt from the 2013 Rail-Volution conference brochure

S:\RTC\TC2013\TC0913\RailVol\RailVol0913.docx
ATTACHMENT 1

PIONEER CHANGE

Workshops, networking events and toolbox sessions to inspire, partner, equip and connect.

What is Rail-Volution 2013?
As a learning network, Rail-Volution brings together people, like you, who are passionate about building livable communities with transit. At Rail-Volution 2013, we’ll come from more than 300 communities, towns and regions of all sizes and shapes, ready to engage in thoughtful discussions, to share ideas and breakthroughs, frustrations and inspiration.

Perspective. Collaboration. Partnership. Rail-Volution is non-partisan and mode agnostic. Workshops and toolbox sessions dig down to the nuts and bolts of innovation. Networking events broaden your web. Three plenary sessions energize with provocative thought leaders. How does our living environment affect our brain? How do we stimulate change in a complex system? How does sustainability relate to transit and development? At Rail-Volution 2013, we’ll look at the Puget Sound region, and our nation in context. We’ll talk about the steps Rail-Volution is taking to grow the movement. At each plenary session, we’ll come together to illuminate and challenge our thinking.

What’s in it for you?
At Rail-Volution you’ll be exposed to some of the best minds on livability in the country and the world. In this learning lab, you’ll hear concrete examples that illustrate the rediscovery of community that is sweeping the country. You’ll have a chance to ask hard questions and explore cutting edge ideas in more than 80 workshops, networking events, toolbox sessions and, of course, our signature mobile workshops.

Rail-Volution is the intersection of transit, livable communities and transit-oriented development. Whether an established expert or a new professional, attend Rail-Volution if you’re ready to be transformed: Jumpstart your project with fresh ideas for both public and private sectors. Engage your community with useful tools for advocates and elected officials. Expand your horizons by meeting new clients or earning AICP CM credits. Shape the future with new contacts, skills, perspectives and concepts. Energize your career.

You’ll come away with knowledge, direction and a renewed passion for creating vibrant, sustainable, livable places.

Check www.railvolution.org for complete listings and workshop updates.

Contents
Workshops 2
Networking Events 3
Special Events 3
Seattle Local Events 3
Mobile Workshops 4
Conference at a Glance 8
Conference Information 9
Ways to Connect Now 9
Share your insights. Expand your network. Refine your ideas. Mix and match sessions to fit your passion and perspective.

Variety and quality are key to Rail~Volution's rich curriculum. More than 80 workshops address a vast range of topics, project scales, disciplines, partnership models and modes: streetcars, high-speed rail, bus rapid transit, pedestrians, bikes, streets, light rail, multimodal. You'll hear about failures, as well as successes. Before, during and after sessions, you'll share real experiences, debate controversial ideas and build enduring networks.

Workshops will engage you with a variety of formats: Pecha Kucha, talks, roundtables, fishbowls, panels, presentations and open idea exchanges. Whether you're looking for a session that puts you at ease - or you're more interested in breaking out of your comfort zone - there's something for you.

Rail~Volution workshops are also geared to all levels of expertise. Established expert or new professional, there's something to challenge you.

The Fundamentals. These core workshops about building livable communities with transit are must for first-time attendees and everyone who wants to strengthen their knowledge about concepts that form and guide the livability movement. Featuring original examples, they cover a spectrum of topics: principles of finance, design guidelines, station area planning, effective advocacy, community engagement, integrated transportation, public-private partnerships and more.

Further Exploration. These in-depth workshops go far beyond the basics, delving deep into urgent topics, such as job creation, equitable development, performance measures, communications and collaboration - even some challenges we have not yet imagined. Sessions highlight real-life examples, exploring them from many perspectives and crafting successful implementation strategies.

Advanced Analysis. Select sessions are designed to push the envelope of even the most advanced practitioners. These sessions dig deeper into the nuances of specific issues and promise to advance the knowledge in practical, yet forward-looking ways. In these sessions, veteran practitioners explore how changes affect their areas of expertise, how policy is emerging, and how sustainable development is breaking through boundaries.

Rail~Volution's workshops are carefully designed to explore an exceptional range of topics and disciplines around transit and livability:

**PLANNING INTO THE FUTURE**
- Beyond the station box
- Responding to changing demographics
- Reclaiming land for better opportunities
- Regionalism
- Sustainability + Equity
- Community engagement

**FINANCIAL TOOLS**
- Equitable TOD
- Economic game changers
- Value capture
- MAP 21

**PARTNERSHIPS**
- Developing successful regional approaches
- Influencing advocacy
- Diverse planning partnerships
- Cross-sector leadership models

**LAND USE TACTICS**
- Defining mode within corridors
- Parking innovations
- Complete streets
- Infill and refill
- Suburbs

**BEYOND TOD**
- Integrating modes
- Last mile
- Active communities
- Bike-sharing
- Employment TOD
- Communication
- Public health

**EQUITABLE DEVELOPMENT**
- Affordable housing
- Corridor-wide strategy
- Funder collaboration
- Community development

EXPLORE

**RAIL~VOLUTION 101**

**Monday, October 23, 10:00 am – 12:00 pm**

Rev up your knowledge of the critical tenets and fundamental principles of livable communities.
Learn the secrets of creating mixed-use, higher-density communities. See how transit-oriented design can be a catalyst for positive solutions to community improvement, energy and environmental challenges.
Engage in topics such as reducing trip and energy usage (and carbon footprints) and promoting long term sustainable economic growth in our neighborhoods.
Santa Cruz County Regional Transportation Commission
THREE MONTH MEETING SCHEDULE

September 2013
Through
November 2013

All meetings are subject to cancellation when there are no action items to be considered by the board or committee.
Please visit our website for meeting agendas and locations www.sccrtc.org/meetings/

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Commission Offices - 1523 Pacific Ave-Santa Cruz, CA
RTC Watsonville Offices-275 Main St Ste 450-Watsonville, CA
Board of Supervisors Chambers/CAO/RDA Conference room-701 Ocean St-5th floor-Santa Cruz, CA
City of Capitola-Council Chambers-420 Capitola Ave-Capitola, CA
City of Santa Cruz-Council Chambers-809 Center St-Santa Cruz, CA
City of Scotts Valley-Council Chamber-1 Civic Center Dr-Scotts Valley, CA
City of Watsonville-Council Chambers-275 Main St Ste 400-Watsonville, CA
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August 12, 2013

District Director Timothy Gubbins
Caltrans District 5
50 Higuera Street
San Luis Obispo CA 93401

Re: Highway 1 hazards and maintenance issues

Dear Mr. Gubbins:

I’m writing on behalf of the Bicycle Committee of the Regional Transportation Commission (RTC) to express concern regarding a few hazardous conditions on Hwy 1 and a poor maintenance issue on Highway 1 and the Wilder Ranch multi-use path.

The RTC Bicycle Committee serves to assist in the development and maintenance of a complete, convenient and safe regional bicycle network. As such, the Committee reviews projects, on-road conditions, preliminary designs or policy related initiatives and makes recommendations as needed. After receiving complaints from the public and members’ own observations regarding unclear travel behavior and hazards, the Bicycle Committee requests that Caltrans consider the recommendations below.

1) As shown in the photos in Attachment 1, the method used for brush and overgrown vegetation clearance on Highway 1 between Santa Cruz and Davenport as well as on the Wilder Ranch multi-use path causes deterioration of the pavement surface. On Highway 1, the grinding of the pavement causes further narrowing of an already narrow shoulder. Due to an upcoming rumble strip project where rumble strips will be installed in areas where the shoulder is 5 feet or wider, the pavement quality being un-rideable means the effective width and bicycle ridership safety will be further compromised. A good example of the severity of pavement deterioration can be found just north of MP 28.59 in the NB direction. Similarly, on the Wilder Ranch multi-use path, where maintaining current width is paramount due to the high number of different user types, pavement conditions have deteriorated and have thus caused grass intrusion into cracks of the pavement. In certain locations, the usable width is highly constrained. The Bicycle Committee requests that Caltrans modify the technique used to clear back overgrown vegetation so as to not cause pavement deterioration and make repairs to the damage done.

2) The bridge work at Scott Creek and Waddell Creek involves closing of the shoulder and appropriate signs are installed as shown in Attachment 1. While this closure is necessary and understandable, roadway users are not aware of what behaviors are expected and allowed for bicycle travel in light of the shoulder closure. The Bicycle Committee requests that Caltrans install the Bikes May Use Full Lane (BMUFL) sign approved by the California Manual of Uniform Traffic Control Devices in the approach to each of the two bridges. This will inform motorists to yield to cyclists as they make their way across. The attached photos show a situation where a motorist is passing two cyclists as they make their way across the bridge while an oncoming vehicle is also approaching. This passing at an unsafe passing width endangered the cyclists. A BMUFL sign would inform both motorists and cyclists of the safest travel behavior across a narrow construction zone. Also noteworthy is that due to the gradient change in reaching the bridges, a fairly high speed is reached by bicyclists over the short span.
The Bicycle Committee requests that Caltrans consider these conditions and respond with any possible remediation initiatives. Please feel free to contact the RTC’s Bicycle Coordinator and staff to the Bicycle Committee, Cory Caletti at (831) 460-3201 or by email at ccaletti@scrrc.org, for this and any other Bicycle Committee related matters.

Sincerely,

David Casterson
Bicycle Committee Chair

cc: Santa Cruz County Regional Transportation Commission
    Santa Cruz County Regional Transportation Commission’s Bicycle Committee
    Doug Hessing, Caltrans Highway 1 Rumble Strip Project Manager

Attachment 1: Photos of Highway 1 and Wilder Ranch multi-use path
Attachment 1

Wilder Ranch Path and Hwy 1 pavement conditions post brush clearance:

Scott Creek shoulder closure:
August 12, 2013

Dear RTC Commissioners,

I would like to applaud the ambitious list of bicycle projects in the Constrained funding category in the draft 2014 Regional Transportation Plan Project List. These projects, including the Mar Vista Bicycle & Pedestrian Bridge, Arana Gulch Multi-use Path, and the Monterey Bay Sanctuary Scenic Trail will improve the safety of cyclists, expand our network of bicycle facilities, and help us meet our environmental goals.

RTC staff should also be applauded for including innovative bicycle treatments, such as buffered bike lanes and bike boxes, in the draft Project List. These treatments are key to improving safety and comfort for those who feel unsafe cycling near cars.

I urge you to approve the draft Project List, with a few changes:

- Please look for ways to include the full cost of the Monterey Bay Sanctuary Scenic Trail in the Constrained funding category. This project will offer tremendous benefits for our local economy, community health, and quality of life, and we can’t afford to wait- let’s get it built as soon as possible.

- Please shift funding for Citywide Bicycle Projects (also called Lump Sum Bicycle Projects or Countywide Bicycle Projects) for each jurisdiction to the Constrained category. We need to make it easy, safe and comfortable for our residents to travel by bike, and to do that, we must look at the bicycle network as a whole and address any gaps or safety hazards. These needs cannot all be captured in the RTP- therefore, discretionary funding is needed to create a fully functional network.

Thank you for your leadership in building a Santa Cruz County that supports all forms of transportation!

Sincerely,
Amelia Conlen, Director
From: John Babcock [mailto:paperjohnbabcock@gmail.com]
Sent: Friday, August 23, 2013 3:50 PM
To: info@sccrtc.org
Subject: widening highway one

Dear George Dondero,

I think it is outrageous that the widening of highway one is not being considered.

There is no other project that gives the people of Santa Cruz County more bang for the buck than getting 2 more lanes on this overcrowded highway.

Looking at your list of projects in today’s Sentinel there is not one that is more important than getting traffic moving on Highway one.

John Babcock
4780 Soquel Creek Road
Soquel, CA

08/27/13

Dear Mr. Babcock,

Thank you for your comments. They will be made available to the Commission for their review.

Please visit the SCCRTC website at www.sccrtc.org for information on the Commission and its activities.

Thank you,

............................................................

Cathy Judd, Administrative Assistant
Santa Cruz County Regional Transportation Commission
Santa Cruz 831.460.3200 | Watsonville 831.768.8012
1523 Pacific Avenue | Santa Cruz, CA 95060

Follow our social networks for the latest RTC news
August 7, 2013

Mr. George Dondoro
Executive Director
Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue
Santa Cruz, CA 95060

Dear Mr. Dondoro:

On behalf of the California Department of Transportation (Caltrans), Division of Transportation Planning, I am pleased to offer my congratulations to the Santa Cruz County Regional Transportation Commission for the recent award of the following Federal transportation planning grant for Fiscal Year (FY) 2013–14:

5304 Statewide or Urban Transit Planning Studies
Grant Title: Santa Cruz County Passenger Rail Study
Grant Award: $250,000

Please see the list below which identifies specific conditions for a grantee to accept grant funding, to program funds, and to begin work. All conditions must be fulfilled no later than May 1, 2014. Failure to fulfill conditions of grant acceptance by the aforementioned date will result in forfeiture of grant funds. Also, please note that final products must be completed no later than June 30, 2016. Final requests for reimbursements must be submitted to Caltrans by August 31, 2016.

Conditions of Grant Acceptance
These Federal grant funds cannot be encumbered until the following conditions of approval are fulfilled:

1. The Revised final Scope of Work, Project Timeline, and Grant Application Cover Sheet are submitted to Caltrans District 5 Regional Planning Liaison, as needed.

2. The FY 2013–14 Overall Work Program (OWP) and OWP Agreement (OWPA) are amended to incorporate the grant project including the full grant amount and full local match. The OWP/OWPA amendment includes the OWP Agreement, OWP Budget Summary, and a standalone Work Element. These three items must show consistent funding information for the grant project.
The OWP/OWPA amendment process is the last condition to be completed after the Scope of Work and Project Timeline are approved by District staff.

Caltrans will send an electronic notice to proceed when the OWP/OWPA amendment is processed.

3. **For Santa Cruz County Passenger Rail Study:** A Third Party In-kind Valuation Plan is submitted for the use of in-kind contributions to satisfy the federal minimum local match requirement. “Third party in-kind contributions are good and services donated from outside the grantee’s agency. Examples of third party in-kind contributions include donated printing, facilities, interpreters, equipment, advertising, time and effort, staff time, and other goods and services.” The Third Party In-kind Valuation Plan Checklist and Third Party In-Kind Valuation Plan sample can be found on pages 44-45 at the following webpage http://dot.ca.gov/hq/tpp/offices/ocp/ej_cbt_p_toolbox.html.

4. **For Santa Cruz County Passenger Rail Study:** The Project Management cost in the Project Timeline must be reduced, not to exceed five percent of the grant amount.

Once the project is underway, Caltrans District staff will request Quarterly Progress Reports (a brief narrative of completed project activities), which is designed to track project status and to ensure successful project completion.

Please contact Mark McCumsey, District 5 Liaison, at (805) 549-3963 or Tyler Monson, Headquarters Liaison, at (916) 653-8699, if you have any questions concerning these grant funds or program requirements.

Sincerely,

GARTH HOPKINS
Chief, Office of Regional and Interagency Planning

c: Rachel Moriconi, Senior Transportation Planner, Santa Cruz County Regional Transportation Commission
John Olejnik, Acting Senior Transportation Planner, Caltrans, District 5
Mark McCumsey, Associate Transportation Planner, Caltrans, District 5
Tyler Monson, Acting Regional Planning Branch Chief, Office of Regional and Interagency Planning, Caltrans

"Caltrans improves mobility across California"
NEWSWORTHY

- The California Transportation Commission recently approved $487 million for 82 construction projects statewide to improve transportation, safety and mobility. The allocations include $169 million from Proposition 1B, a 2006 voter-approved transportation bond. To date, more than $16 billion in these funds have improved transportation across the state.

- Caltrans recently released its Scope Document and Timeline for the 2040 California Transportation Plan. This plan provides long-range policies addressing future mobility needs, reducing greenhouse gas emissions and supporting sustainable communities. The plan also includes a Modeling and Policy Scenario Development Flow Chart, which shows how information, data, scenarios and models interact and flow. The chart features five groups: Inputs, Scenario Modeling, Initial Outputs, Economic and Emissions Modeling and Final Results. It also provides an overview of how the CTP will calculate final results such as greenhouse gas emissions, gross state product, mode split, vehicle miles traveled and delay, and commodity flow by tonnage and mode, etc. More information is available at:
  http://www.dot.ca.gov/hq/tpp/california/interrgionalblueprint/

- Caltrans is working on its High-Speed Rail Transit Connectivity Program, established in July 2012. The program fosters strong partnerships between Caltrans, the California High-Speed Rail Authority, regional and local agencies, and transit operators to develop multi-modal transportation connections critical to the success of the high-speed rail system. More information is available at:
  http://www.dot.ca.gov/hq/tpp/offices/locp/hr.html

- California has the busiest highways in the nation, according to the Federal Highway Administration. A new report featuring America's 10 most heavily traveled interstate routes showed that people drove more than 84.7 billion miles on the state's highways in 2011. Interstate 5 carried the nation's most traffic with 21.4 billion miles traveled. Overall, vehicles traversed 2.95 trillion miles on U.S. roadways in 2011—the eighth highest level ever recorded, and nearly twice the amount reported in 1980. FHWA compiles the data through its Highway Performance Monitoring System operated by state departments' of transportation. More information is available at:

LOCAL HIGHLIGHTS

Caltrans recently awarded nearly $4.5 million in transportation planning grants, including the following:

- Santa Cruz County Regional Transportation Commission – $250,000 (Partnership Planning Grant) to develop a passenger rail study.
- Santa Cruz Metropolitan Transit District – $40,281 (5304 Transit Planning Grant) to implement a transit planning internship program.

Please Submit Maintenance Service Requests at the Following Link: http://www.dot.ca.gov/hq/maint/msrsubmit/
<table>
<thead>
<tr>
<th></th>
<th>Project</th>
<th>Location</th>
<th>Description</th>
<th>Construction Timeline</th>
<th>Construction Cost</th>
<th>Funding Source</th>
<th>Implementing Agency</th>
<th>Project Manager (Resident Engineer)</th>
<th>Contractor</th>
<th>Comments</th>
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<tbody>
<tr>
<td>1</td>
<td>Hwy. 1 Salinas Road Interchange (315924)</td>
<td>Highway 1, Monterey County, North of Moss Landing at Salinas Road (PM 99.9-101.5)</td>
<td>Construct new interchange</td>
<td>Spring 2010-May 2013 with 1 year plant establishment</td>
<td>$12 Million</td>
<td>STIP/CMIA</td>
<td>Caltrans</td>
<td>Richard Rosales (BR)</td>
<td>Desilva Gates Construction LP, Dublin</td>
<td>Work completed May 2013. In one year plant establishment.</td>
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<tr>
<td>2</td>
<td>Hwy. 1 Guardrail/Crush Cushions (0M9704)</td>
<td>Highway 1, various locations from San Lorenzo R. Bridge to Waddell Creek (PM 17.4-26.0)</td>
<td>Upgrade guard rail, end treatments</td>
<td>Summer 2013/Fall 2013</td>
<td>Total $2.8M</td>
<td>SHOPP</td>
<td>Caltrans</td>
<td>Doug Hessing (KB)</td>
<td>Coral Construction Company, Wilsonville, Oregon</td>
<td>The project began July 9, 2013 and is scheduled to complete early October.</td>
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<td>3</td>
<td>Hwy. 1 Laguna Road Guardrail Upgrade (0M9804)</td>
<td>Hwy. 1, at various locations from 0.9 mile N. of Laguna Rd. to Wadell Creek Br.(PM 26.8-36.3)</td>
<td>Install MBGR and upgrade drainage systems</td>
<td>May 9 -- Fall 2013</td>
<td>$1.6M</td>
<td>SHOPP</td>
<td>Caltrans</td>
<td>Steve DiGrazia (KB)</td>
<td>Dreambuilder, Placentia CA</td>
<td>The project began May 9, 2013 and is scheduled to complete early October.</td>
</tr>
<tr>
<td>4</td>
<td>Hwy. 9 Holiday Lane Improvements (0K2304)</td>
<td>Highway 9 between Ben Lomond and the Highland Co. Park; S. of Holiday Lane (PM 8.4-8.6)</td>
<td>Construct Viaduct, Upgrade guard rail</td>
<td>Summer 2012 -- June 14 2013 with 1 year plant establishment</td>
<td>$1.3 M</td>
<td>SHOPP</td>
<td>Caltrans</td>
<td>Steve DiGrazia (AN)</td>
<td>Pavex Construction Div., Watsonville</td>
<td>Project completed June 14, 2013. One-year plant establishment will complete June 11, 2014.</td>
</tr>
<tr>
<td>5</td>
<td>Hwy. 17 Summit Slide Repair (1A7104)</td>
<td>In Santa Cruz County near Scotts Valley at 0.2 mile north of Glenwood Dr. (PM 11.0)</td>
<td>Construct retaining wall with concrete slab &amp; barrier, HMA pave</td>
<td>Spring 2013-Spring 2015</td>
<td>$2 Million</td>
<td>SHOPP</td>
<td>Caltrans</td>
<td>Steve DiGrazia (BR)</td>
<td>Condon-Johnson &amp; Associates Inc., Oakland</td>
<td>Project began April and scheduled for completion 4/1/2015.</td>
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<tr>
<td>Project</td>
<td>Location</td>
<td>Description</td>
<td>Construction Timeline</td>
<td>Construction Cost</td>
<td>Funding Source</td>
<td>Implementing Agency</td>
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<td>Contractor</td>
<td>Comments</td>
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<tr>
<td>Hwy. 17 Guardrail Upgrade (0L7014)</td>
<td>In Santa Cruz County near Scots Valley at various locations from Santa’s Village Road to the Santa Clara County Line (PM 6.0-12.6)</td>
<td>Upgrade guardrail</td>
<td>Summer 2013-Fall 2014</td>
<td>$10 Million</td>
<td>SHOPP</td>
<td>Caltrans</td>
<td>Steve DiGrazia (BR)</td>
<td>Pavex Construction</td>
<td>Work began on June 14, 2013. Scheduled to complete Fall 2014.</td>
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<tr>
<td>Hwy. 1 Guardrail Upgrade, Concrete Barrier, Retaining Wall (05-0R9104)</td>
<td>Highway 1 from S of South Aptos Underpass to .1 Mi N. of Rt 9 (PM 9.0-17.6)</td>
<td>Upgrade Metal Beam Guard Rail, other improvements</td>
<td>Fall/Winter 2013</td>
<td>$2.3 M</td>
<td>SHOPP</td>
<td>Caltrans</td>
<td>Doug Hessing</td>
<td>PS&amp;E/RW</td>
<td>Bids opened on 8/13/2013. Construction will start in the Fall.</td>
<td></td>
</tr>
</tbody>
</table>
RECOMMENDATIONS

Staff recommends that the Regional Transportation Commission (RTC):
1. Receive the monthly report on construction activities for the Highway 1 Soquel/Morrissey Auxiliary Lanes Project; and,
2. Adopt the attached resolution (Attachment 1) amending the FY 2013-14 budget for the Highway 1 Soquel/Morrissey Auxiliary Lanes Project.

BACKGROUND

On January 5, 2012, the RTC authorized a construction contract for work to begin on the Highway 1 Soquel/Morrissey Auxiliary Lanes project. A Notice to Proceed was issued to the contractor on February 3, 2012, following receipt of performance bonds and insurance certificates.

DISCUSSION

RTC Resident Engineer, Bruce Shewchuk, will present an oral report on current construction activities and will respond to questions. The most dramatic event since the last briefing was the opening of the new La Fonda Avenue Bridge. On Saturday, August 23rd, the official bridge opening followed a community event oriented to pedestrians and bicyclists commemorating completion of the new bridge. The bridge was opened to motorists at approximately 12:30pm following clean up of the community event attended by 400-500 people.

The successful community event included:
- Bicycle Registration by the City of Santa Cruz,
- Musical entertainment by the Capitola String Ensemble Ukulele Band,
- Dori poles and bubble machine provided by the City of Santa Cruz,
- A bridge cake provided by Parsons Brinkerhoff,
- Button making and bicycle and pedestrian safety outreach by Bike to Work and School of Ecology Action, and
- Human-powered spin art provided by People Power.

The RTC’s construction management firm, Parsons Brinckerhoff, contributed funding to defer the cost of the event and provided the necessary electrical power.
As previously discussed, the new bridge has a 6 foot sidewalk and 6 foot bike lane on either side, and two 10 foot travel lanes designed to slow motorists over the bridge and at the entrance and exit of Harbor High School. As part of the bridge work, construction crews graded, formed, and poured new concrete sidewalks on all four sides of the bridge, and worked with PG&E to activate the bridge’s lighting fixtures prior to the opening of the bridge. Coincident with the bridge opening and beginning of the new school year, the construction team met with officials at Harbor High School and updated the lane striping on the upper parking lot of the school to effectively operate with two-way traffic flow across the bridge.

Also during this period work on the soundwalls on the northbound side of the highway were completed, and material and scaffolding removed from the site. Final grading on the northbound slopes is expected to begin in the final week of August. The landscape irrigation work has advanced on the southbound side of the highway and at the Morrissey Boulevard Interchange, including grading of the bioswales and biostrips adjacent to the highway designed to filter storm water runoff from the asphalt travel lanes before entering the area’s underground water supply.

Two significant work items have developed since the last RTC meeting, both of which will have cost implications:

- Caltrans determination that supplemental drainage work will be needed; and,
- The construction contractor recently submitted a cost assessment for the notice of potential claim filed on the project in August 2012 alleging differing site conditions.

**Supplemental Drainage Work**

As reported last month, Caltrans has determined that supplemental drainage work is needed on the northbound side of the highway. An initial drainage line put in to redirect water at the base of the slope to allow construction of the northbound retaining wall was left in place. While this line is functioning, currently capturing 2-3 gallons of water per minute, a modest amount of water continues to drain through the weep holes at the base of the retaining wall in sections near the La Fonda Avenue bridge. Caltrans is concerned that the existing system is difficult to maintain and additional relief may be needed during a heavy rain event or winter season. Retrofitting the wall with supplemental drainage in the future would be costly and disrupt traffic flow once the northbound auxiliary lane is opened to traffic. The supplemental drainage work will also ensure the structural integrity of the wall long into the future.

Since July, different design options have been reviewed with Caltrans, and the contractor subsequently submitted preliminary construction phasing, material needs, cost, and schedule information in mid-August. The work, as proposed, is substantial and will impact the overall project completion date. The construction team is currently investigating means to contain costs and keep the southbound portion of the project on schedule. An update on the project phasing and schedule will be provided at the meeting. The initial cost of this work is discussed below as contract change order (CCO) 18.
Contractor’s Notice of Potential Claim

Early in the excavation phase of the project, the contractor filed a Notice of Potential Claim alleging that actual site conditions differed from those anticipated in review of project documents made available to all contractor’s bidding on the project. The contractor claimed differing site conditions as the reason for needing a more extensive shoring system on the northbound side of the highway than was originally anticipated when bidding the project. Consistent with the contract specifications, the contractor has now submitted a Time Impact Assessment quantifying the claimed extra costs they have incurred, above and beyond their bid price, in the amount of $1,076,250. RTC’s construction engineer is currently reviewing the claim made by the contractor preparatory to advising the RTC on appropriate action.

Construction Financial Status

As of this writing, seventeen contract change orders (CCO’s) have been approved, two of which were approved since the last staff report in August. Pursuant to the policy adopted by the RTC prior to the beginning of the project, following is a brief summary of the recently approved CCO’s and their cost:

**CCO 17 – Cost $66,500**
This CCO is comprised of 5 separate elements related to drainage on the project encountered at various locations over a period of time. Four of the five elements are related to drainage from properties on Oak Way in coordination with construction of the soundwall on the northbound side of the highway. Conflicts were discovered with underground utilities and drainage lines installed by property owners on Oak Way that required the redesign or extension of drainage lines serving the project. While individually the changes in this CCO were not substantial, ranging from $6,500 to almost $20,000 each, collectively the total amount was greater than $50,000 requiring the Executive Director to consult with the RTC Chair before approving the item.

**CCO 18 – Cost $300,000**
This CCO is related to the supplemental drainage work behind the northbound retaining wall required by Caltrans and discussed above. This CCO was intended to allow work to begin as soon as possible to minimize delay and additional costs to the project while details of the work are further developed and evaluated. Authorization for approval of this CCO was provided by the CCO Ad-Hoc Committee (comprised of RTC Commissioners Coonerty, Montesino, Bustichi, and Friend) which met on August 14th (Commissioner Friend was unable to attend due to jury duty). Additional costs will be necessary to complete the supplemental drainage work as well as ancillary CCOs if determined appropriate to complete the paving on the southbound side of the project. Staff will provide an update at the meeting.
The cost of the seventeen CCO’s approved to date is $764,542. Funding for 3 of these CCO’s, in the amount of $108,000, is provided in the project’s Supplemental Budget for the Traffic Management Program and does not count against the contract contingency of $993,864. The drawdown of the remaining construction related CCO’s is $656,542 leaving a construction contingency balance of $337,322.

Through 18 months of construction activity, the approved progress payments total $8,386,244 or approximately 76% of the approved construction budget. The progress payment for the current period is still under review by the resident construction engineer and will be reported at the next meeting.

Following is the current contract cost accounting:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Updated Contract Amount</td>
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<tr>
<td>Contingency Balance</td>
<td>$337,322</td>
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<td>Approved Contract Budget</td>
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<tr>
<td>Progress Payments To Date</td>
<td>$8,386,244</td>
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<tr>
<td>Remaining Contract Budget</td>
<td>$2,654,259</td>
</tr>
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</table>

Additional CCO’s are anticipated in the coming weeks, including: the balance of funding needed to complete the supplemental drainage work behind the northbound retaining wall; lighting modifications for the La Fonda Avenue Overcrossing; bridge mounted directional signs; and, irrigation and planting material. As previously mentioned, the RTC approved a set of policies for contract change orders prior to the start of construction and established a contract change orders ad-hoc committee currently comprised of the four commissioners listed above. The ad-hoc committee has met once to authorize approval of the CCO allowing work to begin on the supplemental drainage effort behind the northbound retaining wall and it may be necessary to reconvene the committee in the event there are additional CCOs greater than $100,000.

**Budget Amendment**

A budget amendment is necessary to carryover remaining funds from FY 2012-13 to FY 2013-14 and to redistribute some of those remaining funds among some of the project’s budget lines. The budget amendment will allow for a contract amendment with Parsons Brinkerhoff (PB) for construction management services. The term of the contract will expire at the end of September and the additional construction work requires additional work from the construction management firm. While PB has taken steps to reduce staff costs through the extended duration of the project, additional costs have been incurred in material testing services, and in review of geology test results and field inspections by a second party to bolster the documentation and defense against the contractor’s claim of differing site conditions on the northbound side of the highway. The contract amendment would add $304,000 and extend services through January 2014, to allow completion of construction management services, negotiation and settlement of the contractor’s claim, and close out of construction documentation and acceptance of the project improvements by Caltrans.
Funding is available for this amendment to the FY 2013-14 budget for the Highway 1 Auxiliary Lane project from the Supplemental Construction Activity line item. Therefore, staff recommends that the RTC adopt the attached resolution (Attachment 1) amending the FY 2013-14 budget for the Highway 1 Soquel/Morrissey Auxiliary Lanes Project.

SUMMARY

The new La Fonda Avenue Bridge and overcrossing of Highway 1 was opened on Saturday, August 24th, following a community event attended by 400-500 people. Also during this period work on the soundwall on the northbound side of the highway was completed and landscape irrigation work advanced on the southbound side of the highway and at the Morrissey Boulevard Interchange. Supplemental drainage work on the northbound side of the highway, first reported last month, has been determined necessary to ensure the long term structural integrity of the retaining wall and avoid more costly repair work and disruption of traffic in the future. Following review of design options, the Contract Change Order (CCO) Ad-Hoc subcommittee, met on August 14th to approve a CCO 18 in the amount of $300,000 to begin the work. Additional costs will be incurred to complete the drainage work. The construction team is currently investigating a means to keep the southbound portion of the project on schedule. An update of the project phasing plan and schedule will be provided at the meeting.

Attachments:

1. Resolution approving an amendment to the FY 2013-14 budget for the Highway 1 Soquel/Morrissey Auxiliary Lanes Project.

S:\RTC\TC2013\TC0913\Hwy1AuxLane\StaffReport-130905.docx
RESOLUTION NO.

Adopted by the Santa Cruz County Regional Transportation Commission
on the date of September 5, 2013
on the motion of Commissioner
duly seconded by Commissioner

A RESOLUTION AMENDING THE FY 2013-14 BUDGET
FOR THE HIGHWAY 1 SOQUEL/MORRISSEY AUXILIARY Lanes PROJECT

WHEREAS, it is necessary to carryover remaining funds from FY 2012-13 to FY 2013-14 and to redistribute some of those remaining funds among some of the project’s budget lines to meet current and anticipated project costs through the completion of the project;

THEREFORE, BE IT RESOLVED BY THE SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION:

1. The FY 2013-14 Budget for the Santa Cruz County Regional Transportation Commission is hereby amended as shown in Exhibit A.

AYES: COMMISSIONERS

NOES: COMMISSIONERS

ABSTAIN: COMMISSIONERS

ABSENT: COMMISSIONERS

____________________________
Neal Coonerty, Chair

ATTEST:

____________________________
George Dondero, Secretary

Attachments: Exhibit A - SCCRTC FY 2013-14 Budget as amended
Distribution: RTC Fiscal
RTC Project Manager

\Rtcserv2\shared\RESOLUTI\2013\RES0913\AuxLane-BudgetAmendment-FY13-14.doc
## SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
### HIGHWAY 1 CONSTRUCTION
#### FY 2013-2014 BUDGET

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<th>WORK ELEMENT #683</th>
<th>FY13-14 APPROVED 8/15/13</th>
<th>FY13-14 PROPOSED 9/5/13</th>
<th>DIFFERENCE</th>
<th>NOTE</th>
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<tr>
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<th>EXPENDITURES:</th>
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<td>10 Salaries and Benefits</td>
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### Hwy 1 Morrissey-Soquel Aux Lane Construction:

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<td><strong>0</strong></td>
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<td><strong>TOTAL EXPENDITURES</strong></td>
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<td><strong>4,766,065</strong></td>
<td><strong>2,456,065</strong></td>
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AGENDA: September 5, 2013

TO: Regional Transportation Commission (RTC)
FROM: Rachel Moriconi, Senior Transportation Planner
RE: Regional Transportation Improvement Program

RECOMMENDATIONS

Staff recommends that the Regional Transportation Commission (RTC):
1. Issue a call for projects for up to $5.5 million in projected FY17/18 and FY18/19 State Transportation Improvement Program (STIP) and $2.5 million in projected FY13/14 Regional Surface Transportation Program (RSTP) funds; and
2. Issue a call for Monterey Bay Sanctuary Scenic Trail Network (MBSST) projects to receive approximately $5.3 million in federal earmarks and STIP funds previously programmed for the MBSST.

BACKGROUND

The Santa Cruz County Regional Transportation Commission (RTC) is responsible for selecting projects to receive a variety of state and federal funds. Those include State Transportation Improvement Program (STIP) and Regional Surface Transportation Program (RSTP) funds. Projects selected to receive those funds are programmed in the RTC's Regional Transportation Improvement Program (RTIP) and amended into the Federal Transportation Improvement Program (FTIP), where appropriate. The California Transportation Commission (CTC) makes the final determination on which projects are programmed to receive STIP funds, as well as in what year they are programmed. The CTC adopted the Fund Estimate and Guidelines for the 2014 State Transportation Improvement Program (STIP) on August 6, 2013. The RTC's proposal for STIP funds is due to the CTC by December 15, 2013. The region’s share of Regional Surface Transportation Program (RSTP) funds is determined based on California implementation of the federal transportation act, Moving Ahead for Progress in the 21st Century (MAP-21.)

DISCUSSION

As part of development of the Regional Transportation Improvement Program (RTIP), the RTC considers how much new funding to program, determines a process for programming those funds, and selects projects to receive those funds following a public hearing. The RTC is also required to consider state highway and intercity rail needs identified by Caltrans. As part of RTIP adoption, the RTC also considers proposals to modify the cost, scope, schedule, and other information on projects previously approved for funding.

Available STIP Funds: $5.5 Million
Based on the 2014 STIP Fund Estimate, the Santa Cruz County region’s 2014 STIP programming target is $5,534,000 through FY18/19. That amount includes $461,000 in new funds available FY16/17 to FY18/19 for state and federally-mandated planning, programming, and monitoring (PPM).
Projected 2014 STIP funds are lower than in prior cycles due to the following:
- Proposition 1B transportation bonds (included in the STIP since 2006) have been expended,
- The federal Transportation Enhancement program (TE) was eliminated in the federal MAP-21 legislation, and
- Public Transportation Account (PTA) funds no longer flow through the STIP.

The STIP is now primarily funded from the balance of per gallon excise taxes on gasoline that are not designated in the CTC Fund Estimate for Caltrans operations, maintenance, and the State Highway Operation and Protection Program (SHOPP).

Available RSTP Funds: $2.5 Million
Staff recommends that the RTC program $2.5 million in FY14 Regional Surface Transportation Program (RSTP) funds as part of this call for projects. In addition to these funds, the County of Santa Cruz receives $224,813 of the region’s share of RSTP funds directly each year, as set forth in state statute. Unlike STIP funds, programming decisions for RSTP funds are not subject to CTC approval. RSTP are federal funds which our region is given the option to later exchange for state funds; however project eligibility is subject to federal rules.

Monterey Bay Sanctuary Scenic Trail Network (MBSST) Funds: $5.3 million
Approximately, $3.5 million in federal earmark funds, secured by Congressman Farr, and $1.8 million in STIP funds previously programmed by the RTC are available for the MBSST. With the master plan for the MBSST scheduled for adoption in November 2013, it is timely to consider proposals for constructing specific sections of the trail. It is more efficient to include these funds in an existing call for projects than to schedule an additional call for projects later. There is a minimum 20% non-federal match required for the federal earmark funds.

Call for Projects
Staff recommends that the RTC issue a call for projects for up to $5.5 million in STIP and $2.5 million in RSTP funds, as well as issue a call for projects for approximately $5.3 million in projects that implement the Monterey Bay Sanctuary Scenic Trail Network (MBSST) Master Plan.

The RTC is likely to receive proposals for new projects, as well as proposals to modify the scope, schedule, and funding for several projects previously approved by the RTC. This includes the Highway 1/Harkins Slough Road Interchange Project, initially programmed to receive STIP funds in 1998, for which the City of Watsonville and Caltrans have been re-evaluating the purpose, need and scope. RTC staff plans to also evaluate and make recommendations regarding several RTC projects, including: the construction phase of the 41st Avenue/Soquel Drive Auxiliary Lanes-Chanticleer Bike/Pedestrian Crossing Project, rail infrastructure, the Highway 1 Corridor environmental document, STIP-eligible state and federally-mandated RTC planning, programming and monitoring activities (PPM), and the Freeway Service Patrol (FSP) program.

The RTC also has the option to keep the STIP and RSTP funds in reserve to address future funding needs for larger projects. The RTC could also issue separate calls for projects for each funding source, but it would require more staff resources to go through the same process several times.

Eligible Projects and Project Evaluation
RSTP funds can be used on a variety of projects, as outlined in the federal transportation act. These include: highway, local street and road, transit and paratransit capital, bicycle, pedestrian,
carpool, safety, and bridge projects. Cities, the County of Santa Cruz, the Regional Transportation Commission (RTC), University of California Santa Cruz (UCSC), Santa Cruz Metro, Caltrans, and non-profit agencies (with public agency sponsorship) are among those eligible to apply for the funds.

As outlined in the CTC's 2014 STIP Guidelines, due to the source of funds that now make up the STIP, projects need to be eligible to receive funds from the State Highway Account. These include capital projects which improve State highways, local roads, public mass transit guideways, pedestrian and bicycle facilities, grade separations, transportation system management, transportation demand management, soundwalls, intermodal facilities, and safety. Non-capital costs for transportation system management or transportation demand management may be included where the regional agency finds the project to be a cost-effective substitute for capital expenditures. Other non-capital projects (e.g. road and transit maintenance) are not eligible. Rail rolling stock and buses may be funded only from the Federal revenues in the STIP.

For the 2014 STIP, the CTC has indicated its intent to focus on RTIP proposals that meet state highway improvement and intercity rail needs that have been identified by Caltrans. Regions that do not propose improvements to those facilities identified by Caltrans are required to include in its RTIP a comparison of the projects in its RTIP and the state highway and intercity rail improvement needs identified by Caltrans, including a discussion of significant differences. Caltrans' list of needs is due to regions by September 13, 2013. At the October RTC meeting, staff will report on Caltrans District 5's list of short-term highway funding needs, as well as updates on cost, schedule, and scope for projects previously programmed to receive State Transportation Improvement Program (STIP) and Regional Surface Transportation Program (RSTP) funds.

It is possible that if the RTC should submit to the CTC an RTIP seeking STIP funds for local road projects, CTC staff may recommend rejection of the RTIP. The instances in which the CTC has voted to program STIP funds to local road repair and rehabilitation projects are rare. Should the CTC reject the proposed RTIP, then Santa Cruz County's share of STIP funds may not be available until the later years of the 2016 STIP (FY19/20 and FY20/21).

Evaluation Criteria
Given the large backlog of transportation needs in the region and the very limited amount of funding available for transportation projects, it is important to ensure that funds are used cost effectively to improve the region's transportation system. Congress, the State Legislature, and the CTC increasingly require state agencies, federal agencies, and regions to set performance measures and criteria to evaluate projects and determine funding priorities. While specific criteria are still under development at the state and federal level, regions are required to indicate how the RTIP is consistent with the goals established in the Regional Transportation Plan (RTP).

Therefore, several factors will be considered when evaluating projects, including consideration of how projects address the goals, policies, and targets developed by the RTC for the Regional Transportation Plan (RTP) update, as well as California Transportation Commission (CTC) and federal guidelines. These include an evaluation of the following factors:

1. Number of people served
2. Safety (reduce collisions)
3. Access for all modes, especially to and within key destinations (increase travel options, reduce number or distance of trips)
4. Air pollution, greenhouse gas emissions and fuel consumption
5. Change in vehicle miles traveled
6. Change in reliability, frequency, and efficiency of transit
7. Change in travel time reliability and efficiency of the transportation system
8. Preservation of existing infrastructure or services
9. Change in passenger, freight and goods miles carried
10. Change in disparities in safety and access for people who are transportation disadvantaged due to age, income, disability or minority status
11. If projects are shown as “constrained” on the draft RTP Project List, approved by the RTC August 15, 2013, which will implement the Sustainable Communities Strategy (SCS) currently under development by AMBAG.
12. Consistency with the Complete Streets Guidelines, scheduled for approval at the September 5, 2013 RTC meeting.
13. Deliverability (if there are barriers to the schedule)
14. Funding (if all other funding is secured and amount of match)

**Proposed Process for the 2014 RTIP**

RTC formal action to adopt the 2014 RTIP to program funds will occur following a noticed public hearing, scheduled for the December 2013.

The schedule for the 2014 RTIP development is as follows:

- August 6, 2013: CTC adopts STIP Fund Estimate and Guidelines
- September 5, 2013: RTC issues call for projects
- By September 13, 2013: Caltrans submits State highway and intercity rail needs
- September 20, 2013: Status updates on previously programmed projects due from project sponsors
- October 2013: RTC receives report on Caltrans identified highway needs and status of previously programmed projects
- October 11, 2013: Applications/proposals for STIP, RSTP, and MBSST-funds and amendment requests for previously approved projects due from project sponsors
- October/November 2013: Committees review proposals, make recommendations
- December 5, 2013: Public hearing, RTC adoption and submittal of the 2014 RTIP proposal for STIP funds to CTC *(due to CTC by December 15, 2013)*
- January 30, 2014: CTC STIP Hearing on RTIP proposals
- February 28, 2014: CTC publishes CTC Staff Recommendations for STIP funds
- March 20, 2014: CTC adopts 2014 STIP
- April/May 2014: RTC amends RTIP if needed to reflect CTC actions

**SUMMARY**

Every other year the RTC prepares a Regional Transportation Improvement Program (RTIP) which proposes projects to receive various state and federal funds. Staff recommends that the RTC issue a call for projects for $5.34 million in STIP funds available for programming in Santa Cruz County through FY18/19, $2.5 million in FY13/14 Regional Surface Transportation Program (RSTP) funds, and $5.3 million in projects to implement portions of the Monterey Bay Sanctuary Scenic Trail Network (MBSST). A public hearing will be held in December to take final actions to program the funds.
TO:    Regional Transportation Commission
FROM:  Grace Blakeslee, Transportation Planner
RE:    Monterey Bay Area Complete Streets Guidebook

RECOMMENDATIONS

The Interagency Technical Advisory Committee, the Bicycle Committee, the Elderly and Disabled Transportation Advisory Committee and Regional Transportation Commission (RTC) staff recommend that the Regional Transportation Commission adopt the Monterey Bay Area Complete Streets Guidebook (Attachment 1).

BACKGROUND

A complete streets analysis is part of the development of the 2014 Santa Cruz County Regional Transportation Plan and Association of Monterey Bay Area Governments (AMBAG) sustainable communities strategy. The complete streets analysis consists of both a needs assessment and development of complete streets guidelines. The Monterey Bay Area Complete Streets Guidebook has been developed as a collaborative effort between the Santa Cruz County Regional Transportation Commission, Transportation Agency for Monterey County, and the Council of San Benito County Governments, in coordination with the Association of Monterey Bay Area Governments.

DISCUSSION

Draft Complete Streets Guidebook

The Monterey Bay Area Complete Streets Guidebook (Attachment 1) provides resources for transitioning auto oriented streets to streets that meet the needs of all users including non-drivers of all ages and abilities. The recommendations in the Guidebook seek to ensure that streets provide for the safety and comfort of all users to the greatest extent possible. The strategies articulated in the Guidebook will be incorporated into the region’s sustainable communities strategy.

Although great strides have been made by local jurisdictions across the Monterey Bay Area to provide adequate facilities for all roadway users, many streets are not “complete” in the Monterey Bay Area due to lack of sufficient bicycle and pedestrian facilities. In recognizing that roadways have primarily been designed to serve the automobile, the Guidebook addresses bicycle and pedestrian access as an essential design objective. The Guidebook is intended to inform projects that enhance
existing streets, as well the design of new streets. Incorporating the recommended policies and design principles into local practice in a consistent manner has been found to enhance the walkability of neighborhoods and streets over time.

The Guidebook contains sample policies and engineering best practices that can be adopted by local jurisdictions to comply with California Complete Streets Legislation (AB 1358). Various complete street types are identified and defined in the Guidebook, along with sample cross-sections, associated land uses and suggested roadway user prioritization. Another key component of the Guidebook is a complete streets project review and design checklist (located in the Appendix). The checklist is a tool that can be used in planning and public works departments to identify opportunities to incorporate complete streets features and document constraints or exemptions.

Unlike many guidebooks, which may be more prescriptive, the Monterey Bay Area Complete Streets Guidebook places greater emphasis on process and the importance of understanding the trade-offs between prioritizing various roadway users’ needs. The tools provided in the Guidebook are intended to support a transparent discussion of trade-offs and encourage evaluation of design alternatives that may reveal opportunities for more complete streets.

**Process for Developing the Complete Streets Guidebook**

The Monterey Bay Area Complete Streets Guidebook builds on best practices from across the nation. The policies, processes and design treatments included in the Guidebook have been vetted, and refined by planners, advocates and policy makers both nationally as part of similar efforts, and locally as part of the development of the Guidebook. RTC staff has worked closely with RTC committees on development of the Guidebook to ensure the content is comprehensive, appropriate for local conditions and complimentary to local practices. RTC staff will continue to work with local jurisdictions and stakeholders to improve the Guidebook to reflect local needs and priorities.

**Adoption**

The Monterey Bay Area Complete Streets Guidebook is designed to be adopted in full or in part by local jurisdictions and regional agencies to guide the planning and design of streets. Adoption of the Guidebook represents the agency’s commitment to incorporate complete streets in policy, project evaluation, design, implementation, training, and public involvement.

It is recommended that local and regional agencies that adopt or use the Guidebook should:

- Review their approach to street design through all stages of the process, from advanced planning through preliminary design and construction;
- Update existing design manuals and training materials to address complete streets concepts;
• Incorporate a comprehensive range of policies which address complete streets in the general or regional plan;
• Support training for planners and engineers in complete street concepts and design considerations; and
• Seek ongoing public input from the community.

The Interagency Technical Advisory Committee, Bicycle Committee, the Elderly and Disabled Transportation Advisory Committee and RTC staff recommend that the Regional Transportation Commission adopt the Monterey Bay Area Complete Streets Guidebook (Attachment 1).

By adopting the Monterey Bay Area Complete Streets Guidebook, the RTC will use the Guidebook as a resource to:

• Review transportation planning goals to ensure policies address complete streets;
• Incorporate a planning process that supports inclusion of perspectives of all stakeholders affected by existing or future streets;
• Consider complete street design elements in project design;
• Support integration of land use and transportation elements to reduce vehicle miles traveled; and
• Support training for addressing complete streets concepts locally.

Next Steps

• September - RTC considers adoption of the Guidebook
• September - AMBAG considers adoption of the Guidebook and incorporation into the Sustainable Communities Strategy
• Fall/Winter - RTC staff works with project sponsors to provide complete street training opportunities which support implementation of the Guidebook by local jurisdictions
• Ongoing - RTC staff works with local jurisdictions to consider adoption of the Guidebook, in full or in part, to support implementation of complete streets
• Ongoing - Revise Guidebook to incorporate new information as appropriate

SUMMARY

The Monterey Bay Area Complete Streets Guidebook is being developed as a collaborative effort between the Santa Cruz County Regional Transportation Commission, Transportation Agency for Monterey County, and the Council of San Benito County Governments, in coordination with the Association of Monterey Bay Area Governments. The Monterey Bay Area Complete Streets Guidebook identifies strategies for transitioning auto-oriented streets into complete streets and provides guidance for incorporating complete streets policies into circulation elements of local jurisdictions’ general plans as required by AB1358. The Monterey Bay Area
Complete Streets Guidebook is designed to be adopted in whole or in part by local and regional agencies.

Attachments
Attachment 1: Monterey Bay Area Complete Streets Guidebook
ACKNOWLEDGEMENTS

PARTNER AGENCIES

FUNDING

This project was funded by a grant from the California Strategic Growth Council and administered by the Association of Monterey Bay Area Governments.

ADVISORY COMMITTEES

**Monterey County**
- Technical Advisory Committee
- Bicycle & Pedestrian Facilities Advisory Committee

**Santa Cruz County**
- Interagency Technical Advisory Committee
- Bicycle Committee
- Elderly & Disabled Transportation Advisory Committee

**San Benito County**
- Technical Advisory Committee
- Bicycle & Pedestrian Advisory Committee
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People are the lifeblood of a community, and streets are its veins and arteries. Streets are vital to daily travel, economic exchange and maintaining an acceptable quality of life. Streets connect people to important destinations and serve as destinations themselves, as places to walk with friends, ride a bicycle, view public art, or enjoy the local farmers market. Although for many years streets have primarily been designed to serve automobile traffic, they are public places to be used by all people including non-drivers.

Local and State transportation policy has evolved from planning and designing almost exclusively for the movement of cars, to an increasing focus on the movement of people and goods. Complete streets policy and design embodies this paradigm shift by recognizing that (1) not all people travel by car, and (2) land use affects who uses the street and how that street should function.

The Monterey Bay Area Complete Streets Guidebook builds upon best practices from across the nation and was developed to assist local jurisdictions in planning, designing and implementing complete streets projects. Tools such as talking points to engage decision-makers and community members and a project review checklist are included in the Guidebook and technical Appendix. The policies, processes and design treatments included in the Guidebook have been vetted, and refined by experts, planners, advocates and policy makers nationally and locally. The materials included in the Monterey Bay Area Complete Streets Guidebook builds on similar reports such as the Charlotte Department of Transportation Urban Design Guidelines, the Manual for Living Streets developed by the County of Los Angeles, the Smart Growth America Best Complete Streets Policy, and the Caltrans Complete Streets Action Plan. The contents of the Guidebook are summarized in the following sections.

Draft Monterey Bay Area Complete Streets Guidebook (August 2013)
CHAPTER 1: GENERAL PLAN VISION, GOALS & POLICIES
This chapter of the Guidebook provides suggestions as to how communities can meet requirements of the Complete Streets Act (AB 1358) by incorporating complete streets policies into their general plans. Sample vision statements are provided in the chapter and complete street general plan policies can be found in Appendix B.

CHAPTER 2: COMPLETE STREET PERFORMANCE MEASURES
Performance measures indicate how well a street functions and meets the needs of all applicable users. Performance measures can also evaluate the effects of a policy or project on the performance of the system and to assess whether it has achieved its goal. The Guidebook provides a discussion of the 2010 Highway Capacity Manual methodology for calculating multimodal level of service as well as more qualitative performance measures.

CHAPTER 3: COMPLETE STREETS ACTION PLAN
The Action Plan of the Guidebook outlines strategies for coordinating intra-agency tasks to better integrate complete streets into the transportation design processes. A key component of the Action Plan involves providing complete streets design training to planners, civil and traffic engineers, project managers, plan review personnel, inspectors and other personnel responsible for design and construction of streets. A sample Action Plan is included as Appendix D to the Guidebook, and integrates complete streets into every step of community development in a way that can be tailored to the needs of each jurisdiction.

CHAPTER 4: COMPLETE STREETS TYPES
This chapter provides information to agency decision-makers on how to match the appropriate complete streets features to adjacent land uses and roadway users. This chapter introduces complete street types and a discussion of roadway user needs and design solutions.
CHAPTER 5: COMPLETE STREETS DESIGN
This chapter provides best practices examples of street features to be considered when designing and engineering complete streets. Example cross-sections are included and organized by complete street type and by user zones. Additional bicycle facility treatments are shown in Appendix K.

Conceptual Cross-Section
CHAPTER 6: IMPLEMENTING COMPLETE STREETS PROJECTS
The Guidebook outlines a 6-Step Process for implementing complete streets that involves defining the existing land use and transportation context, identifying deficiencies and goals for the future, determining the appropriate complete street type, considering alternative designs, and balancing the trade-offs between modes. Questions for each step of the process are included in Appendix I. The Project Review Checklist in Appendix H of the Guidebook can be used to follow these 6-steps. The Checklist may be adopted by local jurisdictions to reveal opportunities for complete streets projects and document how the needs of all users were considered.

CHAPTER 7:TRANSITIONING TO COMPLETE STREETS
Frequently, the last steps in implementing complete streets are the most difficult, which involves enacting requirements and regulations and compiling funding to enable the development of complete streets improvements. Specific tools and strategies for addressing these challenges are described in this chapter.

CHAPTER 8: EDUCATION, ENCOURAGEMENT & ENFORCEMENT PROGRAMS
Education, encouragement, and enforcement programs complement complete street infrastructure and can play an important role in achieving community goals such as health and safety. This chapter identifies local education, encouragement and enforcement strategies.

CHAPTER 9: TALKING ABOUT COMPLETE STREETS
Complete streets are roadways designed and operated to enable safe access for all users. However, the meaning of complete street may vary between communities, applications or individuals. This chapter is intended to serve as a resource for professionals, decision makers and the public who are interested in discussing and educating others about complete streets concepts.
PURPOSE

The Monterey Bay Area Complete Streets Guidebook provides resources and procedures for developing streets in the Monterey Bay Area that meet the needs of all users including non-drivers of all ages and abilities. Although great strides have been made by local jurisdictions across the Monterey Bay Area to provide adequate facilities for all roadway users, many streets are not “complete” in the Monterey Bay Area due to lack of sufficient bicycle and pedestrian facilities. In recognizing that roadways have primarily been designed to serve the automobile, the Monterey Bay Area Complete Streets Guidebook highlights bicycle and pedestrian access as an essential design objective.

The policy guidance and recommendations herein may be adopted by jurisdictions to address the following:

- Ensure future changes to roadways function well for all roadway users;
- Pursuant to the Strategic Growth Council grant, meet Sustainable Communities Strategies requirements in state law;
- Comply with California Complete Streets legislation (AB 1358);
- Adopt a planning process in which all roadway users considered;
- Reduce vehicle miles traveled and reach regional greenhouse gas targets pursuant to California law (SB 375); and
- Achieve objectives identified in local Climate Action Plans.

Unlike many guidebooks, which may be more prescriptive, the Monterey Bay Area Complete Streets Guidebook places greater emphasis on process and the importance of understanding the trade-offs between different design considerations. Balancing the needs of all roadway users can be challenging in the Monterey Bay Area, where right-of-way and funding is limited. The planning processes recommended by this guidebook seek to ensure that the resulting streets provide for the safety and comfort of all users to the greatest extent possible.
Goals of the Complete Streets Guidebook

- Provide tools for transitioning streets to complete streets
- Improve safety, especially for the most vulnerable users
- Facilitate understanding the impacts on communities of implementing complete streets policies
- Identify types of improvements needed to accommodate growth and address congestion in areas of compact development
- Better integrate land use and transportation to reduce vehicle miles traveled
- Establish a collaborative process for integrating planning and designing streets
- Serve as a resource for implementing the California Complete Streets Act (AB1358)
HOW TO USE THE GUIDEBOOK

Interested parties may use the Guidebook in whole or in part to address the following:

- Practice six steps to successfully implementing Complete Streets: addressing complete streets from planning and design to implementation (Chapter 6: Projects and Implementation)
- Incorporate Complete Streets into community plans (Chapter 1: Vision, Goals and Policy)
- Measure the effectiveness of complete streets policy (Chapter 2: Performance Measures & Targets)
- Provide a context for how Complete Streets can affect current systems and procedures (Chapter 3: Complete Streets Action Plan)
- Develop projects based on land use context and street functional classifications (Chapter 4: Complete Street Types)
- Design treatments for complete streets (Chapter 5: Design Treatments)
- Become familiar with tools for transitioning to complete streets (Chapter 7: Transitioning to Complete Streets)
- Learn about programs that enhance or are improved by complete streets projects (Chapter 8: Education, Enforcement and Encouragement)
- Communicate the benefits of complete streets and engage the community (Chapter 9: Talking about Complete Streets)
ADOPTION

This guidebook is suitable for full or partial adoption by local jurisdictions and regional agencies to guide the planning and design of streets. Adoption of this guidebook represents an agency’s commitment to incorporate complete streets into policy, project evaluation, design, implementation, training, and public involvement. Jurisdictions may also adopt a complete streets ordinance or resolution that references the Monterey Bay Area Complete Streets Guidebook.

It is recommended that local and regional agencies that adopt or use this guidebook should:

- Review their approach to street design through all stages of the process, from advanced planning through preliminary design and construction;
- Update existing design manuals and training materials to address complete streets concepts;
- Incorporate a comprehensive range of policies which address complete streets in the general plan or regional plan;
- Support training for planners and engineers in complete street concepts and design considerations; and
- Seek ongoing public input from the community.

Adoption of the guidebook, in whole or in part, is a necessary first step in ensuring complete streets are consistently developed in the Monterey Bay Area. Agencies may have to take additional steps and modify their internal processes in order to fully and successfully implement the guidebook. Tools to assist local jurisdictions in these tasks can be found throughout the Monterey Bay Area Complete Streets Guidebook.
BACKGROUND

The Monterey Bay Area Complete Streets Guidebook was developed to address complete streets on local and regional scales. In 2011, the Association of Monterey Bay Area Governments (AMBAG), which serves as the Metropolitan Planning Organization for the three county region of Monterey, Santa Cruz and San Benito Counties, in coordination with the three Regional Transportation Planning Agencies (RTPAs) in each county, received a grant from the Strategic Growth Council to conduct a complete streets needs assessment and develop a complete streets guidebook specific to the Monterey Bay Area. In addition to addressing regional complete streets issues, the Guidebook is a tool to help jurisdictions meet State complete streets requirements. The California Complete Streets Act (AB 1358), passed in 2008, requires that any major revision of a jurisdiction’s General Plan include modification to the circulation element to “plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads and highways” (California Government Code section 65302(b)(2)). Several jurisdictions in Santa Cruz, Monterey and San Benito Counties currently meet this requirement but many do not.

The Monterey Bay Area Complete Streets Guidebook will benefit the entire region by encouraging bicycle, pedestrian and transit usage. The Metropolitan Transportation Plan (MTP) is prepared by AMBAG in cooperation with the RTPAs to plan for the long-range transportation needs of the region over the next 25 years. Pursuant to California Senate Bill 375, the MTP incorporates a Sustainable Communities Strategy and a transportation and land use strategy that will achieve regional greenhouse gas emissions reduction targets established by California Air Resources Board. The regional targets are: a 0% increase in greenhouse gas emissions by 2020 and a 5% reduction from 2005 greenhouse gas levels by 2035. Implementation of complete streets projects will contribute to reductions in greenhouse gas emissions by providing safe, convenient alternatives to driving.

The Monterey Bay Area Complete Streets Guidebook builds on best practices from across the nation. The policies, processes and design treatments included in the Monterey Bay Area Complete Streets Guidebook have been vetted, refined, and approved by experts, planners, advocates and policy makers nationally and locally. The materials included in the Monterey Bay Area Complete Streets Guidebook include references from similar documents such as the Charlotte Department of Transportation Urban Design Guidelines, the Manual for Living Streets developed by the County of Los Angeles, the Smart Growth America Best Complete Streets Policy, and Caltrans Complete Streets Action Plan.
Complete streets are being incorporated into every level of transportation planning in the Monterey Bay Area from the Metropolitan Transportation Plan and Regional Transportation Plans to local plans and projects.
WHAT ARE COMPLETE STREETS?

Complete streets are roadways designed to safely and comfortably accommodate all users, including, but not limited to motorists, cyclists, pedestrians, transit and school bus riders, delivery and service personnel, freight haulers, and emergency responders. Complete streets accommodate people of all ages and abilities. Complete streets expand transportation choices by making walking, bicycling, and public transportation more convenient and safe. This includes consideration of varying levels of tolerance for traffic stress when choosing a transportation mode, particularly as it relates to bicycling.

The Monterey Bay Area Complete Streets Guidebook does not prescribe “one size fits all”. Complete streets facilities should look different depending on the surrounding land use context and user needs. Each street in a complete streets network is designed to provide safe accommodation for the various intended users. This does not mean all streets must be designed to equally support all users. Instead, a diverse palette of street design options that consider the location, land uses, and multimodal transportation volumes should be considered.
WHY COMPLETE STREETS?

More and more complete streets are being developed across California as decision-makers realize the value they add to their communities. Complete Streets projects address user needs across multiple modes, and provide numerous individual and community-wide benefits; although trade-offs between modes are often required in areas where there are right of way and funding constraints.

Improving access to goods and services has long been an important transportation goal and has guided transportation policy, facility design and measures of success. Historically the focus has been on accessibility for motorists to goods and services. Concentrating all efforts on one mode of transportation meets the needs of only a portion of roadway users. Complete streets can more fully improve a transportation network by increasing accessibility and mobility for non-motorized modes and addressing trade-offs between modes.
User Needs

The need for diverse transportation systems has existed among non-drivers for many years. In recent years there has been an increasing demand for alternatives to the automobile from individuals who historically have chosen to drive. Young people in particular are opting to ride the bus, bicycle and walk in greater numbers and fewer young people have driver’s licenses or own automobiles than previous generations.

The number of older, low-income and disabled non-drivers is also increasing, as is the need for alternative ways to get around. An aging population may mean higher demand for public transit and in particular, paratransit. Restructuring existing transportation systems to address special needs can benefit not only the users of the system but also the service provider. Monterey-Salinas Transit, for example, has started a senior shuttle service in the Carmel Valley Area to begin meeting this new demand. The smaller senior shuttle vehicles allow for increased route flexibility and lower fuel demand, which benefits both transit riders and Monterey-Salinas Transit.

Today, the majority of Monterey Bay Area residents use an automobile as their primary mode of transport. Congestion and safety are the two greatest concerns of automobile drivers. Like other transportation investments, complete streets may impact local automobile congestion, automobile access, traffic patterns in neighborhoods, and parking. Potential impacts are dependent on the local context, application and design timeframe.
Cost-Effectiveness

Complete streets can be affordable to users and implementing agencies. The cost of transportation is increasing relative to fuel prices. For many American households the cost of car ownership is the second largest monthly expense after housing. Households that are dependent upon daily automobile use spend more income on transportation and have less disposable income (See Figure 0-1). Rising transportation expenses have a negative effect on the local economy and particularly on low income individuals with limited mobility many of whom are seniors and those under eighteen. In the face of rising automotive transportation costs, complete streets provide more affordable transportation options such as riding the bus, bicycling and walking.

Figure 0-1: U.S. Department of Transportation
When it comes to implementing complete streets, jurisdictions can incorporate complete streets elements into currently planned projects by incorporating them in the early design stage. A cost-effective way to develop complete streets projects is to re-evaluate pending roadway projects and identify opportunities to accommodate additional users within the existing right-or-way.

For example, a standard resurfacing/restriping project could be modified to undergo a road diet or provide striping for bicycles at intersections. A road diet reduces the number of travel lanes, typically from four to two and adds a center left-turn lane and bicycle lanes or bicycle lanes and a sidewalk (Figure 0-2). Striping bicycle lanes at intersections dedicates space and indicates where the bicyclist should position themselves in order to cross more safely. These types of project can benefit all users of the roadway by providing a smoother road for drivers, decreasing conflicts between bicyclists and motorists, and creating greater separation between automobile traffic and pedestrians on sidewalks.

![Figure 0-2: Road Diet Before and After (nozziwalkablestreets.com)](image)
Benefits

Complete Streets can provide the following benefits:

**Transportation Equity** - Different travelers may expect varying accommodations by a street. A street design that works well for a motorist may not work well for a pedestrian or a bicyclist. People experiencing poverty or language barriers, people of color, older adults, youth, people with disabilities and other groups with limited or no access to a vehicle tend to experience a disproportionately small share of benefits from transportation investments focused on motorists. Complete street design attempts to restore equity in the transportation system by improving transportation options for non-drivers and enabling greater use of the transportation system.

**Safe, Convenient and Attractive Travel Choices** - Surveys throughout the Monterey Bay Area indicate residents desire to have a greater number of transportation choices. Typically, the primary reason given for not using non-motorized transport is safety concerns. Complete street design emphasizes safe and convenient travel choices for all modes.

**Reduced Traffic Congestion** - Increasingly more people are choosing not to drive and some are moving into cities where there are more transportation options. Complete streets can provide attractive choices for individuals who desire an alternative to automobile; thereby decreasing automobile volumes.

**Increased Roadway Capacity** – While populations continue to grow constraints such as environmental, physical and cost limit the opportunity to increase roadway capacity with more travel lanes. Complete streets can accommodate more people if they are complete and support travel by bus, bicycle or on foot, instead of by car.
**Healthy Communities, Economy and Environment** – There is a correlation between a diversified transportation network and healthier communities, and a stronger economy and a cleaner environment. By encouraging active transportation such as walking and cycling, complete streets can result in improved health for residents. Reduced GHG and criteria pollutant emissions may result in reduced incidence of respiratory disease. These factors have the potential to keep the local workforce healthier and more productive.

**Improved Access for People with Disabilities** - Individuals with disabilities are more likely to use the sidewalk network and take transit. Yet, roadways are often difficult to navigate for people who use wheelchairs, have diminished vision, can’t hear well, or for people who move slowly. Complete streets policies can have the effect of removing barriers to independent travel by designing facilities to meet the needs of all users.

**Reinvestment in the Local Economy** – Improved complete streets will incentivize non-automotive modes of travel which are less expensive than driving and vehicle ownership. By reducing vehicle related expenses for commuters, they will have discretionary incomes which can be invested locally.

**Economic Activity** - Property values, business activity, redevelopment, fiscal health of governments and economic growth can all be positively impacted by complete street investments as a result of increased trip volumes, improved trip quality, benefits to safety and health, potential reductions in construction and maintenance costs, and provisions for new public amenities. A detailed discussion of the correlation between complete streets and economic activity is included in Appendix J.
HOW TO BALANCE ROADWAY USERS NEEDS

All of the possible benefits derived from complete streets investments must be evaluated in the context of how they affect the transportation network as a whole and the tradeoffs between alternative investments. For instance, prioritizing bicycle and pedestrian facilities on neighborhood streets may have potential impacts on automobile congestion, automobile access, traffic patterns, and parking. In contrast, prioritizing automobile facilities can have impacts on bicycle and pedestrian safety, and access, and may reduce opportunities for convenient alternatives to driving. The impacts on congestion and safety for all modes must be considered in the discussion of tradeoffs between modes as it relates to complete streets planning and design.

Despite challenges, many local jurisdictions in the Monterey Bay Area have made significant investments in bicycle and pedestrian infrastructure during the past two decades in an effort to serve a larger and more diverse group of roadway users. The result has been a considerable improvement in the bicycle network and pedestrian facilities. However, in many cases bicycle and pedestrian facilities are not provided when projects are constrained by right of ways or lack of funding. Prior planning practices have supported an approach to project design that emphasizes maintaining the existing roadway function first and adding bicycle and pedestrian improvements only where space and funding allow. In some cases a street may have been made more complete had alternative designs been considered. The trade-offs between investments can be challenging and the balance between modes is a result of a complex factors.

The tools provided in the Monterey Bay Area Complete Streets Guidebook, and discussed in detail below, are intended to support a transparent discussion of trade-offs amongst design features and roadway users and encourage evaluation of design alternatives. Consideration of all roadways users current and future needs using the complete streets framework promoted in the Monterey Bay Area Complete Streets Guidebook should result in cost-effective investments that provide convenient and safe facilities for all modes in the most appropriate locations.
This chapter of the Monterey Bay Area Complete Streets Guidebook provides suggestions as to how communities can meet requirements of the Complete Streets Act by incorporating complete streets policies into general plans. Although the California Complete Streets Act requires complete streets policies only in the circulation element, the most effective policies are present or supported in more than one element of the general plan.

Guidance for developing a vision statement and circulation element and land use element goals are provided in this chapter and in Appendix B.

VISION

The vision statement of a general plan encapsulates community values and desires and provides inspiration for goals and policies. Developing a vision statement that considers complete streets is often a precursor to adopting complete street goals and policies. A vision statement may be included in the circulation element of the general plan focusing entirely on the community’s vision, or may appear at the beginning of the circulation element. Vision statements are generally developed through a consensus-driven, collaborative community engagement process. When developing a vision statement the following questions should be considered:

- **What are the benefits of adopting a Complete Streets policy in our community?**
- **What reason for adoption (such as health, safety or providing transportation choice) will consistently rally support from the community, its transportation professionals and its leaders?**
- **What is our vision for Complete Streets?**
The model vision language below is provided to offer an example of a detailed vision statement and demonstrate the range of goals that can be considered in setting out a statement.

Sample Transportation Vision Statement

“The community of [Jurisdiction] envisions a safe, balanced and environmentally-sensitive multi-modal transportation system that supports greater social interaction, facilitates the movement of people and goods, and encourages active living, mobility independence, and convenient access to goods and services for all users including but not limited to pedestrians, bicyclists, children, seniors, persons with disabilities, motorists, movers of commercial goods and transit”

GOALS & POLICIES

Communities may include the entire sample complete streets policy in the general plan circulation element as a complete policy package, or may selectively adopt specific objectives or policies. Communities are encouraged to tailor the policy and implementation measures to local needs, concerns, and conditions, and to identify the local agency or department responsible for implementation. Most circulation elements already include goals, objectives, and policies addressing the needs of motorists and movers of commercial goods, so the suggested complete streets goals and policies focus on other types of users.

Sample general plan goals and policies are included as in Appendix B.
Chapter 2: Performance Measures

Performance measurement is an important tool in the implementation of complete streets. Performance measures can inform planners, decision makers and public how effective complete streets policies and projects are at reaching community goals. Performance measures are particularly important in today’s environment where there is strong competition for limited transportation funds. In grant funded projects, results must be demonstrated using performance measures.

The Monterey Bay Area Complete Streets Guidebook provides a list of relevant performance measures for evaluating the effectiveness of complete street policies and projects. The suggested performance measures may be used in several different ways to facilitate the implementation of complete streets policies. First, performance measures can be used for needs assessment to identify problems in the system and to assess their relative severity. Second, performance measures can be used to rank projects for funding in the programming process. Third, performance measures can be used in impact assessments. In this application, the probable impact of a proposed development project on the performance of the street system is projected, and the result is used as the basis for impact fees or other exactions, such as requirements to provide bicycle and pedestrian facilities. Fourth, performance measures can be used to evaluate the effects of a policy or project on the performance of the system and to assess whether it achieved its goal.

Table 1 lists performance measures that can be used to gauge the effectiveness of five complete streets policy objectives (safety, health, access, economic benefit and equity). These suggested performance measures support the goals of the Metropolitan Transportation Plan and the Regional Transportation Plans for Monterey, Santa Cruz and San Benito Counties.

Using consistent methodology for collecting before and after data is important when measuring performance. Best practices for data collection, such as the establishment of a consistent way of conducting bicycle and pedestrian is helpful to demonstrate changes in trends over time that may result from the implementation of complete streets. The Santa Cruz County 2012 Bike and Pedestrian Count Report aimed to standardize methodologies for bicycle and pedestrian counts done within the county using the Institute of Transportation Engineers Pedestrian and Bicycle Council recommend methods and includes templates and instructions for data collection.
# MEASURES OF EFFECTIVENESS

**Table 1: Complete Streets Performance Measures**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Safety</strong></td>
<td></td>
</tr>
<tr>
<td>Reduce collisions involving bicycles and pedestrians</td>
<td>SWITRS counts</td>
</tr>
<tr>
<td>Improve speed suitability through street design</td>
<td>Number of bicycle routes on low speed streets</td>
</tr>
<tr>
<td>Increase the number of local traffic calming plans</td>
<td>Number of traffic calming plans adopted by local jurisdictions</td>
</tr>
<tr>
<td>Decrease the number of citations for jaywalking, reckless behavior or missing helmet (if under 18 years)</td>
<td>Pedestrian and bicycle observation surveys</td>
</tr>
<tr>
<td>Reduce the number of bicycle and pedestrian hazards</td>
<td>Number of bicycle and pedestrian facilities repaired</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td></td>
</tr>
<tr>
<td>Increase the percent of people who walk, bike and take transit</td>
<td>American Community Survey or local survey</td>
</tr>
<tr>
<td>Increase the number of students walking, bicycling or taking transit to school</td>
<td>Bicycle and pedestrian counts and surveys</td>
</tr>
<tr>
<td>Increase the number of events that promote alternative transportation</td>
<td>Number of events held in Santa Cruz County that promote alternative transportation</td>
</tr>
<tr>
<td><strong>Access</strong></td>
<td></td>
</tr>
<tr>
<td>Number of households within 1/4 mile of transit stop</td>
<td></td>
</tr>
<tr>
<td>Increase the percent of people who walk, bike and take transit</td>
<td>American Community Survey</td>
</tr>
<tr>
<td>Decrease transit headways on high quality transit corridors</td>
<td>Santa Cruz Metro</td>
</tr>
<tr>
<td>Improve the quality of walk, bike, and transit trips</td>
<td>MMLOS or QOS</td>
</tr>
<tr>
<td>Increase the % of population within a 30 minute walk, bike or transit trip of key destinations</td>
<td>GIS Street Network and Place Type Designations</td>
</tr>
<tr>
<td><strong>Economic Benefit</strong></td>
<td></td>
</tr>
<tr>
<td>Increase property values</td>
<td>Tax assessment</td>
</tr>
<tr>
<td>Increase business activity</td>
<td>Taxable sales</td>
</tr>
<tr>
<td>Increase investment</td>
<td>Number of new commercial and residential investments</td>
</tr>
<tr>
<td>Government fiscal health</td>
<td>Cost per mile of transportation improvements</td>
</tr>
<tr>
<td><strong>Equity</strong></td>
<td></td>
</tr>
<tr>
<td>Increase the number of improvements completed near key destinations for transportation disadvantaged populations such as near schools, hospitals, transit stops</td>
<td>GIS Project Location and Key Destinations</td>
</tr>
</tbody>
</table>
LEVEL OF SERVICE

The traditional performance measure for street design is Level of Service (LOS). A methodology for calculating Level of Service can be found in the current version of the Highway Capacity Manual (HCM) published by the Transportation Research Board. This measure, in all its forms, is a function of the ratio of the number of cars on a road to the road’s carrying capacity, and is expressed by assumed delay for each vehicle. Historically, it has been used to calculate how much road capacity is needed to serve a given volume of vehicles, and it is directly tied to the goal of reducing automobile congestion and delay. In most common use, LOS is reported on an A through F scale, with LOS A representing free-flowing automobile traffic, and F representing complete congestion. Although it has the advantage of being highly standardized and widely used, traditional vehicular LOS measurement does not account for all users of a roadway nor tradeoffs between different modes. This results in facility design based solely on the needs of automobile users often at the expense of others.

The revised version of the Highway Capacity Manual, adopted in 2010, includes methods (referred to as Multimodal LOS), for measuring the quality of travel for bicyclists and pedestrians, including comfort and sense of safety. In the absence of establish standards, communities have been developing their own methods for measuring LOS for bicycles, pedestrians, and transit. In general, bicycle, pedestrian, and transit levels of service tend to be more complex to measure than vehicle LOS.

One of the common concerns with using Multimodal Level of Service is that it requires a substantial amount of data that may not be regularly or reliably collected. If data does not exist for the study area, new data must be collected in order to utilize this performance measure, which can be time intensive and expensive. Some communities are not pursuing new LOS measures, but instead are choosing more qualitative measures of success. The Santa Cruz County Regional Transportation Commission recently tested a Quality of Service (QOS) measure to evaluate how transportation investments affected the quality and convenience of bicycle, pedestrian and transit trips (Appendix C). The performance measures recommended in Table 1 provide a range of options for evaluating the effectiveness of complete streets policies and projects while recognizing limited data and resources available to project sponsors.
Chapter 3: Action Plan

Successful implementation of complete streets requires collaboration amongst several departments and stakeholders at the policy, planning, project delivery and maintenance and operations levels. The Action Plan of the guidebook outlines the requirements for coordinating inter-departmental tasks. A key component of the Action Plan involves updating training practices for planners, civil and traffic engineers, project managers, plan reviews, inspectors and other personnel responsible for design and construction of streets to integrate complete streets. A sample Action Plan is included as Appendix D, which integrates complete streets into every step of community development in a way that can be tailored to the needs of each jurisdiction. For example, instructions and training could be instituted for maintenance crews to assure their work complies with complete streets policies. Resources for updating specific manuals are also provided in Appendix D.

LEGAL STANDING OF STREET MANUAL

Local jurisdictions generally follow certain established standards for designing streets. Confusion can exist as to which standards to follow, what is merely guidance, when jurisdictions can adopt their own standards, and when they can use designs that differ from state standards. It is critical for cities and counties to understand how adopting the Monterey Bay Area Complete Streets Guidebook in part or in whole meshes with other standards and guides Appendix E discusses the myriad of accepted design documents and is based on the Los Angeles County Model for Living Streets Design Manual discussion of design documents.
Chapter 4: Complete Streets Types

Complete streets are context sensitive. The intent of this chapter is to provide information on how to match relevant street elements to the existing or desired land uses along the street and the roadway users. This chapter includes a description of complete street types to provide project sponsors with a template for roadway designs that serves all users and prioritizes modes based on the land use and transportation context.

LAND USE CONTEXT

Place types developed by AMBAG in coordination with local jurisdictions are used in the Monterey Bay Area Complete Streets Guidebook to describe the complete streets land use context. These place types were established during the development of the Sustainable Communities Strategy to create common classifications for similar land uses across the Monterey Bay Area. Place types consider land use characteristics (ex. urban, town, neighborhood, suburban, and rural) as well as use (ex. residential, commercial, institutional). Each place type creates a distinct context for land use and transportation investments. Applying place types can help the guidebook user identify complete street features that fit the land uses being considered. A detailed description of place types adopted by AMBAG for use in developing the Sustainable Communities Strategy is included in Appendix F.
COMPLETE STREET TYPES

The complete streets types take into consideration various user perspectives and the surrounding land use context in addition to the street function. The complete streets types described in this chapter serve as a tool for linking street functional classifications and land uses. Figure 4-1 demonstrates how complete streets types relate to traditional functional classifications.

Figure 4-1 Complete Street Design Type and Functional Classification
Table 2 names complete streets types and provides a description of the transportation and land use attributes associated with each type. The land use place types developed through the Sustainable Communities Strategy planning process (Appendix F) are also listed. Each of complete street type indicates which roadway users should be prioritized based on land use and transportation context. Both the land use place type and complete street types should be identified early on in the process of planning and designing streets. Cross sections for each complete street type are included in Chapter 5: Complete Streets Design. Illustrative cross sections for complete streets types are based on the Charlotte Department of Transportation: Urban Street Design Guidelines, 2007.

For specific design treatments to considering when developing complete street cross sections see Chapter 5: Complete Street Design.

**Main Street** (Pacific Avenue, Santa Cruz)  
**Rural Road** (Blanco Road, Monterey County)
<table>
<thead>
<tr>
<th>SEGMENT TYPE</th>
<th>TRANSPORTATION &amp; LAND USE DESCRIPTION</th>
<th>USER PRIORITIZATION</th>
<th>LAND USE PLACE TYPES</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Streets</td>
<td>Pedestrian-oriented &quot;destination&quot; streets; land uses: mixed-use, commercial, entertainment, office, civic; short blocks, grid street pattern; can be used as a flexible space for community events (ex: farmers markets)</td>
<td>1. Pedestrians 2. Bicyclists 3. Transit 4. Autos/Trucks Special accommodations for delivery trucks</td>
<td>Urban Commercial; Urban Mixed-Use; Town Commercial; Town Mixed-Use; Rural-Town Commercial; Institutional</td>
<td>Alvarado Street (Monterey); Ocean Ave (Carmel); Pacific Ave (Santa Cruz); Main St (Salinas)</td>
</tr>
<tr>
<td>Avenues (collector)</td>
<td>Bicycle and transit-oriented streets connect neighborhoods to job centers and commercial areas. Higher speeds than main streets; land uses: diverse mix of land uses including but not limited to residential, schools, parks, neighborhood commercial and commercial</td>
<td>1. Bicyclists 2. Pedestrians 3. Transit 4. Autos/Trucks Special accommodations for pedestrians (children and seniors) at crossings</td>
<td>Urban Multi-Family Residential; Multi-Family Residential; Neighborhood Commercial; Town Multi-Family Residential; Town Mixed-Use; Institutional; Open Space/Recreation</td>
<td>Sloat Ave (Monterey); California St (Santa Cruz)</td>
</tr>
<tr>
<td>Boulevards (minor arterials)</td>
<td>Higher speeds and volumes of automobile traffic than avenues, but more pedestrian and bicycle-friendly than parkways</td>
<td>1. Transit 2. Autos/Trucks 3. Bicyclists 4. Pedestrians</td>
<td>Multi-Family Residential; Neighborhood Commercial; Regional Commercial; Employment Center; Neighborhood Mixed-Use; Institutional; Open Space/Recreation</td>
<td>Munras Ave (Monterey); Capitola Rd (Live Oak/Capitola Branciforte Ave (Santa Cruz))</td>
</tr>
<tr>
<td>Parkways (major arterials)</td>
<td>Auto-oriented designed to move high volumes of vehicular traffic quickly; land uses: major destinations such as regional commercial, academic institutions and visitor-serving uses</td>
<td>1. Autos/Trucks 2. Transit (BRT/Rail) 3. Bicyclists 4. Pedestrians</td>
<td>Regional Commercial; Employment Center; Airport; Institutional; Open Space/Recreation</td>
<td>Imjin Parkway/Rd (Marina); Soquel Drive (Aptos); Canyon Del Rey (Del Rey Oaks); Ocean Street (Santa Cruz)</td>
</tr>
</tbody>
</table>
### TABLE 2: COMPLETE STREET TYPES

<table>
<thead>
<tr>
<th>SEGMENT TYPE</th>
<th>TRANSPORTATION &amp; LAND USE DESCRIPTION</th>
<th>USER PRIORITIZATION</th>
<th>LAND USE PLACE TYPES</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Streets</td>
<td>Low-speed and low-traffic volume shared streets (bicycle, pedestrian &amp; auto) with on-street parking; land uses primarily residential, neighborhood commercial, office, mixed-use, schools and parks</td>
<td>1. Pedestrians 2. Bicyclists 3. Autos/Trucks 4. Transit</td>
<td>Urban Single-Family Residential; Urban Multi-Family Residential; Urban Mixed-Use; Single-Family Residential; Multi-Family Residential; Town Single-Family Residential; Town Multi-Family Residential; Rural Town Residential; Institutional; Open Space/Recreation</td>
<td>Cayuga (Santa Cruz); Riverview Drive, Capitola; San Miguel Ave, Salinas;</td>
</tr>
<tr>
<td>Rural Roads</td>
<td>Mostly auto-oriented with few bicycle facilities for agricultural workers and long-distance cyclists</td>
<td>1. Autos/Trucks 2. Transit 3. Special accommodations for school buses Bicyclists 4. Pedestrians</td>
<td>Agriculture and Rural Residential; Exurban Residential; Industrial and Manufacturing; Open Space/Recreation</td>
<td>Corralitos Road (Santa Cruz); West Beach St, Santa Cruz County; Old Stage Rd, Monterey County;</td>
</tr>
<tr>
<td>Scenic Roads</td>
<td>Mostly auto-oriented with bicycle facilities, some pedestrian facilities and access to natural resources</td>
<td>1. Autos 2. Bicyclists 3. Pedestrians 4. Transit 5. Accommodations for recreational cyclists and hikers</td>
<td>Exurban Residential; Agriculture and Rural Residential; Open Space/Recreation</td>
<td>Old San Jose Road (Santa Cruz); Sunset Drive, Pacific Grove; San Andreas Rd, La Selva Beach; Carmel Valley Rd, Monterey County;</td>
</tr>
</tbody>
</table>
USER NEEDS

New roads and road improvements should be designed to provide safe and convenient routes for all applicable users and purposes including, but not limited to:

- **Pedestrians (all ages and abilities)**
- **Bicyclists (all ages and abilities)**
- **Transit (riders and operators)**
- **Motorists**
- **Commuters**
- **Tourists**
- **Active/recreational users**
- **Emergency responders**

Each user group has different needs and group-specific priorities for any given roadway. These needs and priorities should be considered when designing or rehabilitating a roadway in order to accommodate all users. Table 3 illustrates the needs specific to each user group and examples of design solutions. One of the greatest challenges of planning for and designing complete streets is balancing the often conflicting needs of different roadway users in a limited space. For example, motorists generally want uninterrupted quick travel, wide lanes and large turning radii whereas pedestrians prefer to travel along streets with low volumes of slow traffic, small turning radii and frequent crossings.
<table>
<thead>
<tr>
<th>USER GROUP</th>
<th>PROBLEMS ENCOUNTERED</th>
<th>DESIGN SOLUTIONS/APPLICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrians – Commuters/Residents</td>
<td>Crossing delayed, few crossings, little separation from moving vehicles, high traffic volumes, few access points to destination, inadequate ADA access, little/no shade or shelter, poorly-lit walkways and crossings, slippery surface materials, obstructed routes, inefficient drainage, indirect routes</td>
<td>Pedestrian signal actuation and adequate crossing time, traffic calming, continuous sidewalk network, short blocks, ample width, planting strip/on-street parking, ADA ramps, street trees and pedestrian-scale lighting appropriately designed storm drains</td>
</tr>
<tr>
<td>Pedestrians – Seniors, disabled and children</td>
<td>Small gaps in traffic, long crossing distances, few crossings, inadequate ADA access, shade or shelter, poorly-lit walkways and crossings, slippery surface materials, obstructed routes, inefficient drainage</td>
<td>Adequate crossing time at signalized intersections, curb extensions, high-contrast markings, two-stage actuated crossings, medians, audible countdown pedestrian phase (signalized) and ADA ramps, street trees, pedestrian-scale lighting</td>
</tr>
<tr>
<td>Pedestrians – Visitors/Tourists</td>
<td>Few/no pedestrian destinations, limited/no way-finding, unmarked crossings, narrow sidewalks, little/no shade or shelter, few/no pedestrian amenities, poorly-lit walkways and crossings</td>
<td>Pedestrian plaza, way-finding signage, high-contrast marked crossings, wide sidewalks, on-street parking, street trees, outdoor seating, public art, public toilets, pedestrian-scale lighting</td>
</tr>
<tr>
<td>Bicyclists – Intermediate to Advanced; Commuters</td>
<td>Little separation from motorized vehicles (moving and/or parked), indirect routes/limited access to job centers, shopping and major destinations, bicycle detection at few/no signalized intersections, insufficient short-term and long-term bicycle parking, few/no commuter facilities</td>
<td>On-road facilities (Class II lanes/Class III shared roadway), well-connected bikeway network, marked bicycle detection, bicycle racks and covered/indoor bicycle parking, public or employer-provided shower facilities,</td>
</tr>
</tbody>
</table>
### TABLE 3: ROADWAY USER NEEDS

<table>
<thead>
<tr>
<th>USER GROUP</th>
<th>PROBLEMS ENCOUNTERED</th>
<th>DESIGN SOLUTIONS/APPLICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicyclists – Novice; Children</td>
<td>Little separation from motor vehicle traffic, disjointed/incomplete bikeway network, narrow right-of-way, insufficient/no bicycle parking</td>
<td>Off-road facilities (Class I paths), complete bikeway network, bicycle racks, marked bike detection</td>
</tr>
<tr>
<td>Bicyclists – Recreational/Touring</td>
<td>Little separation from motorized vehicles, insufficient/no way-finding</td>
<td>Wide paved shoulders, way-finding signage and distance markers, bike racks</td>
</tr>
<tr>
<td>Transit – Riders</td>
<td>Limited access to and from transit stop, poorly-lit stop, poor visibility, no/insufficient transit route and schedule information, no/insufficient seating, no/insufficient shelter, no/small buffer from moving traffic</td>
<td>Marked pedestrian crossing, curb extensions, ADA ramps, pedestrian-scale lighting, transit shelter facing out to street, real-time traveler information, transit shelter/station</td>
</tr>
<tr>
<td>Transit - Operators</td>
<td>Limited space to operate transit vehicles, numerous conflicts, long delays</td>
<td>Large turning radius, wide travel lanes, generous merging distance, signal prioritization, street furniture setback from curb</td>
</tr>
</tbody>
</table>
Levels of Traffic Stress- Low Stress Users

Within each roadway user group are individuals with varying abilities and levels of experience. Ability and experience both factor into how comfortable an individual is travelling by a certain mode or on different types of transportation facilities. User ability, experience, comfort, and traffic stress tolerance should be taken into consideration with designing complete streets. Research focused on bicycling has shown that roadway users have varying levels of tolerance for traffic stress. For instance, adults who commute by bicycle to work are more likely to feel comfortable riding in a bike lane on a busy street next to fast moving motor vehicles than those who have less experience bike riding or are unfamiliar with the street network.

Traffic stress may include a combination of perceived danger and other stresses such as noise and exhaust fumes associated with motor traffic. Several recent research efforts, including those at the Mineta Transportation Institute, have classified streets according to the stress they impose on cyclists. Although some of the classifications for level of traffic stress vary, the general concepts are the same. Roads with the lowest level of traffic stress can be accepted by most children (who are less capable of negotiating traffic and more prone to irrational and sudden movements), and the highest level of stress is tolerated by advanced cyclists whose skill enables them to share road with motor traffic. In order to accommodate the majority of roadway users, complete street design should strive to create routes and features that support “low stress users”.

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NEIGHBORHOOD SHARED STREETS

Neighborhood shared streets, or “greenways”, can be an important characteristic of the complete street network. Neighborhood shared streets are located on local streets and emphasize slow speeds and lower volumes. To achieve lower speeds and volumes, neighborhood shared streets employ some or all of the following features:

- Traffic calming features to slow vehicle speeds
- Pavement markings that signal drivers and bicyclists to share the road and show where pedestrians should cross
- Bicycle and pedestrian scale way finding signs to provide information about nearby amenities, such as business districts and parks
- Partial street closures that limit the number of vehicles on the
- Public spaces and amenities to encourage pedestrian and bicycle activity.

A list of Quality Criteria (Appendix G) for greenways has been developed by the City of Seattle and is included in this packet for use by project sponsors to evaluate greenway designs and locations and to facilitate public dialogue about greenways.

Neighborhood shared streets may be a helpful tool for developing “low stress” routes for bicyclists and pedestrians in the Monterey Bay Area. Neighborhood shared streets are often less costly than dedicated bicycle and pedestrian facilities, which also serve “low stress” users. Like other types of complete street type investments, impacts of neighborhood shared streets, particularly the potential for diverting traffic to nearby neighborhood streets, should be evaluated as part of the discussion about tradeoffs. See the discussion regarding low stress users under Levels of Traffic Stress-Low Stress Users earlier in this chapter.
Chapter 5: Complete Streets Design

PURPOSE

The Monterey Bay Area Complete Street Guidebook provides examples of various street features to be considered when designing complete street facilities, so that they are utilized in the appropriate places. Complete street design should adhere to design principles and consider critical factors affecting design. The design features herein are organized by complete street type (i.e. Main Streets, Avenues, Local Streets, etc...) and by user zones (i.e. pedestrian, bicycle, street furniture, parking, etc...). Much of the content of this chapter has been adapted or borrowed from the Los Angeles County Model Design Manual for Living Streets.

EXCEPTIONS

The design elements and engineering best practices described in this chapter may not be appropriate for use in all jurisdictions. Local policy must be adhered to and engineering judgment applied; for example, the City of Monterey restricts the use of speed bumps/humps and uses other methods and measures to calm traffic.
DESIGN PRINCIPLES

Design for all users
Street design should accommodate all users of the street, including pedestrians, bicyclists, transit users, automobiles, and commercial vehicles. A well-designed traveled way provides appropriate space for all street users to coexist.

Design with the network in mind
Streets should be well connected and provide access to land uses for a diverse group of users.

Design intuitively
Street design should be intuitive for the users and require minimal signage and markings.
Design using the appropriate speed for the surrounding context
The right design speed should respect the desired role and purpose of the street, including the type and intensity of land use, urban form, the desired activities on the sidewalk, such as outdoor dining, and the overall safety and comfort of pedestrians and bicyclists. The speed of vehicles impacts all users of the street and the livability of the surrounding area. Lower speeds reduce crashes and injuries.

Design for safety
The safety of all street users, especially the most vulnerable users (children, the elderly, and disabled) and modes (pedestrians and bicyclists) should be paramount in any design of the traveled way. The safety of streets can be dramatically improved through appropriate geometric design and operations.
FACTORS AFFECTING DESIGN

Design To Accommodate All Users

Providing safe and convenient routes for all users is a core goal of complete street design. Therefore, it is important to identify and consider the needs of all potential roadway users. Since most modern roadways have been designed for motorists, complete streets design often puts more emphasis on other users such as pedestrians, bicyclists and transit.

Everyone is a pedestrian at some point every day, even if they drive, take the bus or ride a bicycle for the bulk of their trip. Areas that draw pedestrians such as downtowns generate activities that support the community and contribute to a higher quality of life. A recent survey of Monterey Bay Area residents concluded that more people would like to walk and to have nicer pedestrian facilities in their community. Despite some efforts to improved facilities, much more can be done to improve pedestrian conditions.

Studies have shown that most pedestrian crashes occur when a person crosses the road, and the most common crash type is a conflict between a crossing pedestrian and a turning vehicle at an intersection. Vehicle speed is directly related to the severity of injuries in collisions involving pedestrians. The severity of pedestrian injuries and risk of death in a collision with a motorized vehicle dramatically increases as the impact speed increases above 25 miles per hour (see Figure 5-1). Traffic calming can significantly improve pedestrian safety by slowing motor vehicles, especially in areas where there are high rates of pedestrian crossings.

Although incredibly important, pedestrian facility design should not be solely focused on improving safety, but should also consider factors that improve comfort and walking for pleasure. The two most effective methods to achieve these goals are to minimize the footprint dedicated to motor vehicle traffic and to slow down the speed of moving traffic. This approach allows the designer to use features that enhance the walking environment, such as trees, curb extensions, and street furniture, which in turn slow traffic, resulting in a virtuous cycle. All streets should have sidewalks except for rural roads and shared-space streets.
Accommodating all users also requires considering different needs within each user group. For instance, conditions arise in sidewalk networks that may create trip and fall hazards. Although these conditions, such as broken and raised pavement, slopes, vegetation intruding into the walkway, vehicles obstructing sidewalks, and signs, poles, stands or benches that obstruct or narrow the path are a danger for all pedestrians, the elderly, and others with impairments that affect vision and balance, are more susceptible to such hazards. In recognition of the negative impacts poor sidewalk conditions can have on elderly and disabled individuals in particular, the Santa Cruz County Regional Transportation Commission Pedestrian Safety Work Group developed a Program Model for Sidewalk Network Maintenance.

Another example of differenting between needs of users within each user group is the range of experience in bicycle users. Adults who commute by bicycle to work are more likely to feel comfortable riding in a bike lane on a street with higher vehicle volumes and speeds; whereas less experienced bike riders, including children, may feel more comfortable on a bike facility buffered from motor vehicles.
How Streets are Sized

The size and geometric design of a street (including lane width, corner radii, median nose design, and other intersection design details), is determined in large part by the design vehicle, or the typical vehicle considered for use on that particular roadway. Designing for a larger vehicle than necessary is undesirable, due to the potential negative impacts larger dimensions may have on pedestrian crossing distances and the speed of turning vehicles. On the other hand, designing for a vehicle that is too small can result in operational problems if larger vehicles frequently use the facility.

For design purposes, the wheel-base 40 feet (WB-40) is appropriate unless larger vehicles are more common. On bus routes and truck routes, designing for the bus or large WB-40 type truck may be appropriate, but only at intersections where these vehicles make turns. For example, for intersection geometry design features such as corner radii, different design vehicles should be used for each intersection or even each corner, rather than a one-size-fits-all approach, which results in larger radii than needed at most corners. The design vehicle should be accommodated without encroachment into opposing traffic lanes. It is generally acceptable to have encroachment onto multiple same-direction traffic lanes on the receiving roadway.

Furthermore, it may be inappropriate to design a facility by using a larger control vehicle, which uses the street infrequently, or infrequently makes turns at a specific location. An example would be a vehicle that makes no more than one delivery per day at a business. Depending on the turn frequency, under designing the control vehicle can make streets more appropriate for multimodal use by reducing lane and right-of-way widths, without having to encroach on sidewalks and ramps, while allowing larger vehicles to encroach on opposing traffic lanes or make multiple-point turns.
Design Speed

In contrast to the high-speed design approach, the goal for complete streets is to establish a roadway design speed that creates a safer and more comfortable environment for motorists, pedestrians, and bicyclists. The complete streets approach also increases access to adjacent land, thereby increasing its value, and therefore is more appropriate for the surrounding context. For most complete streets, design speeds of 20 to 35 mph are desirable. Alleys and narrow roadways intended to function as shared spaces may have design speeds as low as 10 mph.

Design speed does not determine nor predict exactly at what speed motorists will travel on a roadway segment. Rather, design speed determines which design features are allowable or mandated. Features associated with high-speed designs, such as large curb radii, straight and wide travel lanes, ample clear zones, and guardrails, degrade the walking experience and make it difficult to design complete streets. Ultimately, designing roads which encourage high speeds creates a vicious cycle. A slower design speed allows the use of features that enhance the walking environment, such as small curb radii, narrower sections, trees, on-street parking, curb extensions, and street furniture, which in turn slow traffic, creating a virtuous cycle.

A narrow roadway with sharrow markings encourages slower speeds and is more comfortable for bicyclists. Parkways or expressways are designed for higher speeds which can also benefit transit and bicycle commuters if appropriate facilities are provided.
Access Management

A major challenge in street design is balancing the number of access points to a street with the need for multiple users to enter the facility. There are many benefits of well-connected street networks; on the other hand, most conflicts between users occur at intersections and driveways. The presence of many driveways in addition to the necessary intersections creates many conflicts between vehicles entering or leaving a street and bicyclists riding or pedestrians walking along the street. Particularly in commercial zones, new driveways should be minimized and old driveways should be eliminated or consolidated, and raised medians should be placed to limit left turns into and out of driveways.

Corner with many wide driveways (Credit: Michele Weisbart)

Reconstructed corner with fewer, narrower driveways (Credit: Michele Weisbart)
COMPLETE STREET TYPES CROSS SECTIONS

Complete street type cross sections represent example roadway designs that take into consideration the convenience and comfort of all roadway users based on land use and transportation context. Complete street types cross sections should serve as a starting point when designing for complete streets and should not be interpreted as design requirements. Existing roadways undergoing improvements may not have sufficient right-of-way to accommodate all of the design features shown in the complete street cross sections.

The advantage of starting with a complete street type cross section when designing projects is that it provides project sponsors and stakeholders with a vision of a complete street, which prioritizes roadway user needs based on land use and transportation context, before moving into the discussion about constraints and trade-offs. In many cases the final project design will not replicate what is shown in the complete street type cross sections, but that the project design will maintain the balance of roadways user needs as illustrated in the cross sections using the resources, skills and techniques available.

For example, a rural roadway, which is primarily designed for truck/agricultural vehicles and private automobiles, and where vehicle lanes cannot be reduced to provide exclusive bicycle or pedestrian facilities, utilizing sharrows to indicate bicycle use of traffic lane and/or providing a wide paved shoulder to allow pedestrian access may be considered when evaluating roadway designs.
User Zones

The complete street types identify the roadway characteristics by mode using “user zones” with the preferred dimensions of elements along the street. The complete street type cross sections go beyond street functional classification by considering bicyclists and pedestrians, not only automobile movement. The specific function of zones may vary by complete street type. However, generally the zones can be defined as follows:

**Pedestrian zone:** Includes unobstructed sidewalks with appropriate widths based on demands generated by adjacent land uses and pedestrian facilities, as appropriate.

**Street Furniture zone:** Includes pedestrian, bicycle and transit supportive amenities such as transit shelters, seating, lighting, bicycle parking, signage, kiosks and public art.

**Green zones:** Includes landscaping or hardscape amenity zones. Supports pedestrian zone by maintaining comfortable pedestrian travel by providing a buffer from motorized zone or by shortening pedestrian crossings through establishing an “island” in the roadway. Can also support traffic calming and neighborhood livability.
Parking zone: Includes parking to serve adjacent businesses. The parking zone also can serve to calm traffic and provide a buffer to the pedestrian zone. Parking zone may be utilized as intermittent transit and bicycle lanes often referred to as “business access and transit lane” (BAT) and/or floating bicycle lanes.

Motor vehicle zone: Includes a variety of possible lane configurations to accommodate desired motorized vehicle speed and volumes.

Bicycle zone (exclusive zone): Includes dedicated bicycle facilities on typical on higher speed and volume roadways and may include additional buffering from other modes. Bicycle treatments can be found in Appendix K.

Bicycle zone (mixed vehicle zone): Includes shared facilities with motorists typically on low volume and speed roadways and pavement markings, where appropriate.

Emergency vehicle zone: No specific zone is exclusive to emergency vehicles. Together, motor vehicle and bicycle zones will be meet the California Fire Code that requires public streets to have an unobstructed travel way of at least 20 feet, unless an exception is made.
Main Street Zones

- **Design Speed** – Less than 30 miles per hour
- **User Prioritization** – Pedestrians & Bicyclists
- **Land Use Place Types** - Urban Commercial; Urban Mixed-Use; Town Commercial; Town Mixed-Use; Rural-Town Commercial; Institutional

**Pedestrian**

Main streets generate high levels of pedestrian traffic and pedestrians should be prioritized over other modes. The unobstructed pedestrian zone should be at least 10’ wide and extend to the building frontage.

**Street Furniture**

Pedestrian amenities such as seating, lighting, wayfinding signage, public art, kiosks, and bicycle racks near store entrances are encouraged.

**Green**

Street trees add character to the street and provide shade and shelter from the rain. Trees with deep roots should be selected over those with shallow roots to avoid uplifted sidewalk which can become a tripping hazard.

**Motor Vehicle**

Travel lanes should be 13’ if shared with bicyclists; otherwise travel lanes should be narrowed to 10’ to provide space for 6’ bicycle lanes. Images for each zone

**Bicycle**

Shared bicycle facilities are appropriate due to low vehicle speeds. Markings (“sharrows”) that position bicyclists away from the “door zone” of parked vehicles are recommended as they reduce the risk of injury to bicyclists.

**Parking**

On-street parking is encouraged and acts as a buffer between pedestrians and the motor vehicle zone. Parallel parking is preferred, however angled parking is acceptable. Parking meters should be places as to not block access to the pedestrian zone.
### Avenues

- **Design Speed** – 25-35 miles per hour
- **User Prioritization** – Bicycles, Pedestrians & Transit
- **Land Use Place Types** - Urban Multi-Family Residential; Multi-Family Residential; Neighborhood Commercial; Town Multi-Family Residential; Town Mixed-Use; Institutional; Open Space/Recreation
- **Local Examples**: Sloat Avenue (Monterey); Branciforte Avenue (Santa Cruz)

### Pedestrian

Avenues serve a variety of land uses and thus generate medium to high levels of pedestrian activity. The unobstructed pedestrian zone should be at least 6’ wide but 8’ or 10’ is preferred.

### Street Furniture

Amenities such as transit shelters, seating, pedestrian-scale lighting, wayfinding signage, public art, kiosks, and bicycle racks near store entrances are encouraged.

### Green

Permeable hardscaping, landscaping and street trees are desired. The green zone should be a minimum of 8’ to provide adequate buffer between pedestrians and motorists.

### Motor Vehicle

Travel lanes should be 13’ if shared with bicyclists; otherwise travel lanes should be narrowed to 10’ to provide space for 6’ bicycle lanes. Images for each zone

### Bicycle

Shared bicycle facilities are appropriate on streets with low vehicle speeds. 6’ bike lanes are recommended on streets with a posted speed of 30 mph or more. The gutter pan is not considered part of the lane width or bicycle lane width.

### Parking

On-street parking may be provided. One benefit to parking is that it acts as a buffer between pedestrians and the motor vehicle zone. However, on streets with limited right-of-way there may not be room for both parking and a dedicated bike lane.

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![Diagram of Avenues with Shared Vehicle Zone and Bicycle Zone](image-url)
Pedestrian
The unobstructed pedestrian zone should be at least 6' wide but 8’ or 10’ is preferred. The pedestrian zone should also be set back from the street to mitigate discomfort generated from greater volumes of fast-moving vehicles.

Street Furniture
Amenities such as transit shelters, seating, pedestrian-scale lighting, wayfinding signage, public art, kiosks, and bicycle racks near store entrances are encouraged.

Green
The green zone should be a minimum of 8’ to provide adequate buffer between pedestrians and motorists. Medians should be landscaped and permeable but remain accessible to pedestrians.

Motor Vehicle
The outside travel lanes should be 14’ if shared with bicyclists; otherwise travel lanes should be 11‘-12’. Boulevards should not have continuous left-turn lanes but instead be separated by a median wherever feasible. Medians should be a minimum of 8’ wide.

Bicycle
6’ bike lanes are recommended. The gutter pan is not considered part of the bicycle lane width.

Parking
On-street parking is not required but allowed where appropriate. Off-street parking is desired.

Boulevards
- **Design Speed** – 30-40 miles per hour
- **User Prioritization** – Transit, Autos/Trucks & Bicycles
- **Land Use Place Types** - Multi-Family Residential; Neighborhood Commercial; Regional Commercial; Employment Center; Neighborhood Mixed-Use; Institutional; Open Space/Recreation
- **Local Examples**: Munras Avenue (Monterey); Capitola Road (Live Oak/Capitola)
### Parkways

- **Design Speed** – 35-45 miles per hour
- **User Prioritization** – Auto/Trucks, Transit & Bicycles
- **Land Use Place Types** - Regional Commercial; Employment Center; Airport; Institutional; Open Space/Recreation
- **Local Examples** - Imjin Parkway/Rd (Marina); Soquel Drive (Aptos); Canyon Del Rey (Del Rey Oaks)

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<thead>
<tr>
<th>Pedestrian</th>
<th>Street Furniture</th>
<th>Green</th>
<th>Motor Vehicle</th>
<th>Bicycle</th>
<th>Parking</th>
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<tr>
<td>Preferred accommodation for pedestrians is a multi-use path set back from the street.</td>
<td>Amenities such as transit shelters, seating, pedestrian-scale lighting, wayfinding signage, public art, and kiosks are desirable. Transit stops should connect to the sidewalk and/or multi-use trail.</td>
<td>The green zone should be a minimum of 20’ to accommodate the “clear zone” and to provide adequate buffer between pedestrians and motorists. Medians should be landscaped and permeable but remain accessible to pedestrians.</td>
<td>Travel lanes should be 11’-12’ wide. Parkways should not have continuous left-turn lanes but instead be separated by a median wherever feasible. Medians should be a minimum of 17’ wide. Shoulders are allowable on an urban parkway if appropriate.</td>
<td>Preferred accommodation for bicyclists is a multi-use path set back from the street. 6’ bike lanes are also appropriate and may better serve experienced bicyclists. The gutter pan is not considered part of the bicycle lane width.</td>
<td>On-street parking should not be permitted along parkways. Instead park and ride lots served by transit should be provided.</td>
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Local Streets

- **Design Speed** – < 25 miles per hour
- **User Prioritization** – Pedestrians, Bicycles & Autos/Trucks
- **Land Use Place Types** - Urban Single-Family Residential; Urban Multi-Family Residential; Urban Mixed-Use; Single-Family Residential; Multi-Family Residential; Town Single-Family Residential; Town Multi-Family Residential; Rural Town Residential; Institutional; Open Space/Recreation

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<tr>
<th>Pedestrian</th>
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<th>Green</th>
<th>Motor Vehicle</th>
<th>Bicycle</th>
<th>Parking</th>
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<td>Unobstructed pedestrian zone should be a minimum of 5’ with a vertical curb (rolled curbs allow parked cars to encroach in the pedestrian area). Streets with very low traffic volumes may not require sidewalks and instead function as a shared street or “Woonerf”.</td>
<td>Pedestrian-scale lighting and some bicycle/pedestrian wayfinding signage for destinations such as community centers, parks and schools</td>
<td>The green zone should be a minimum of 4’ to accommodate landscaping/trees. Bioswales and raingardens may also be appropriate in the green zone.</td>
<td>Travel lanes should be a minimum of 9’-10’ with a 4’ shoulder. Medians are not typically provided on local streets with the exception of partial medians which can be used for traffic calming and aesthetic purposes.</td>
<td>Shared bicycle facilities are appropriate due to low vehicle speeds and traffic volumes. Neighborhood shared streets should have additional amenities such as bicycle boulevard signage, sharrowes, partial street closures and traffic calming features.</td>
<td>Parallel on-street parking is recommended along local streets. The parking serves as a buffer between pedestrians and motorists.</td>
</tr>
</tbody>
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Rural Roads

- **Design Speed** – Varies
- **User Prioritization** – Autos/Trucks, Transit & Bicycles
- **Land Use Place Types** – Agriculture and Rural Residential; Exurban Residential; Industrial and Manufacturing; Open Space/Recreation
- **Local Examples** – Corralitos Road (Santa Cruz)

A wide paved roadway shoulder can accommodate both pedestrians and bicyclists in a rural setting. A sidewalk or multi-use path outside of the clear zone may also be appropriate (especially if it provides access to a community resource such as a school).

Pedestrian-scale lighting, amenities at transit stops and some bicycle/pedestrian wayfinding signage for destinations such as community centers, parks and schools near rural town centers.

The green zone consists of the roadway shoulder and ditch. This area may be paved at intersections to reduce the amount of dirt, mud and debris carried onto the roadway by agricultural vehicles.

A wide paved roadway shoulder can accommodate bicyclists. Multi-use paths outside of the clear zone may also be appropriate.

Travel lanes should be a minimum of 10’-12’ with a 6’-8’ shoulder.

On-street parking is not recommended on rural roads.
INTERSECTIONS

Principles

The following principles apply to all users of intersections:

- Good intersection designs are compact.
- Unusual conflicts should be avoided.
- Simple right-angle intersections are best for all users since many intersection problems are worsened at skewed and multi-legged intersections.
- Roundabouts reduce points of conflict and severity of potential collisions compared to signalized or stop controlled intersections.
- Access management practices should be used to remove additional vehicular conflict points near the intersection.
- Signal timing should consider the safety and convenience of all users and should not hinder bicycle or foot traffic with overly long waits or insufficient crossing times.
Signalized Intersections

To improve livability and pedestrian safety, signalized intersections should:

- Provide signal progression at speeds that support the target speed of a corridor whenever feasible.
- Provide short signal cycle lengths, which allow frequent opportunities to cross major roadways, improving the usability and livability of the surrounding area for all modes.
- Ensure that signals detect bicycles.
- Place pedestrian signal heads in locations where they are visible.
- At locations with many crossing pedestrians, time the pedestrian phase to be on automatic recall, so pedestrians do not have to seek and push a pushbutton.
- Where few pedestrians are expected and automatic recall of walk signals is not desirable, place pedestrian push buttons in convenient locations, using separate pedestals if necessary. Use the recommendations regarding push button placement for accessible pedestrian signals found in the Manual on Uniform Traffic Control Devices (MUTCD).
- Include pedestrian signal phasing that increases safety and convenience for pedestrians.
Yield and Stop-Controlled Intersections

Most intersections are either stop-controlled or yield-controlled. In general, stop signs are overused and often mistakenly used for traffic calming. Stop signs are not a traffic calming device. An intersection must meet warrants set forth in the Manual of Uniform Traffic Control Devices (MUTCD) before stop controls may be installed. Intersection control options include the following:

- **Yield control**, which is under-utilized and should be considered to reduce unnecessary stops caused by the overuse of stop signs.
- Uncontrolled intersections are yield controlled by default.
- **Two-way stop control**, the most common form of intersection control. This is also an overused device. At many intersections a neighborhood traffic calming circle is a preferable and more effective option.
- **All-way stops** are often overused, incorrectly, to slow traffic. The use of all-way stops should be consistent with the MUTCD. At many intersections a neighborhood traffic calming circle is a preferable and a more effective option.
Roundabouts

Roundabouts reduce vehicle-to-vehicle and vehicle-to-pedestrian conflicts and, thanks to a substantial reduction in vehicle speeds, reduce all forms of crashes and crash severity. In particular, roundabouts eliminate the most dangerous and common crashes at signalized intersections: left-turn and right-angle crashes.
Other benefits of roundabouts include the following:

- Little to no delay for pedestrians, who have to cross only one direction of traffic at a time.
- Improved accessibility to intersections for bicyclists through reduced conflicts and vehicle speeds.
- A smaller carbon footprint. Less lighting is required for operation and fuel consumption is reduced as motor vehicles spend less time idling and don’t have to accelerate as often from a dead stop.
- Opportunity to reduce the number of vehicle lanes between intersections. For example, a five-lane road may be reduced to a two-lane road due to increased vehicle capacity at intersections.
- Little to no stopping during periods of low flow.
- Significantly reduced maintenance and operational costs required by signals and lights.
- Reduced delay, travel time, and vehicle queue lengths.
- Lowered noise levels.
- Less fuel consumption and air pollution.
- Simplified intersections.
- Facilitated U-turns.
- The ability to create a gateway and/or a transition between distinct areas through landscaping.
- Light rail can pass through the center of a roundabout without delay because rail has the right of way, although gates may be required.

The primary disadvantage of a roundabout is that sight-impaired people can have difficulty navigating around large roundabouts. However, this difficulty can be mitigated with ground level wayfinding devices.

Before starting the design of a roundabout it is very important to determine the following:

- The number and type of lane(s) on each approach and departure as determined by a capacity analysis.
- The design vehicle for each movement.
- The presence of on-street bike lanes.
- The goal/reason for the roundabout, such as crash reduction, capacity improvement, speed control, or creation of a gateway or a focal point.
- Right-of-way and its availability for acquisition if needed.
- The existence or lack of sidewalks.
- The approach grade of each approach.
- Transit, existing or proposed.
UNIVERSAL PEDESTRIAN ACCESS

The following design principles inform the recommendations made in this chapter and should be incorporated into every pedestrian improvement:

- The walking environment should be safe, inviting, and accessible to people of all ages and physical abilities.
- The walking environment should be easy to use and understand.
- The walking environment should seamlessly connect people to places. It should be continuous, with complete sidewalks, well-designed curb ramps, and well-designed street crossings.
- The walking environment should not be obstructed.

Legal Framework

Under Title II of the Americans with Disabilities Act (ADA) of 1990, state and local governments and public transit authorities must ensure that all of their programs, services, and activities are accessible to and usable by individuals with disabilities. They must ensure that new construction and altered facilities are designed and constructed to be accessible to persons with disabilities. State and local governments must also keep the accessible features of facilities in operable working condition through maintenance measures including sidewalk repair, landscape trimming, work zone accessibility, and snow removal.

Under the ADA, the U.S. Access Board is responsible for developing the minimum accessibility guidelines needed to measure compliance with ADA obligations when new construction and alterations projects are planned and engineered. These guidelines for public rights-of-way are found in draft form in the Public Rights-of-Way Accessibility Guidelines. The U.S. Department of Transportation has recognized this document as current best practices in pedestrian design and has indicated its intent to adopt the final guidelines.

In addition, Title II of the ADA also requires states and localities to develop ADA Transition Plans that remove barriers to disabled travel.
ADA Transition Plans are intended to ensure that existing inaccessible facilities are not neglected indefinitely and that the community has a detailed plan in place to provide a continuous pedestrian environment for all residents. These plans must:

- Inventory physical obstacles and their location.
- Provide adequate opportunity for residents with disabilities to provide input into the Transition Plan.
- Describe in detail the methods the entity will use to make the facilities accessible.
- Provide a yearly schedule for making modifications.
- Name an official/position responsible for implementing the Transition Plan.
- Set aside a budget to implement the Transition Plan.

Obstructions can make passage difficult or impossible for wheelchair users. (Credit: Michael Ronkin)
User Needs

**Wheelchair and scooter users** are most affected by the following:

- Uneven surfaces that hinder movement.
- Rough surfaces that make rolling difficult and can cause pain, especially for people with back injuries.
- Steep uphill slopes that slow the user.
- Steep downhill slopes that cause a loss of control.
- Cross slopes that make the assistive device unstable.
- Narrow sidewalks that impede the ability of users to turn or to cross paths with others.
- Devices that are hard to reach, such as push buttons for walk signals and doors.
- The lack of time to cross the street.

**Walking-aid users** are most affected by the following:

- Steep uphill slopes that make movement slow or impossible.
- Steep downhill slopes that are difficult to negotiate.
- Cross slopes that cause the walker to lose stability.
- Uneven surfaces that cause these users to trip or lose balance.
- Long distances.
- Situations that require fast reaction time.
- The lack of time to cross the street.

**Prosthesis users** often move slowly and have difficulty with steep grades or cross slopes.
People with visual impairments include those who are partially or fully blind, as well as those who are colorblind. Visually impaired people face the following difficulties:

- Limited or no visual perception of the path ahead.
- Limited or no visual information about their surroundings, especially in a new place.
- Changing environments where they rely on memory
- Lack of non-visual information
- Inability to react quickly
- Unpredictable situations, such as complex intersections that are not at 90 degrees
- Inability to distinguish the edge of the sidewalk from the street
- Compromised ability to detect the proper time to cross a street
- Compromised ability to cross a street along the correct path
- Need for more time to cross the street
**People with cognitive impairments** encounter difficulties in thinking, learning, and responding, and in performing coordinated motor skills. Cognitive disabilities can cause some to become lost or have difficulty finding their way. They may also not understand standard street signs and traffic signals. Some may not be able to read and benefit from signs with symbols and colors.

**Children and many older adults** don’t fall under specific categories for disabilities, but must be taken into account in pedestrian planning. Children are less mentally and physically developed than adults and have the following characteristics:
- Less peripheral vision.
- Limited ability to judge speed and distance.
- Difficulty locating sounds.
- Limited or no reading ability, so do not understand text signs.
- Occasional impulsive or unpredictable behavior.
- Little familiarity with traffic.
- Difficulty carrying packages.

The natural aging process generally results in at least some decline in sensory and physical capability. As a result, many older adults experience the following:
- Declining vision, especially at night.
- Decreased ability to hear sounds and detect where they come from.
- Less strength to walk up hills and less endurance overall.
- Reduced balance, especially on uneven or sloped sidewalks.
- Slowed reaction times to dangerous situations.
- Slowed walking speed.
Accessible Pedestrian Facility Best Practices

Crosswalks and ramps at intersections should be placed so they provide convenience and safety for pedestrians. The following recommended practices will help achieve these goals:

- Allow crossings on all legs of an intersection, unless there are no pedestrian accessible destinations on one or more of the corners. Closing a crosswalk usually results in a pedestrian either walking around several legs of the intersection, exposing them to more conflicts, or crossing at the closed location, with no clear path or signal indication as to when to cross.

- Provide marked crosswalks at signalized intersections.

- Place crosswalks as close as possible to the desire line of pedestrians, which is generally in line with the approaching sidewalks.

- Provide as short as possible a crossing distance to reduce the time that pedestrians are exposed to motor vehicles. This is usually as close as possible to right angles across the roadway, except for skewed intersections.

- Ensure that there are adequate sight lines between pedestrians and motorists. This typically means that the crosswalks should not be placed too far back from the intersection.

- When a raised median is present, extend the nose of the median past the crosswalk with a cut-through for pedestrians.

- Provide one ramp per crosswalk, or two per corner for standard intersections with no closed crosswalks. Ramps must be entirely contained within a crosswalk. The crosswalk can be flared to capture a ramp that cannot be easily relocated. Align the ramp run with the crosswalk when possible, as ramps that are angled away from the crosswalk may lead some users into the intersection.

At intersections where roads are skewed or where larger radii are necessary for trucks, it can be difficult to determine the best location for crosswalks and sidewalk ramps. In these situations, it is important to balance the recommended practices above. Tighter curb radii make implementing these recommendations easier.
One curb ramp per crosswalk should be provided at corners. Ramps should align with sidewalks and crosswalks. (Credit: Michele Weisbart)
Crossing Times

In planning for people with disabilities, slower speeds must be considered. This is critical in setting the timing of the walk phase of signalized intersections. The Manual on Uniform Traffic Control Devices requires that transportation agencies use an assumed walking speed of 3.5 feet/second for signal timing. In situations where a large number of older adults or persons with disabilities cross, this may be inadequate to meet their needs. Some cities instead use 2.8 feet/second.

Cities may also use Pedestrian-User-Friendly-Intelligent traffic signals to ensure that all pedestrians have adequate time to cross. Pedestrian-User-Friendly-Intelligent crossings use infrared monitors to detect the presence of pedestrians in the crosswalk, and will hold the signal red for cross traffic until the pedestrian has left the crosswalk. Pedestrian-User-Friendly-Intelligent crossings help slower pedestrians, but also help the flow of traffic because they allow the normal pedestrian design speed to be set at a higher level.

Pedestrian-Activated Push Buttons

Pedestrian-activated traffic controls require pedestrians to push a button to activate a walk signal. As noted in Chapter 7, “Pedestrian Crossings,” pedestrian-activated signals are generally discouraged. The walk signal should automatically come on except under circumstances described in that chapter. Where pedestrian-activated traffic controls exist, they should be located as close as possible to curb ramps without reducing the width of the path. The buttons should be at a level that is easily reached by people in wheelchairs near the top of the ramp. The U.S. Access Board guidelines recommend buttons raised above or flush with their housing and large enough for people with visual impairments to see them. The buttons should also be easy to push.
Accessible Pedestrian Signals

Wayfinding for pedestrians with visual impairments is significantly improved with the use of Accessible Pedestrian Signals at signalized intersections. In fact, Accessible Pedestrian Signals are the most commonly requested accommodation under Section 504 of the Rehabilitation Act of 1973. Accessible Pedestrian Signals communicate information about pedestrian timing in non-visual formats such as audible tones, verbal messages, and/or vibrating surfaces. Verbal messages provide the most informative guidance.

These devices should be installed close to the departure location and on the side away from the center of the intersection. Since they are typically only audible 6 to 12 feet from the push button, 10 feet should separate two devices on a corner. If two accessible pedestrian pushbuttons are placed less than 10 feet apart or on the same pole, each accessible pedestrian pushbutton shall be provided with a pushbutton locator tone, a tactile arrow, a speech walk message for the WALKING PERSON (symbolizing WALK) indication, and a speech push button information message. Volumes of the walk indication and push button locator tone shall automatically adjust in response to ambient sound.
The purpose of this chapter is to explain how the perspectives of all stakeholders interested in or affected by existing or future streets can be incorporated into the review for planning and designing streets. The recommended process is summarized in Appendix H, Complete Street Project Review Checklist. This process was modeled after the work completed in the Charlotte Department of Transportation Urban Streets Design Guidelines, and San Francisco Bay Area, Routine Accommodation Checklist.

**PROCESS FOR PLANNING AND DESIGNING COMPLETE STREETS**

The six step process outlined below emphasizes coordinating city planning, urban design, and transportation planning activities by establishing a sequence of fact finding and decision-making steps. Applying this process to planning and designing streets is intended to support the creation of more streets which meet the needs of more people.

**Six-Step Process**

The process described below provides a great deal of flexibility to those involved in the decision-making process. This flexibility is intended to foster creative solutions by ensuring that land use planners, engineers, transportation planners, transportation system users, and others work together to think through the implications of alternative street designs. The six-step process will play an important role in addressing the significant challenge of retrofitting streets with limited right-of-way by means of completing a tradeoff analysis.

The six step processes below was vetted and carefully refined through a process lead by the Charlotte Department of Transportation in North Carolina. Since its adoption, the process has been credited was accomplishing complete streets goals and avoiding the need for costly redesign and preventing missed opportunities.
The following three assumptions are built into the six-step process:

- The process will involve a variety of stakeholders. The number of stakeholders and discussions will vary, depending on the magnitude of the project(s).
- The resulting street will be as “complete” as needed and possible, given the context of the facility.
- The complete streets evaluation will clearly document the major tradeoffs made among competing design elements, how those were discussed and weighed against each other, and the preliminary and final outcomes. Thorough documentation will ensure that all stakeholders’ perspectives are adequately considered in the final design.

Figure 6-1 shows the review steps to be included in applying the Monterey Bay Area Complete Street Guidebook. Each of the six steps is defined in more detail later in this chapter. The steps described below can be applied either to a single street or to a collection of streets in an area, such as when an area plan is being developed.
Step 1: Define the Existing and Future Land Use and Urban Design Context

The classification and ultimate design of any street should reflect both the existing and expected future land use contexts. These contexts should be considered from the area wide level down to the immediately adjacent land uses. For example, a street is likely to be classified and/or designed differently if it is in an area slated for higher density development, such as a transit station area, versus in a neighborhood of single family houses, where very limited development changes are anticipated.

Step 2: Define the Existing and Future Transportation Context

The transportation assessment should consider the existing and expected future conditions of the transportation network adjacent to the street to be designed. The design should not be strictly related to capacity on a segment in isolation. Rather, the design should reflect the entire transportation context, including function, multimodal features, and form. The Complete Streets Project Review Checklist (Appendix H) should be used to assess and document existing and future conditions. Questions to facilitate dialogue and consideration of existing and future conditions are included in Appendix I.

Step 3: Identify Deficiencies

Once the existing and future land use and transportation contexts are clearly defined and understood at the area wide level, the design team should be able to identify and describe any potential deficiencies. This step should consider the relationship between different modes and the land use context. Use the Complete Streets Project Review Checklist (Appendix H) to identify and document deficiencies. Questions to facilitate dialogue and consideration of deficiencies are included in Appendix I.

Step 4: Describe Future Objectives

This step synthesizes the information from the previous steps into defined objectives for the street project. Objectives could be derived from the plans and/or policies for the area around the street, as well as from the list of deficiencies identified in step three. The objectives will form the basis for the future street classification and design. Sample questions that can be used to facilitate dialogue about potential issues can be found in Appendix I.
Step 5: Recommend Street Type and Initial Cross-Section and Constraints

The plan/design team recommends the appropriate complete street type(s), and cross-section design based on previous steps. The rationale behind the classification should be documented using the Complete Streets Project Review Checklist in Appendix H. Table 3 provides a reference for matching land use place types and street typologies and sample cross-sections. This step should also include a recommendation for any necessary adjustments to the land use plan/policy and/or transportation plan for that area. Since the street type and the design are influenced by the land use context, subsequent land use decisions should reflect and support the agreed-upon street type and design.

At this point, any constraints to the provision of the initial preferred cross-section should be clearly identified. These may include:
- Lack of right-of way,
- Existing structures,
- Existing trees or other environmental features,
- Topography, and
- Location and number of driveways.

Step 6: Describe Tradeoffs and Select Complete Street Type

Most likely the initial cross-section will need to be refined to better address the land use and transportation objectives, given the constraints identified in step five. If the technical team develops more than one alternative design, these multiple alternatives should be presented to the stakeholders, and made available to the public. Any refinements to the cross section should result from a through consideration of tradeoffs among competing uses of the existing or future public right-of way.
EXCEPTIONS

The Federal Highway Administration (FHWA) (2000) lists three exceptions to providing accommodations for bicycle and pedestrian travel on all streets. They follow the FHWA's guidance on accommodating bicycle and pedestrian travel and identified best practices frequently used in existing complete streets policies. Project sponsors may find it beneficial to consider these exceptions when evaluating trade-offs.

• Accommodation is not necessary on corridors where specific users are prohibited, such as interstate freeways or pedestrian malls.

• Cost of accommodation is excessively disproportionate to the need or probable use. It is unnecessary to attach a percentage to define “excessive” as the context for many projects will require different portions of the overall project budget to be spent on the modes and users expected. Additionally, costs may be difficult to quantify. A cap on amount spent for roadway improvements may be appropriate in unusual circumstances, such as where natural features (e.g. steep hillsides, shorelines) make it very costly or impossible to accommodate all modes. Any such cap should always be used in an advisory rather than absolute sense. A documented absence of current and future need. This exception can be problematic if the method for determining future need is not defined. Ensure that a qualified individual or committee is tasked with approving this exception. Many communities have included other exceptions that the National Complete Streets Coalition, in consultation with transportation planning and engineering experts, also feels are unlikely to create loopholes.

• Transit-specific facilities, such as bus shelters, are not required where there is no existing or planned transit service.

• Routine maintenance of the transportation network that does not change the roadway geometry or operations, such as mowing, sweeping, spot repair, or when interim measures are implemented in temporary detour or haul routes. Be sure to check your internal procedures and policies regarding these activities so that facilities such as bike lanes are swept in a timely manner". 
MONTEREY BAY AREA COMPLETE STREETS ASSESSMENT

As part of the development of the 2014 Monterey Bay Area Sustainable Communities Strategy, staff from the regional transportation agencies in the tri-county area worked with key stakeholders from each jurisdiction to develop criteria for evaluating how well streets meet the needs of all users. The goal of this complete streets needs assessment was to identify deficiencies in the existing transportation networks and opportunities for improvements, which would provide safe mobility for all users including bicyclists, pedestrians, transit riders and motorists, particularly in areas identified for increased density and diversity of land use as part of the Sustainable Communities Strategy. Key components of the Monterey Bay Area Complete Streets Assessment are discussed further in this section and can serve as a model inventory for project sponsors and stakeholders.

Complete Streets Inventory

Compiling an inventory of complete street transportation attributes was the first step in conducting the Monterey Bay Area Complete Streets Assessment. This inventory identified the existing mobility context and documented complete streets facilities and considered gaps in the transportation network and services. It is recommended that project sponsors and stakeholders utilize the inventory provided in Appendix A in whole or in part when developing complete street projects for inclusion in local plans.

To support the complete streets needs assessment, RTPA staff worked with regional transit agencies to identify current and future “high quality transit routes” and “major transit stops” as defined by SB375. Identifying high quality transit routes and major transit stops, which serve 15 minute headways during peak periods, were important in order to identify potential priority areas for pedestrian investments, since the majority of transit trips begin with a roadway user walking to the transit stop.
Complete Streets Project List

The result of the Monterey Bay Area Complete Streets Assessment included a list of transportation projects that would support multi-modal facilities, improve connectivity and reduce vehicle miles traveled within each area. For each project, opportunities were identified to develop low stress routes which emphasize the quality, comfort, convenience and safety of bicycle, pedestrian and transit facilities. Each project list was considered by the respective regional transportation planning agencies for inclusion in the regional transportation plan.

Complete streets projects typically fell into one of the following categories:

- Bicycle/pedestrian enhancements (ex. bicycle lane treatments such as painted or buffered bike lanes and pedestrian buffers such as landscaping, bicycle actuation at traffic signals, pedestrian scale lighting, wider side walks)
- Pedestrian crossing improvement (ex. raised cross walks, enhanced striping contrast, cross walk beacon, bulbouts and pedestrian islands)
- Bike/pedestrian network filler (ex. new bicycle lane or sidewalks which eliminates gap in existing network)
- Bike intersection improvement (ex. bike boxes, bike signal priority)
- New bike/ped connection (ex. new bike/ped path not located on current transportation facility)
- Bike parking facilities (ex. bicycle racks)
- Neighborhood shared streets (ex. pavement markings, wayfinding, traffic control on local streets to give priority to bicycles and pedestrians and reduce vehicle speed and volume)
- Pedestrian place/universal street (ex. roadway or alley with restricted vehicle access which often is serves as a plaza for assorted businesses)
- Crosswalk frequency (ex. new/additional cross walks to reduce spacing between cross walks)
- Commercial area bike/ped access (ex. pavement treatments, tactile strips and wayfinding)
- Traffic calming (ex. bulb outs, landscaping)
- High Occupancy Vehicle/transit priority (ex. signal priority for transit and carpool lanes)
- Bus pullouts
- Wayfinding (ex. pedestrian and bicycle scale signage providing information about surrounding amenities)
- Information and incentives for bicycling, walking and transit
Chapter 7: Transitioning To Complete Streets

COMPLETE STREETS TRANSITION PLAN

Implementing complete streets begins with adoption of polices, plans and designs described in this guidebook. Frequently, the last steps in implementing complete streets are the most difficult and involve enacting requirements and regulations and providing funding for complete streets improvements. Specific tools for addressing these challenges are described in this chapter.

Providing all of the ingredients for implementing complete streets will take a significant investment in some communities. Below are some tools that local jurisdictions may want to consider to facilitate the transition of motor vehicle oriented street towards streets that provide a greater range of safe and convenient choices for all users.

Zoning Ordinance Review

Zoning ordinance, subdivision ordinance, and municipal code may need to be reviewed to identify where policy is weak in establishing standards. The following zoning ordinance features will support implementation of complete streets:

- Requirements for access management and transit-oriented development;
- Regulations that support recommended complete street characteristics and non-motorized site design for development sites, setbacks, and building entrances;
- Regulations promoting higher density and multi-use developments, which encourages walking and bicycling between destinations;
- Regulations that require easements for bicycle and pedestrian facilities and require new development to make improvements consistent with bicycle, pedestrian, transit, and traffic calming plans.
- Incentives for developments that provide enhanced bicycle, pedestrian and transit facilities.
Local Area Plans

Local area specific plans can be helpful in developing a complimentary set of investments which support a systems approach to complete streets. In some cases, local area specific plans may have strong potential for implementing complete streets policies by taking a comprehensive approach to ensuring consistency with higher level plans, while at the same time providing detail which is responsive to specific local area evidence-based needs. In the early 2000s, the City of Monterey worked with residents to develop neighborhood traffic calming plans. Since their adoption, the City has successfully implemented the majority of these plans.

Bicycle and Pedestrian Plans

Bicycle transportation plans and pedestrian master plans should also be utilized to develop complete streets projects. Ensuring that complete streets projects are consistent with these mode specific plans is an effective way to support the development of a network of complete streets. Establishing a network of complete streets is important because roadway users typically utilize several transportation facilities and more than one mode when traveling between their origin and destination.

Ensuring that new projects are consistent with bicycle and pedestrian plans can be utilized as strategy for transiting to complete streets, particularly to improve connectivity. For example, the Tahoe Regional Planning Council worked closely with local jurisdictions to establish zoning ordinances for its bicycle and pedestrian plan. These ordinances require new developments to implement bicycle and pedestrian facilities identified in the plan if they are located within or along a proposed development parcel.
FUNDING COMPLETE STREETS

Funding for complete streets project remains a challenge in the Monterey Bay Area where transportation needs far outweigh available transportation funds. Complete streets projects are currently being considered in the development of the Monterey Bay Area Sustainable Communities Strategy as part of a suite of projects to reduce vehicle miles traveled in areas identified for growth and more intensified use. Although many complete streets projects may be identified to receive funding in the long-range transportation plan and sustainable communities strategy, they will need to compete for limited transportation resources.

Existing Funding Sources

- Transportation Development Act Funds
- Regional Surface Transportation Program
- Neighborhood Improvement Program (City of Monterey)
- Bicycle Transportation Account
- Office of Traffic Safety
- Highway Safety Improvement Program
- Transportation Alternatives Program (formerly Transportation Enhancement funds)
- Regional Development Impact Fees
Potential New Funding Sources

**Active Transportation Program:** Legislation is currently under consideration at the state level to consider consolidating the federal Transportation Alternatives Program, the state Bicycle Transportation Account, the state and federal Safe Routes to Schools and the Environmental Enhancement and Mitigation program into a single statewide competitive program.

**Multimodal Impact Mitigation Fees:** Development impact fees are now being assessed and applied to bicycle, pedestrian and transit projects. Like traditional impact fees, multimodal impact fees are used to mitigate the cost of new demands on the transportation system resulting from trips incurred by new development. Local jurisdictions with multimodal impact fees are using model projections, multimodal level of service thresholds, or multimodal trip generation rates by land use type, (such as those developed by the Institute of Transportation Engineers), as the mechanism for assessing the mitigation payment amount. Fees are them applied to investments that are reasonably connected to the development impacts. Multimodal impacts fees work in areas where there is already pedestrian, bicycle and transit activity or in areas that could potentially benefit from and support diverse transportation options.

**Local Transportation Sales Tax Measure:** Over 85% of California residents live in a region with an approved transportation measure which dedicates sales tax funding to transportation projects. Local transportation measures are applied to projects identified in an approved expenditure plan and currently require a two-thirds majority vote.

**Public and private grant programs** focused on improving health by reducing greenhouse gas emissions, improving air quality and reducing obesity through physical activity may also play a role in funding complete streets projects.
REGIONAL COMPLETE STREETS PHASING PLAN

The tools provided in the Monterey Bay Area Complete Streets Guidebook support a transition from streets that are primarily auto-oriented to streets which safely and comfortably accommodate all users. The Monterey Bay Area Complete Streets Guidebook takes the approach that by incorporating complete streets into policy, plans, and design, streets will begin to become more complete in stages, beginning in the short-term (2020) and continuing into the long-term (2035).

Given the significant need for road rehabilitation throughout the Monterey Bay Area, complete streets improvements that can be coupled with roadway rehabilitation projects are more likely to be completed in the short-term (2020), such as complete street features that can be realized primarily through roadway restriping. Other projects expected to be completed in the short-term are those funded by continuous funding sources such as Transportation Development Act funds, which frequently support curb ramp improvements, and Safe Routes 2 School funds which support bicycle, pedestrian and traffic calming around schools. The projects which require a greater amount of resources will be implemented closer to the 2035 horizon if current funding trend continue.
Chapter 8: Education, Encouragement & Enforcement

Education, encouragement, and enforcement programs complement complete street infrastructure programs and can play an important role in achieving complete streets objective.

EDUCATION

Developing complete streets is a critical step in providing alternatives to driving. However, to achieve an actual shift from driving to walking, bicycling or taking transit requires a change not only in the safety and reliability of those alternatives, but also a change in an individual’s preference, perception and behavior. Many local jurisdictions around the Monterey Bay Area are implementing marketing campaigns to encourage healthy and active lifestyles. Obesity and sedentary lifestyles are on the rise for both adults and children in America, and daily exercise needs to be integrated into American lifestyles. In the Monterey Bay Area region, marketing campaigns, such as Bike Week, add support to existing messages of getting more exercise while promoting complete streets principles.

A telephone survey conducted in the AMBAG region in May 2013 provided information regarding travel preferences. Throughout the region, survey participants overwhelmingly indicated that they rely on their cars to travel; however, they felt that if it were more convenient or more comfortable, they would like to walk or bicycle to shopping or recreation destinations. Integrating Complete Streets features into our transportation system can help this desire to become a reality.
Complete Streets policies are viewed as an important element for achieving Safe Routes to School goals, as children are one of our most vulnerable transportation users. Safe Routes to School programs have become tremendously popular not only across the country, but within the Monterey Bay Area. These programs benefit from Complete Streets policies that can help turn all routes into safe routes. Examples of Safe Routes to School Programs include:

- Safe Routes to School Maps
- Bike/Walk to School Day
- Walking School Buses
- Bicycle Train
- Bike to School Day Resource Guide:
  - Monterey County: (http://www.tamcmonterey.org/bikeweek/breakfast.html)
  - San Benito County: (http://sanbenitorideshare.org/schools/safe-routes-to-school/)
  - Santa Cruz County: (http://bike2work.com/s_cruz/)

Training

Another critical component of a successful education program is providing decision makers and project designers with information on the latest approaches to roadway design to help establish a common level of understanding and facilitate discussions complete streets. Planners are encouraged to hold workshops or provide their elected governing bodies and advisory committees with presentations on facility design and other topics related to bicycling and walking as a means to understand Complete Streets principles. Agencies may want to consider “certifying” staff members as complete streets specialists when a specific level of training in complete streets concepts is completed. Several resources for this type of training are available, including:

- The UC Berkeley Tech Transfer Program
- The Transit Cooperative Research Program (TCRP)
- The National Complete Streets Coalition
- The National Rural Transit Assistance Program

More informal training may involve meeting with local jurisdictions who have experience implementing complete streets policies or hosting roundtables for project sponsors to discuss lessons learned. The regional transportation planning agencies can help educate city and county project planners and designers to ensure that Complete Streets concepts are well understood and can be incorporated into future projects.
Walking Audits

Walking audits are a tool that can be very useful to educate users about the needs on a particular street. Walking audits can be completed individually or as a group. The auditor(s) should use a checklist to note the overall quality of their travel on the street and identify gaps in the pedestrian network, safety or accessibility concerns, areas needing repair, and other opportunities to enhance the corridor to make it more comfortable for all users.

Vehicle Code

Pedestrians and bicyclists should be educated about vehicle codes related to their transportation mode. The Traffic Safe Communities Network in Santa Clara County has produced a guidebook for this purposes that can be found at: http://www.ots.ca.gov/pdf/BicyclePedSafetyBrochure.pdf.

The guide includes references to the California Vehicle Codes that establish safe practices for bicycling and walking. This is a tool that can be used by local jurisdictions to ensure that those walking and bicycling for transportation are informed about their rights and responsibilities.
ENCOURAGEMENT

Communities can encourage the development of complete streets projects by demonstrating the need for and benefits of active transportation and transit. Some activities may include conducting organized community bike rides, walking events and providing transit access to community gatherings. A community may also focus on breaking down barriers to active transportation and transit by producing user-friendly bike maps and transit schedules, providing commuting incentives and bike share programs and offering discounted transit passes. The Monterey Bay area has several events and programs aimed at encouraging walking and biking, including the following:

- Bike Week, including Bike to Work & Bike to School Events
- Walk to School Week
- Condor Classic
- Sea Otter Classic
- Community bicycle rides

In addition, an integral partner in promoting and implementing Complete Street efforts are colleges and universities within the Monterey bay Area. Local jurisdictions may work to share resources and leverage opportunities to educate the public and leadership on the value and implementation of complete streets within the region.

Elementary and high schools are also taking an active role in Complete Streets by helping promote more active lifestyles, such, as encouraging children to walk or bike to school. Bike to School Day and Walk to School Day educational campaigns have been tremendously successful in the region as Complete Streets make it easier for students to get around by all modes of transportation, providing more choices for those who want them. The Transportation Agency for Monterey County offers a Bike to School Day 2012 Resource Guide online at tamcmonterey.org.
ENFORCEMENT

Enforcement emphasizes the complete streets connection between the law enforcement community and project planners and designers. Often times, communities have an established relationship with a liaison within the local police department or California Highway Patrol to monitor and promote safe bicycling and walking. This relationship builds on local efforts to prevent bicycle theft, enforcement campaigns to encourage cyclists and motorists to share the road safely, and understand the California Vehicle Codes addressing safe bicycling and walking.

Enforcement agencies should be encouraged to understand the concepts of Complete Streets planning and design, and work closely with planners, engineers, and policymakers to ensure that users are comfortable when travelling. The rights of both vehicles and non-motorized transportation should be understood by all users, as well as planners and engineers, to ensure that Complete Streets projects can be appropriately enforced.

Code enforcement is another tool that can be used to support the maintenance of safe sidewalks or other maintenance of the traveled way. These codes should be considered by planners and designers when implementing Complete Streets projects.
Chapter 9: Talking About Complete Streets

The accepted definition of complete streets is: roadways designed to meet the needs of all users regardless of mode choice, age or ability. However, the meaning of complete street may vary by community, application or individual. This chapter is intended to serve as a resource for professionals, decision makers and the public who are interested in discussing and educating others about complete streets concepts.

SIMILAR CONCEPTS

The complete streets terminology is similar to terms such as “livable streets”, “context sensitive solution”, “sustainable transportation”, and “transit oriented developed”. All of these concepts give greater emphasis to alternatives to driving alone than traditional transportation planning concepts which primarily focused on vehicle transportation. Each of these newer terms reveal an approach to planning and designing transportation facilities which takes into consideration transit, bicycling and walking and the demands and desires of each community. Unlike the other terms, “complete streets” is the most encompassing phrase associated with this approach and conveys the need for streets to have all the necessary and appropriate parts to achieve its objective, as opposed other concepts that place greater emphasis on one particular transportation design such as transit accommodations, or pedestrian scale facilities.

COMMUNITY VALUE

In order to facilitate dialogue about complete streets between various stakeholders, this section provides some suggestions for talking about complete streets in way that resonates with roadway users not familiar with in transportation planning terminology. Groups that may be engaged in complete streets discussion include, but are not limited to policy makers, advocacy groups, schools, law enforcement, neighborhood associations, and business groups.
When encouraging dialogue about complete streets amongst stakeholders, begin with a common understanding of complete streets. See Chapter 1: What are Complete Streets, Why Complete Streets? When talking about the benefits of complete streets, consider the following:

**What does improved access mean?**
- Increasing people’s ability to meet most of their daily needs (ex. shopping, school, services, work) without having to drive.
- Improving the convenience of walk, bicycle and transit by designing facilities that provide shorter routes that are not obstructed and reduce weight times at intersections.
- Improving the comfort of walk, bicycle, and transit by designing facilities that are buffered from high traffic volumes or speeds, reducing pedestrian exposure to traffic at intersections and providing lighting and shade.

**What does economic benefit mean?**
- Reinvesting money in the local economy by reducing fuel consumption and vehicle related expenses.
- Reducing household cost by not spending it on fuel and other vehicle-related expenses

**Why care about safety?**
- Traffic crash injuries can result in severe and/or permanent health damage, affecting quality of life and at a great cost to individuals and societies.
- Bicycle and pedestrians are disproportionately negatively impacted by collisions.
- Increasing the number of people of walking, biking, and public transportation use result in lower rates of chronic disease (including cancer, diabetes, stroke, and heart disease) and mortality.
- Slower vehicle speeds have a positive correlation with improved safety for all modes.
Why is equity important?
- People experiencing poverty or language barriers, people of color, older adults, youth, and people with disabilities tend to experience a disproportionately small share of benefits from transportation investments, particularly because traditional transportation investment prioritize vehicles. These groups are overrepresented in households without access to a vehicle.
- Other elements of the transportation system, such as lack of ADA compliance or safe street crossings also create extra barriers that may prevent these groups from experiencing the full benefit of transportation investments.

How are the environment and complete streets related?
- The street is a system: a transportation system, an ecosystem and a system of social and economic interactions.
- Improve habitat in right-of-ways.
- Increase tree canopy in rights-of-way which can increase habitat and reduce the urban heat island affect.
- Treat storm water volumes and flow to improve water quality and reduce run off.
- Avoid impacts to natural areas.
- Reduce greenhouse gas emission and fossil fuel consumption by reducing the number and length of vehicle trips and improving the flow of traffic (and minimizing motor idling).

ADDRESSING SPECIFIC USER GROUPS
Consult the following fact sheets developed by Smart Growth American when addressing specific user groups or topics. Go to www.smartgrowthamerica.com to download pdf or view web versions of fact sheets. Smart Growth American offers the following fact sheets:
- Children
- People with Disabilities
- Older Adults
- Health
- Public Transportation
- Climate Change
- Economic Revitalization
- Gas Prices
- Safety
- Lower Transportation Costs
- Create Livable Communities
- Equity
- Ease Traffic Woes
- Costs of Complete Streets
- Change Travel Patterns
- Complete and Green Streets
- Networks of Complete Streets
- Rural Areas and Small Towns


Santa Cruz County Regional Transportation Commission & Community Traffic Safety Coalition, & University of California Santa Cruz IDEASS Program. “Santa Cruz County Bike and Pedestrian County Report.” May 2012.

# Appendices

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A2  Draft Monterey Bay Area Complete Streets Guidebook (August 2013)
### BICYCLE NEED/FACILITIES

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<th>Uncontrolled Crossings (Class)</th>
<th>Safety</th>
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### TRANSIT NEED/FACILITIES

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Communities may include the entire sample complete streets policy in the general plan circulation element as a complete policy package, or may selectively adopt specific objectives or policies. Communities are encouraged to tailor the policy and implementation measures to local needs, concerns, and conditions, and to identify the local agency or department responsible for implementation. Most circulation elements already include goals, objectives, and policies addressing the needs of motorists and movers of commercial goods, so the package below focuses on other types of users. In tailoring the package for your jurisdiction you may wish to include the entire package as a separate policy set with cross-references to other pre-existing provisions of the circulation element, or you may choose to use some or all of the goals, objectives, and policies below for amendments to existing provisions.

**Goal C1:** Provide streets that are safe, comfortable, and convenient routes for walking, bicycling, and public transportation to increase use of these modes of transportation, enable active travel as part of daily activities

**Objective C1.1:** Integrate Complete Streets infrastructure and design features into street design and construction to create safe and inviting environments for people to walk, bicycle, and use public transportation. “The City will promote context-sensitive streets (i.e., by designing transportation projects within the context of adjacent land uses to improve safety and neighborhood livability, promote transportation choices and meet land use objectives), consistent with the City’s Urban Street Design Guidelines.” – City of Charlotte

**Implementing Policies:**

C1.1.1. In planning, designing, and constructing Complete Streets:
   o Reference existing planning documents such as the Monterey Bay Area Complete Streets Guidebook and Checklist, local bicycle and pedestrian master plans, specific plans, transit master plans and neighborhood traffic calming plans.
   o Include infrastructure that promotes a safe means of travel for all users along the right of way, such as sidewalks, shared use paths, bicycle lanes, and paved shoulders.
   o Include infrastructure that facilitates safe crossing of the right of way, such as accessible curb ramps, crosswalks, refuge islands, and pedestrian signals; such infrastructure must meet the needs of people with different types of disabilities and people of different ages.
Ensure that sidewalks, crosswalks, public transportation stops and facilities, and other aspects of the transportation right of way are compliant with the Americans with Disabilities Act and meet the needs of people with different types of disabilities, including mobility impairments, vision impairments, hearing impairments, and others. Ensure that the [Jurisdiction] ADA Transition Plan includes a prioritization method for enhancements and revise if necessary.

Prioritize incorporation of street design features and techniques that promote safe and comfortable travel by pedestrians, bicyclists, and users of public transportation, such as traffic calming circles, additional traffic calming mechanisms, narrow vehicle lanes, raised medians, dedicated transit lanes, transit priority signalization, transit bulb outs, road diets, high street connectivity, and physical buffers and separations between vehicular traffic and other users.

Ensure use of additional features that improve the comfort and safety of users:
- Provide pedestrian-oriented signs, pedestrian-scale lighting, benches and other street furniture, bicycle parking facilities, and comfortable and attractive public transportation stops and facilities.
- Encourage street trees, landscaping, and planting strips, including native plants where possible, in order to buffer traffic noise and protect and shade pedestrians and bicyclists.
- Reduce surface water runoff by reducing the amount of impervious surfaces on the streets.

C1.1.2. In all street projects, include infrastructure that improves transportation options for pedestrians, bicyclists, and users of public transportation of all ages and abilities.

COMMENT: This provision, which requires that all street projects on new or existing streets create complete streets, is a fundamental component of a commitment to complete streets.
Ensure that this infrastructure is included in planning, design, approval, construction, operations, and maintenance phases of street projects.

Incorporate this infrastructure into all construction, reconstruction, retrofit, maintenance, alteration, and repair of streets, bridges, and other portions of the transportation network.

Incorporate multimodal improvements into pavement resurfacing, restriping, and signalization operations where the safety and convenience of users can be improved within the scope of the work.

Develop systems to implement and monitor incorporation of such infrastructure into construction and reconstruction of private streets.

Allow exclusion of such infrastructure from street projects only upon written approval by [the City Manager or a senior manager of an appropriate agency, such as the Department of Public Works], and only where documentation and supporting data indicate one of the following bases for the exemption: (a) use by a specific category of users is prohibited by law; (b) the cost would be excessively disproportionate to the need or probable future use over the long term; (c) there is an absence of current and future need; or (d) significant adverse impacts outweigh the positive effects of the infrastructure.

**COMMENTS:** This provision provides crucial accountability in the exceptions process by requiring documentation, a transparent decision-making process, and written approval by a specified official. Other exceptions can also be included in this list.

In evaluating whether the conditions of (b) and (c) are met, a jurisdiction may need to conduct latent demand studies, which measure the potential level of use by bicyclists, pedestrians, and others should appropriate infrastructure be provided. Such projections should be based on demographic, school, employment, and public transportation route data, not on extrapolations from current low mode use.

Provide an annual report to the [City Council/Board of Supervisors] listing the street projects undertaken in the past year and briefly summarizing the complete streets infrastructure used in those projects and, if applicable, the basis for excluding complete streets infrastructure from those projects.
C1.1.3. Develop policies and tools to improve [Jurisdiction]’s Complete Streets practices:
  o Develop a pedestrian crossings policy, addressing matters such as where to place crosswalks and when to use enhanced crossing treatments.
  o Develop policies to improve the safety of crossings and travel in the vicinity of schools and parks.
  o Consider developing a transportation demand management/commuter benefits ordinance to encourage residents and employees to walk, bicycle, use public transportation, or carpool.
  o Develop a checklist for [Jurisdiction]’s development and redevelopment projects, to ensure the inclusion of infrastructure providing for safe travel for all users and enhance project outcomes and community impact.
  o As feasible, [Jurisdiction] shall incorporate Complete Streets infrastructure into existing public [and private] streets to improve the safety and convenience of Users, construct and enhance the transportation network for each category of Users, and create employment.

C1.1.4. Encourage transit-oriented development that provides public transportation in close proximity to employment, housing, schools, retailers, and other services and amenities.

C1.1.5. Change transportation investment criteria to ensure that existing transportation funds are available for Complete Streets infrastructure.

C1.1.6. Identify additional funding streams and implementation strategies to retrofit existing streets to include Complete Streets infrastructure.

**Objective C1.2:** Make Complete Streets practices a routine part of [Jurisdiction]’s everyday operations.

**Implementing Policies:**

C1.2.1. As necessary, restructure and revise the zoning, subdivision, and [insert by name references to other relevant chapters of the city or county code such as “Streets and Sidewalks” or “Motor Vehicles and Traffic”] codes, and other plans, laws, procedures, rules, regulations, guidelines, programs, templates, and design manuals, including [insert references to all other key documents by name], in order to integrate, accommodate, and balance the needs of all users in all street projects on public [and private] streets.
C1.2.2. Develop or revise street standards and design manuals, including cross-section templates and design treatment details, to ensure that standards support and do not impede Complete Streets; coordinate with related policy documents [such as Pedestrian/Bicycle Plans, insert other relevant documents].

Assess current requirements with regard to road width and turning radii in order to determine the narrowest vehicle lane width and tightest corner radii that safely balance other needs; adjust design guidelines and templates to reflect ideal widths and radii.

C1.2.3. Make training available to planning and public works personnel and consultants on the importance of Complete Streets and on implementation and integration of multimodal infrastructure and techniques.

C1.2.4. Encourage coordination among agencies and departments to develop joint prioritization, capital planning and programming, and implementation of street improvement projects and programs.

C1.2.5. Encourage targeted outreach and public participation in community decisions concerning street design and use.

C1.2.6. Establish performance standards with measurable outcomes to assess safety, functionality, and actual use by each category of users; include goals such as:
  o By [2020], facilitate a transportation mode shift so that [20] % of trips occur by bicycling or walking.
  o By [2015], reduce the number of injuries and fatalities to bicyclists and pedestrians by [___]%.
  o Reduce per capita vehicle miles traveled by [___]% by [insert year].
  o Provide a high proportion of streets ([___]%) with sidewalks, low design speeds, tree canopy, and street furnishings.
  o Increase the miles of bicycle lanes and other bikeways by [___]% by [insert year].
  o Increase the miles of sidewalks by [___]% by [insert year].

COMMENT: Other standards could include user satisfaction, percentage reductions in greenhouse gas emissions, and reduction in gaps in the sidewalk network.
C1.2.7. Establish measures of effectiveness for the performance of the circulation system and the effects of new projects on the system, taking into account all modes of transportation including walking, bicycling, and public transportation. Ensure that measures address relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and public transportation; use these measures for planning and in lieu of automobile level of service standards for environmental review.

C1.2.8. Collect baseline data and regularly gather follow-up data in order to assess impact of policies.
   - Collect data for each category of users regarding the safety, functionality, and actual use of the neighborhoods and areas within [Jurisdiction].
   - Track public transportation ridership numbers.
   - Track performance standards and goals.
   - Track other performance measures such as number of new curb ramps and new street trees or plantings.
   - Require major employers to monitor how employees commute to work.
   - All initial planning and design studies, health impact assessments, environmental reviews, and other project reviews for projects requiring funding or approval by [Jurisdiction] shall: (1) evaluate the effect of the proposed project on safe, comfortable, and convenient travel by bicyclists, children, persons with disabilities, pedestrians, users of public transportation, seniors, youth, and families, and (2) identify measures to mitigate any adverse impacts on such travel that are identified.

**Objective C1.3:** Plan and develop a comprehensive and convenient bicycle and pedestrian transportation network.

**COMMENTS:** Jurisdictions with existing bicycle or pedestrian plans may have already addressed the policy/action items under this objective. In such jurisdictions, it is not necessary to restate these policy and action items verbatim. Such plans should be reviewed, and, if necessary, revised to complement the complete streets approach. If existing plans address this objective sufficiently, a jurisdiction may incorporate its bicycle and pedestrian plans with language such as: “The provisions set forth in the [Pedestrian/Bicycle Plan] are incorporated into this plan.” If this approach is used, be sure that the incorporated plan is internally consistent with the remainder of the general plan.

For jurisdictions that have not developed a detailed bicycle or pedestrian plan, the policies and actions in this section provide a good way to begin addressing those needs in an integrated fashion.
**Implementing Policies:**

C1.3.1. Develop a long-term plan for a bicycle and pedestrian network that meets the needs of users, including bicyclists, children, persons with disabilities, pedestrians, users of public transportation, seniors, youth, and families.

- Conduct a demand analysis for each category of user, mapping locations that are already oriented to each mode of travel and type of user and those for which there is latent demand.
- For each category of user, map out a preferred transportation network with routes that will enable safe, interconnected, direct, continuous, and efficient travel from each major origination area to each major destination area.
- Encourage public participation in community decisions concerning the demand analysis, preferred route network, and street design and use to ensure that such decisions: (a) result in streets that meet the needs of all users, and (b) are responsive to needs of individuals and groups that traditionally have not participated in public infrastructure design. Include bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, seniors, youth, families, low-income communities, communities of color, and other distinct social groups, and their advocates. Establish ongoing advisory committees and public feedback mechanisms.
- Identify and prioritize necessary changes in order to implement the preferred network; prioritize neighborhoods with the greatest need and projects that significantly alleviate economic, social, racial, or ethnic inequities.
- Ensure that the networks provide ready access to healthy sources of nutrition.
- Explore the use of non-standard locations and connections for bicycle, pedestrian, and public transportation facilities, such as easements, restored stream corridors, and railroad rights-of-way.

C1.3.2. Evaluate timeline and funding of the plan.

- Assess the degree to which implementation of the plan can be coordinated with planned reconstruction of streets, development projects, utility projects, and other existing funding streams.
- Develop funding strategies for addressing additional needs; actively pursue funding from state, federal, and other sources.
- Explore imposing development impact fees and dedication requirements on new development to create paths and other Complete Streets infrastructure.
C1.3.3. In collaboration with [appropriate local agencies and regional transportation planning agencies/metropolitan planning organizations], integrate bicycle, pedestrian, and public transportation facility planning into regional and local transportation planning programs and agencies to encourage connectivity between jurisdictions.

C1.3.4. Develop programs to encourage bicycle use, such as enacting indoor bicycle parking policies to encourage bicycle commuting, or testing innovative bicycle facility design.

**Objective C1.4:** Promote safety of bicyclists, pedestrians, and public transportation.

COMMENT: As noted for the previous objective, jurisdictions with existing bicycle or pedestrian plans may also choose to omit these items if already addressed in those plans and instead reference those plans.

**Implementing Policies:**

C1.4.1. Identify physical improvements that would make bicycle and pedestrian travel safer along current major bicycling and walking routes and the proposed future network, prioritizing routes to and from schools.

C1.4.2. Identify safety improvements to pedestrian and bicycle routes used to access public transportation stops; collaborate with [public and private transit agencies operating within Jurisdiction] to relocate stops where advisable.

C1.4.3. Identify intersections and other locations where collisions have occurred or that present safety challenges for pedestrians, bicyclists, or other users; consider gathering additional data through methods such as walkability/bikeability audits; analyze data; and develop solutions to safety issues.

C1.4.4. Prioritize modifications to the identified locations and identify funding streams and implementation strategies, including which features can be constructed as part of routine street projects.

C1.4.5. Collaborate with schools, senior centers, advocacy groups, and public safety departments [insert additional specific departments as appropriate] to provide community education about safe travel for pedestrians, bicyclists, users of public transportation, and others.
C1.4.6. Use crime prevention through environmental design strategies to increase safety for pedestrians, bicyclists, and other users.

C1.4.7. As necessary, public safety departments should engage in additional enforcement actions in strategic locations.

**Objective C1.5:** Make public transportation an interconnected part of the transportation network.

**Implementing Policies:**

C1.5.1. Partner with [public and private transit agencies operating within Jurisdiction] to enhance and expand public transportation services and infrastructure throughout [Jurisdiction] and the surrounding region; encourage the development of a public transportation system that increases personal mobility and travel choices, conserves energy resources, preserves air quality, and fosters economic growth.

C1.5.2. Work jointly with [public and private transit agencies operating within Jurisdiction] to provide destinations and activities that can be reached by public transportation and are of interest to public transportation-dependent populations, including youth, seniors, and persons with disabilities.

C1.5.3. Collaborate with [public and private transit agencies operating within Jurisdiction] to incorporate infrastructure to assist users in employing multiple means of transportation in a single trip in order to increase transportation access and flexibility; examples include, but are not limited to, provisions for bicycle access on public transportation, secure bicycle racks at transit stops, access via public transportation to trails and recreational locations, and so on.

C1.5.4. Ensure safe and accessible pedestrian routes to public transportation stops; relocate stops if safe routes are not feasible at current location.

C1.5.5. Work with [public and private transit agencies operating within Jurisdiction] to ensure that public transportation facilities and vehicles are fully accessible to persons with disabilities.
C1.5.6. Explore working with [public and private transit agencies operating within Jurisdiction] to provide travel training programs for seniors and persons with disabilities, and awareness training for vehicle operators.

C1.5.7. Explore creation of public transportation priority lanes to improve travel time.

C1.5.8. Partner with [public and private transit agencies operating within Jurisdiction] to collect data and establish performance standards related to these steps.

i. Note that many types of accommodations for people with disabilities are mandated by federal law under the Americans with Disabilities Act.

ii. A road diet is a transportation technique in which the number or width of lanes dedicated to motor vehicle traffic is decreased, often by combining the two central lanes into a single two-way turn lane, in order to create additional space within the right of way for features such as bicycle lanes, sidewalks, or buffer zones.

iii. Connectivity describes the directness of routes and density of connections in a street network. A street network with high connectivity has many short links, numerous intersections, and few dead-end streets. As connectivity increases, travel distances decrease and route options increase, allowing more direct travel between destinations.

iv. Crime prevention through environmental design (CPTED) involves designing the built environment to deter criminal behavior. CPTED aims to create environments that discourage the commission of crimes by influencing offenders to not commit a contemplated crime, usually due to increased fear of detection.
APPENDIX C: Multimodal Network Quality Analysis

MULTIMODAL NETWORK QUALITY ANALYSIS

Some communities are not pursuing new Multimodal Level of Service measures as defined in the Highway Capacity manual because collecting the new data required can be resource intensive. Instead, some communities are choosing more qualitative measures of multimodal effectiveness. The Santa Cruz County Regional Transportation Commission tested a Multimodal Network Quality of Service measure to evaluate how transportation investment affected the quality and convenience of bicycle, and pedestrian trips. The methodology used was developed as a cooperative effort with the Sustainable Transportation Council, the agency responsible for developing the Sustainable Transportation Analysis and Rating System. The analysis methods used are based on the multimodal network quality of service measures applied in Burien, Washington.

PEDESTRIAN SYSTEM SCORE METHODOLOGY

Pedestrian network quality standards utilize scoring criteria for sidewalks/paths. The criteria focus on the factors that make a good pedestrian environment based on the character of the street. Therefore there are different thresholds for arterials/collectors and local roads. The service score designations are show as green, yellow, and red. A green score is defined as a high quality pedestrian route. A yellow score indicates acceptable conditions, while a red score would not be attractive to many potential pedestrians (Table 1).

<table>
<thead>
<tr>
<th>Network Score</th>
<th>Along Arterials and Collectors</th>
<th>Local Roads</th>
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<tr>
<td>Green</td>
<td>6’ Sidewalk and 3’ buffer or tree wells on both sides</td>
<td>Sidewalks on both sides</td>
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<tr>
<td>Yellow</td>
<td>Sidewalk on both sides</td>
<td>Sidewalk on one side</td>
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<tr>
<td>Red</td>
<td>No Sidewalk on one or both sides</td>
<td>No Sidewalk</td>
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The scoring system for the bicycle network depends on the type of bicycle facility provided: bike route, bike lane, or shared use trail. As shown in Table 2, roadway classification and speed are intended to guide the determination of which bicycle facility type is most appropriate for a given roadway. Unlike with the pedestrian MMNQ analysis, bicycle MMNQ analysis is not performed on every street. Only the streets identified as having a facility are included in this analysis, since some streets may not be appropriate for cycling.

**DATA REQUIREMENTS**
Data related to roadway functional class, sidewalk width, presence of buffer, bicycle facility type (route, lane, path) and roadway speed were all taken into account when evaluating the MMNQ score.
APPENDIX D: Complete Streets Action Plan Template

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<tr>
<th>NAME: [Jurisdiction]</th>
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<tr>
<td><strong>COMPLETE STREET ACTION PLAN</strong></td>
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<th>IMPLEMENTATION ACTION*</th>
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<th>LEAD DEPARTMENT</th>
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<td>General Plan Vision</td>
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<td>General Plan Policy &amp; Goals</td>
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<td>Transportation Plan Policy &amp; Goals</td>
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<td>Performance Measures</td>
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<td>Planning Guidance Manual</td>
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<tr>
<td>Street Design Standards &amp; Specifications</td>
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<tr>
<td>Transportation Analysis/ Impact Guidelines</td>
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<td>Funding Guidelines</td>
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<td>Training Standards</td>
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*Titles and actions may vary by jurisdiction. This list is meant to serve as an example only.
APPENDIX E: Legal Standing of Street Manual

Note: The discussion included in this Appendix was adopted from the Los Angeles County Model Design Manual for Living Streets, 2011.

Local jurisdictions generally follow some established standards for designing streets. Much confusion exists as to what they must follow, what is merely guidance, when they can adopt their own standards, and when they can use designs that differ from existing standards. The text below untangles the myriad of accepted design documents. It is critical for cities and counties to understand how adopting this manual meshes with other standards and guides. The most important of those standards and guides are the following:

- The American Association of State Highway and Transportation Officials’ (AASHTO) A Policy on Geometric Design of Highways and Streets (the “Green Book”)
- The California Highway Design Manual
- Local manuals or street design standards
- The Manual on Uniform Traffic Control Devices (MUTCD)
- The California Fire Code
- The California Streets and Highways Code and California Vehicle Code
A discussion of the federal-aid roadway classification system helps to frame the requirements of each of these documents. Local governments that wish to use certain federal funds must use a street classification system based on arterials, collectors, and local streets. These funds are for streets and roads that are on the federal-aid system. Only arterials and certain collector streets are on this system. In Chapter 3, “Street Networks and Classifications,” this manual recommends an alternative system. To maintain access to these federal funds, local jurisdictions can use both systems. The federal aid system encourages cities to designate more of these larger streets, and to concentrate modifications along these larger streets. Nevertheless, for the purposes of understanding design standards and guides, this is the existing system of street classification for federal funding.

AASHTO GREEN BOOK

The Green Book provides guidance for designing geometric alignment, street width, lane width, shoulder width, medians, and other street features. The Green Book applies only to streets and roads that are part of the National Highway System (NHS). These are Interstate Freeways, principal routes connecting to them, and roads important to strategic defense. These streets and roads comprise about 14 percent of all federal-aid roadway miles in California, and about 4 percent of all roadway miles (Urgo, J., Wilensky, M., and Weissman, S., Moving Beyond Prevailing Street Design Standards, The Center for Law, Energy, and the Environment at the Berkeley Law School, 2010). Although the Green Book’s application is limited to these streets, some cities apply its recommendations to all streets.

Further, the Green Book provides guidance that cities often unnecessarily treat as standards. The Green Book encourages flexibility in design within certain parameters, as evidenced by the AASHTO publication A Guide to Achieving Flexibility in Highway Design. For example, 10-foot lanes, which cities often shun out of concerns of deviating from standards, are well within AASHTO guidelines.
CALIFORNIA HIGHWAY DESIGN MANUAL

The California Highway Design Manual (HDM) applies only to State Highways and bikeways within local jurisdictions. If cities deviate from the minimum widths and geometric criteria for bikeways spelled out in Chapter 1000 they are advised to follow the exemption process or experimental process as applicable. The HDM does not establish legal standards for designing local streets. However, like the Green Book, some cities apply HDM guidance to all streets.

As of the writing of this manual, Caltrans is in the process of revising the HDM to meet Caltrans’ commitment to Complete Streets in Deputy Directive 64-R1.

LOCAL STREET MANUALS

Local jurisdictions follow the Green Book, the HDM, or design guidance from organizations such as the Institute of Transportation Engineers (ITE) out of liability concerns. Neither federal nor state law mandates adoption or adherence to these guides. However, municipalities often adopt them to protect themselves from lawsuits. Further, many don’t have the resources to develop their own standards and practices, so they adopt those in the Green Book, the HDM, or another previously adopted manual, or those of other cities.

A question often posed by plaintiffs’ attorneys in traffic-related crashes is, “Did they follow established or prevailing designs, standards, and guidance?” If the attorneys can prove that the local jurisdiction deviated from these, they enhance their chances of winning a judgment against the jurisdiction. Therefore, protection from liability is paramount.

Cities are authorized to adopt or modify their own practices, standards, and guidelines that may reflect differences from the Green Book and the HDM. If these changes generally fall within the range of acceptable practice allowed by nationally recognized design standards, the adopting agencies are protected from liability to the same extent they would be if they applied the Green Book or the HDM. Most changes to streets discussed in this manual fall within the range of the guidelines or recommended practices of nationally recognized organizations such as AASHTO, ITE, Urban Land Institute (ULI), and Congress for the New Urbanism (CNU).
Working within previously established regional guidelines generally should result in a design that is protected from liability. The Green Book and the HDM are silent on many design features, and do not consider the needs within unique contexts. In these cases, cities can develop their own guidelines and standards and incorporate international equivalents or practices from other cities. Cities may adopt the guidance in this manual, which compiles best practices in creating living streets. This manual could, in effect, become the legal prevailing standard by which liability would be assessed.

Cities can also utilize designs that fall outside the ranges specified by nationally accepted guidelines and standards, but these practices can potentially increase liability unless done with great care. When agencies elect to utilize designs that fall outside the guidelines of nationally recognized documents, they need to use additional care to ensure they do not expose themselves to liability.

To minimize liability, local jurisdictions either need to adopt their own standards (which should be based on rationale or evidence of reasonableness), or they can conduct an experimental project. When conducting an experimental project, agencies need to show that they are using the best information that is reasonably available to them at the time, document why they are doing what they are doing, use a logical process, and monitor the results and modify accordingly. This is because the agency may be required in the future to show that its design is reasonable, and the agency may not be able to cite a nationally published guideline or recommendation to support its local action. Often, these experimental projects are conducted because the design engineer has reason to believe that the new or evolved design will be safer or otherwise more effective for some purpose than if the project had prevailing standards and guides been used. These reasons or rationales are based on engineering judgment and should be documented to further minimize exposure to liability.

Unless otherwise noted, everything in this manual can readily be adopted and incorporated without fear of increased liability. In addition, this manual carries the credibility of the many top-level experts who produced it.

In some cases, AASHTO design guidelines may not provide information on innovative or experimental treatments that have shown great promise in early experiments and applications. Since AASHTO is a design guide, agencies have some flexibility to use designs that fall outside the boundaries of the AASHTO guide. Deviation from the range of designs provided in the AASHTO guide requires agencies to use greater care and diligence to document their justification, precautions, and determination to deviate from the guidelines. In California, the precautions to establish
“design immunity” should be followed. These include consideration/analysis and approval by a registered engineer qualified to sign the plans, and certification by the city council or reviewing body clearly indicating the agency’s intent. This process documents the engineering judgment that went into the design.

Many cities today use various traffic calming measures to slow traffic and to improve neighborhood livability. Traffic calming measures are not traffic control devices and therefore the state exercises no jurisdiction over them.

Local agencies may currently use many other reports and documents to guide their roadway design and transportation planning. Other documents provide valuable procedure and reference data, but they do not set standards. They can be referred to and defined as standards by local agencies, but the local authority often has the flexibility to selectively endorse, modify, or define how these informational documents can be used or incorporated into its engineering and planning processes. Also, newer versions of these documents have additional information that can conflict with the local historical approach.

The expected results of the design approaches presented in this document are generally intended to improve safety and/or livability. As a result, implementation of these features should generally reduce liability and lawsuits. There is no way to prevent all collisions or lawsuits, but adopting policies, guidelines, and standards and doing experimental projects with reasonable precautions is a defensible approach.

**MUTCD**

The MUTCD provides standards and guidance for the application of all allowed traffic control devices including roadway markings, traffic signs, and signals. The Federal Highway Administration oversees application of the MUTCD. California cities must follow the California MUTCD, which generally mirrors the federal MUTCD, but not always.

The rules and requirements for the use of traffic control devices are different than for street design criteria. Local agencies have limited flexibility to deviate from the provisions of the California MUTCD in the use of traffic control devices due to the relationship between the MUTCD and state law. The California MUTCD does provide flexibility within its general provisions for items such as application of standard traffic control devices, use of custom signs for unique situations, traffic sign sizes, and sign placement specifics. In contrast, agencies do not generally have the flexibility to
develop signs that are similar in purpose to signs within the manual while using different colors, shapes, or legends. Agencies are also not authorized to establish traffic regulations that are not specifically allowed or are in conflict with state law. The provisions of the California MUTCD and related state laws thus make it difficult to deploy new traffic control devices in California. This can result in complications, especially in the areas of speed management, pedestrian crossings, and bikeway treatments.

The State of California and the Federal Highway Administration have procedures that allow local agencies to experiment with traffic control devices that are not included in the current MUTCD. Such demonstrations are not difficult to obtain from the Federal Highway Administration for testing of new devices, especially as they relate to pedestrian and bicycle facilities, but the requesting agency must agree to conduct adequate before-and-after studies, submit frequent reports on the performance of the experimental device, and remove the device if early results are not promising. The State process can be more difficult for obtaining approval. Federal approval must be obtained first. The California Traffic Control Devices Committee advises Caltrans, which must then agree to allow the experiment to be conducted and determine that the experiment is not in conflict with State law. Once approval is granted for the experiment, the city has been given some legal immunity from liability suits. Since the California Vehicle Code is written to mirror the MUTCD, provisions within the Vehicle Code may not allow the experiment to proceed. The need to modify the Vehicle Code can complicate obtaining State permission to experiment.

Both the federal and California MUTCD are amended through experimentation. After one or more experiments have shown benefit, the new devices are sometimes adopted into these manuals. In California, the Vehicle Code must be changed first if the Vehicle Code prevents use of the new device.

The federal MUTCD and California MUTCD establish warrants for the use of some traffic control devices. For example, stop signs, traffic signals, and flashing beacons are expected to meet minimum thresholds before application. These thresholds include such criteria as number of vehicles, number of pedestrians or other uses, distance to other devices, crash history, and more. These warrants often prevent local engineers from applying devices that, in their opinion, may improve safety. For example, trail and/or pedestrian crossings of busy, high-speed, wide arterial streets may need signals for user safety, but they may not meet the warrants.
As with street design guidelines, cities may establish their own warrants or modify those suggested by the California MUTCD to suit their context in order to use some traffic control devices. In special circumstances that deviate from their own warrants, cities need to document their reasons for the exception. For example, they may say the trail crossings or school crossings qualify for certain traffic control devices.

**CALIFORNIA FIRE CODE**

The California Fire Code can impede street design in limited circumstances. The state legislature has adopted the National Fire Code. The National Fire Code is written by a private agency and has no official legal standing unless states or municipalities adopt it, as has been done in California. The primary barrier caused by this adoption is the requirement for a minimum of 20 feet of an unobstructed clear path on streets. To comply with this, streets with on-street parking on both sides must be at least 34 feet wide. This prevents municipalities from designing “skinny” and “yield” streets to slow cars and to make the streets safer, less land consumptive and more hospitable to pedestrians and bicyclists.

There are ways around this requirement. If the local jurisdiction takes measures such as installing sprinklers and adding extra fire hydrants, or the adjacent buildings are built with fire retardant materials, it may be able to get the local fire department to agree to the exception.

Alternatively, the state legislature could repeal its adoption of the 20-foot clear path requirement due to

- The arbitrary and unresearched nature of the provision
- The safety problems associated with the resulting excessively wide streets
- The contradiction that this provision causes with properly researched guidelines and standards by ITE, CNU, AASHTO, and others for streets under 34 feet wide
- The potential liability that the 20-foot clear provision creates for designers who maintain, modify, or design streets that do not provide 20-foot clear paths

It is likely that the state legislature was unaware of these issues when it adopted the code in its entirety.
CALIFORNIA STREETS AND HIGHWAYS CODE AND CALIFORNIA VEHICLE CODE

The California Streets and Highways Code and the California Vehicle Code include laws that must be followed in street design. These are embodied in the California MUTCD. Changes to the Streets and Highways Code and the Vehicle Code may cause the California MUTCD to change.
# APPENDIX F: Land Use Place Type Matrix

<table>
<thead>
<tr>
<th>Urban Place Types</th>
<th>Intensity</th>
<th>General Characteristics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>U-1 Urban Single-Family Residential</strong></td>
<td>Low to Medium Intensity (6 to 10 units per acre)</td>
<td>Single-family homes in close proximity to urban centers, typically laid out in a grid block pattern. Includes occasional duplexes, accessory units, and/or small multi-unit buildings. Compact development pattern with small lots, limited setbacks, and close proximity of structures.</td>
<td>Chestnut Street, Santa Cruz Hearn Street, Monterey</td>
</tr>
<tr>
<td><strong>U-2 Urban Multi-Family Residential</strong></td>
<td>Medium Intensity (12 to 30 units per acre)</td>
<td>Small and large apartment buildings, duplexes, accessory units, and limited single-family homes in close proximity to urban centers. Well-integrated into the surrounding urban fabric. One- to five-story residential buildings on small to medium lots with minimal setbacks from property lines and adjacent structures. Building entrances typically oriented to the street.</td>
<td>Clay Street, Monterey 3rd Street, Santa Cruz</td>
</tr>
<tr>
<td><strong>U-3 Urban Commercial</strong></td>
<td>Low Intensity (FAR 1.0 or less)</td>
<td>A high concentration of retail, service, and office uses organized in a grid block pattern. A pedestrian-friendly environment supported by active ground floor building frontages, entrances oriented to the street, parking located to the rear of lots, and buildings placed at or near property lines.</td>
<td>Downtown Santa Cruz  Downtown Monterey</td>
</tr>
</tbody>
</table>
### Urban Mixed Use

<table>
<thead>
<tr>
<th>Intensity</th>
<th>Land Use</th>
<th>Transportation</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium to High intensity (FAR greater than 2.0)</td>
<td>Commercial, office, and residential uses in medium- to large-scale buildings. Vertical mixed use with residential or office above ground floor retail is typical.</td>
<td>High-quality pedestrian infrastructure supports pedestrian circulation. Short blocks, grid street pattern, land-use diversity, and proximity of destinations support non-motorized modes of transportation; motorists frequently park once to visit multiple destinations. Transit typically includes modest to robust bus service, with headways averaging 15 to 30 minutes.</td>
<td>Downtown Santa Cruz Downtown Monterey</td>
</tr>
</tbody>
</table>

### Suburban Place Types

<table>
<thead>
<tr>
<th>Intensity</th>
<th>General Characteristics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S-1 Single-Family Residential</strong></td>
<td>Low intensity (3 to 6 units per acre)</td>
<td>Single-family homes in self-contained residential neighborhoods. One- to two-story buildings typically on 5,000 to 15,000 square foot lots with moderate to large setbacks.</td>
</tr>
<tr>
<td><strong>S-2 Multi-Family Residential</strong></td>
<td>Low to Moderate intensity (10 to 25 units per acre)</td>
<td>Duplexes, apartment complexes, subdivided houses, and mobile home parks in a generally low-density setting. Generally one- to four-story buildings on lots of varying sizes, often inward-oriented.</td>
</tr>
<tr>
<td>S-3</td>
<td>Neighborhood Commercial</td>
<td>Low Intensity (FAR less than 0.5) or occasionally Moderate Intensity (FAR 1.0 to 2.0)</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Stand-alone retail buildings, strip malls, local-serving big-box stores, and smaller-scale offices or office parks. Usually one story buildings occupying low proportion of total lot area; offices in some instances are multi-story. Typically set far back from street.</td>
<td>Automobile-oriented with large parking areas and limited pedestrian access, usually found along arterial streets. Limited local or, in rare instances, internal transit service. Sidewalks and bike facilities usually absent or limited.</td>
<td></td>
</tr>
<tr>
<td>Forest Ave-Farway Shopping Center, Pacific Grove McCray-Meridian Shopping Center, Hollister Kings Village Shopping Center, Scotts Valley</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| S-4 | Regional Commercial | Large-scale retail or entertainment uses with a regional draw, including shopping malls, national-chain big-box stores, and tourist destinations. Most frequently occurs as large retail stores with substantial surrounding parking areas, but may also include more pedestrian-oriented or urban forms, especially for tourist destinations. |
|---------------------------------------------|----------------------------------------------------------------------------------|
| Automobile-oriented, with most shoppers or visitors arriving by car; usually found along arterial streets or in core commercial areas. Transit access varies by setting, but in most instances includes only limited local or, in rare instances, intercity transit service. Except when located in core commercial areas, pedestrian and bicycle access and amenities tend to be limited or absent. |
| Capitola Mall Cannery Row, Monterey Airline Highway Shopping Center, Hollister Sand Dollar Shopping Center, Sand City |

| S-5 | Employment Center | Low to Medium Intensity (FAR from less than 1.0 to 2.0) |
|---------------------------------------------|----------------------------------------------------------------------------------|
| Office and research-oriented industrial land uses with medium to high employment densities. Buildings typically have low to moderate lot coverage, may have multiple stories or higher lot coverage. Suburban-style office parks, with multi-story office buildings and large parking lots are typical, as are stand-alone office buildings with surrounding parking. | Usually curtailed-oriented with large areas of surface parking, or occasionally parking garages. May in limited instances include internal pedestrian-oriented features. Transit service is reflective of surrounding place types, but is typically similar to other suburban place types, with limited service and frequency. Larger employment centers may feature private shuttle services. |
| Tes Pinos Road and Rancho Drive, Hollister Ryan Ranch Office Park, Monterey |

<p>| S-6 | Neighborhood Mixed Use | Medium Intensity (25 or more units per acre, FAR usually 2.0 or greater) |
|---------------------------------------------|----------------------------------------------------------------------------------|
| Multi-family, mixed-use developments with ground-floor, neighborhood-serving retail or office uses. Usually found in newly built traditional neighborhood developments or as infill along existing commercial corridors. Buildings usually have high lot coverage, with no setbacks and pedestrian-oriented entrances directly fronting the street. | Pedestrian, bicycle, and transit oriented with bicycle parking, limited or tacked-away car parking, and pedestrian amenities. Transit service typically similar to other suburban place types, but with greater potential for increased transit service and facilities. |
| Capitola Beach Villas Groenfeld Village |</p>
<table>
<thead>
<tr>
<th>Town Place Types</th>
<th>Intensity</th>
<th>General Characteristics</th>
<th>Transportation</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-1 Town Single-Family Residential</td>
<td>Low to Medium Intensity (6 to 15 units per acre)</td>
<td>Single-family homes in close proximity to town centers or pedestrian-oriented commercial corridors, typically laid out in a grid block pattern. Includes some duplexes, accessory units, or small multi-unit buildings. Compact development pattern with small lots, limited setbacks, and close proximity of structures.</td>
<td>Short blocks, grid street pattern, and proximity to destinations support nonmotorized modes of transportation. Complete sidewalks often present; bicycle infrastructure typically limited. Neighborhoods served by bus service with 30-minute or more headways; occasional proximity to regional or intercity transit service.</td>
<td>Jewel Box, Capitola, 10th Street, Salinas, 6th Street, Hollister</td>
</tr>
<tr>
<td>T-2 Town Multi-Family Residential</td>
<td>Medium Intensity (12 to 30 units per acre)</td>
<td>Combination of apartment buildings, duplexes, accessory units, and some single-family homes. Usually located in areas with traditional street patterns. One- to three-story residential buildings, typically with small setbacks from the street and property lines.</td>
<td>Short blocks, grid street pattern, and proximity to destinations support nonmotorized modes of transportation. Complete sidewalks often present; bicycle infrastructure typically limited. Neighborhoods served by bus service with 30-minute or more headways; occasional proximity to regional or intercity transit service.</td>
<td>Laine Street, New Monterey Neighborhood, East Riverside Drive, Watsonville</td>
</tr>
<tr>
<td>T-3 Town Commercial</td>
<td>Low intensity (FAR 1.0 or less)</td>
<td>Pedestrian-oriented commercial uses in town core commercial areas or along commercial corridors. Usually in areas with traditional street patterns. One-story buildings, often with no setbacks and sometimes with full lot coverage. Entrances usually face the street. Lots occasionally include parking, usually located at rear.</td>
<td>Short blocks, grid street pattern, and nearby residential uses support nonmotorized modes of transportation. Complete sidewalks often present; bicycle infrastructure typically limited. Transit typically includes limited local service, with headways as short as 30 minutes. Many visitors arrive by car, particularly when traveling long distances.</td>
<td>Bay and Mission Street, Santa Cruz, Downtown Carmel</td>
</tr>
</tbody>
</table>
### Non-Urban Place Types

<table>
<thead>
<tr>
<th>Intensity</th>
<th>General Characteristics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>NU-1 Agriculture and Rural Residential</td>
<td>Isolated single-family homes, farmhouses, and other agriculture-related structures in an agricultural or rural setting. Various building heights and sizes, frequently 2-stories or less, often with expansive setbacks from roads and property lines.</td>
<td>Outlying portions of Greenfield, Outlying portions of San Juan Bautista</td>
</tr>
<tr>
<td>NU-2 Rural-Town Commercial</td>
<td>Variety of small commercial buildings usually located in centers of compact, rural towns. Buildings usually one-story with parking at front or rear. In some cases may not include parking and may include second story with upstairs use.</td>
<td>3rd Street, San Juan Bautista, Marin Street, Cazadero, Alto Street, Gonzales</td>
</tr>
</tbody>
</table>

**T-4 Town Mixed Use**

- **Intensity** (FAR 1.0 to 3.0)
- Low to Medium intensity buildings typically in core commercial areas or along commercial corridors. Usually in areas with traditional street patterns. Vertical mixed-use buildings common with residential and office above ground-floor commercial. Buildings typically built to property lines, parking may be included, usually to the rear of buildings.
- Capitola Village
  - 5th Street, Hollister
  - Lighthouse Avenue, Pacific Grove
- Short blocks, grid street pattern, and nearby residential uses support non-motorized modes of transportation. Complete sidewalks often present, bicycle infrastructure typically limited.
- Transit typically includes limited local service, with headways as short as 30 minutes. Many visitors arrive by car, particularly when traveling long distances.
### NU-3 Rural-Town Residential

**Intensity**: Low intensity (6 to 8 units per acre)

- Single-family homes in areas with grid street patterns; close proximity to central areas of compact, rural towns. May include small multi-family buildings such as duplexes or homes with accessory units.
- One- or two-story buildings on small- to medium-sized lots. Homes have variable setbacks from property lines and other buildings.

**Examples**:
- 6th Street, San Juan Bautista
- Scott Street, Chualar
- 9th Street, Gonzales

### NU-4 Exurban Residential

**Intensity**: Very low to low intensity (usually 1 unit per acre or less, on rare occasions up to 6 units per acre)

- Single-family homes located in neighborhoods on urban fringe. Usually characterized by non-grid street patterns and relatively long distances to noncontiguous urban or town centers.
- One or two-story buildings on large lots with deep setbacks. In rare instances, may include smaller “suburban” style lots located for urban central areas of towns or cities.

**Examples**:
- Pasadera Neighborhood, Monterey
- Fairview Road, Hollister
- Crescent Drive, South Valley

### Industrial and Manufacturing (IND)

**Intensity**: Various intensities (FAR from less than 1.0 to 4.0 or higher)

- Various industrial and manufacturing uses, including factories, storage facilities, industrial and commercial suppliers, and some research and development uses.
- Street patterns and building forms vary, ranging from traditional blocks and pedestrian-oriented configurations to isolated facilities inaccessible to non-motorized transportation.

**Examples**:
- Industrial Drive, Hollister
- Los Coches Road, Soledad
- Estates Drive, Aptos

**General Characteristics**

#### Land Use

- Various industrial and manufacturing uses, including factories, storage facilities, industrial and commercial suppliers, and some research and development uses.

#### Transportation

- Transportation characteristics vary, with both pedestrian- and auto-oriented development patterns.
- Availability of transit, pedestrian access, and bicycle infrastructure vary depending upon setting.
<table>
<thead>
<tr>
<th>Code</th>
<th>Category</th>
<th>Description</th>
<th>Transportation characteristics vary.</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT</td>
<td>Airport</td>
<td>N/A</td>
<td>Various institutional, civic, public, educational, hospital, and utilities uses located in various settings. Built forms vary by specific use and location.</td>
<td>Monterey Peninsula Airport Hollister Municipal Airport</td>
</tr>
<tr>
<td>INS</td>
<td>Institutional</td>
<td>Various intensities (FAR from less than 1.0 to 4.0 or higher)</td>
<td>Transportation characteristics vary, with both pedestrian- and auto- oriented development patterns Availability of transit, pedestrian access, and bicycle infrastructure are all variable, depending upon setting.</td>
<td>UC Santa Cruz Sailines High School Public Libraries Wastewater Treatment Plants</td>
</tr>
<tr>
<td>OSR</td>
<td>Open Space / Recreation</td>
<td>N/A</td>
<td>Transist characteristics highly variable. Isolated regional parks or wilderness areas may lack transit connections and pedestrian/bicycle access. Parks in urban centers may have frequent transit service and complete bicycle/ pedestrian infrastructure.</td>
<td>Village Green, Greenfield Ramsay Park, Watsonville Calaveras Park, Hollister</td>
</tr>
</tbody>
</table>
APPENDIX G: Greenway Quality Criteria

Connections

- Links Neighborhood
  - Connects to regional trails and other bicycle facilities
  - Connects residents to local businesses and services
  - Connects schools, parks, and neighborhood amenities

Integration with Street Hierarchy

- Accessible from nearby residences
- Maintains adequate street parking
- Street layout that allows emergency vehicles and deliveries access
- Heavier traffic routed to arterial

A City-wide Network

- Connections from one neighborhood to another (may need to use other bicycle facilities)
- Removes barriers and detours for efficient bicycle and pedestrian flow
- Connects to transit stops and other modes of transportation

Safety and Protection

Deterrent of Crime and Violence

- Active residential buildings provide presence surveillance and eyes on the street
- Developing functions and use throughout the day
- Appropriate lighting in evening hours

Protection Against Collisions

- Defined and protected special crossings
- Reduced motor vehicle speed
- Clear sight lines
- No impeding obstacles
- Visibility and signalized lighting on paths and obstacles

Protection from Unpleasant Sensory Experiences

- Reduction of vehicle cutting through neighborhood endcap
- Enhanced environment without noise, vibration, or pollution

Enjoyable Spaces

Opportunities to Step

- Fun and playful experiences dispersed throughout the route
- Developing activities
- Protection against weather
- Bicycle parking close to destinations
- Appropriate furniture for activities
- Variety of places to sit with street furniture that encourage conversations

Neighborhood Identity

- Spaces for spontaneous activities to encourage getting to know your neighbors
- Opportunities for art and local activity
- Neighborhood design that reflects cultural and historical values
- Sense of ownership and responsibility

Visually Appealing Landscape

- Interesting streets and vistas
- Abundant trees and vegetation
- Spaces designed for a full range of ages
- Tends to protect from wind and adverse climate
- Delays between private and public space

Comfortable Movement

Opportunities to Interact and Exercise

- Travel lanes wide enough for bicycles to travel comfortably
- Visual and interesting experiences placed at regular intervals

Ease in Finding and Understanding a Route

- Recognizable street design at the pedestrian scale
- Clear signage at gaps between links
- Legible wayfinding to nearby destinations

Comfort to Walk, and Ride

- Routes respond to existing topography
- Continuous routes and minimization of obstacles
- Standardized pavement and comfortable drainage
- Guaranteed pedestrian paths that are usable four seasons of children, elderly, and the disabled

Green Futures: Research and Design Lab, Scan Design Foundation, GEHL Architects. Seattle Neighborhood Greenways: Seattle Tool Kit 2012
Purpose

This checklist was developed to assist project sponsors in defining and developing their projects using the Monterey County Complete Streets Guidebook. Use of the checklist will result in projects that are consistent with local, regional and state complete street policies and meet the needs of all users of the roadway.

How to Use the Checklist

The checklist enables project sponsors to document how each existing or future roadway user was considered and accommodated throughout the project development process. Project sponsors are encouraged to reference the Monterey County Complete Streets Guidebook while going through the checklist for complete streets applications and roadway design ideas.

Public Works and Planning departments will use the checklist to review projects within or affecting the public right-of-way. If projects do not incorporate complete streets design treatments, project sponsors must document why not and what accommodations will be provided for pedestrians, bicyclists and/or transit users unless the project is exempt (see Guidebook pg. X for exemptions).

Threshold Requirements

The Complete Streets Checklist may be used to review the following types of projects:

1. Street improvements requiring permits or approvals by the Department of Planning and/or Public Works which requests a change of the public right of way such that any one or more of the following apply:
   - A traffic study is required
   - A signalized intersection is affected

2. Public Works Department capital projects that alter or maintain the public right of way prior to the issuance of any permit or approval
**CHECKLIST - General Project Information**

1. **Project Name**
   - Project Description

2. **Contact Information**
   - Applicant Name
   - Phone
   - Fax
   - Email

3. **Project Schedule (Circle Current Project Phase)**
   - **Project Milestone**
     - Date Started/Anticipated
     - Planning
     - Preliminary Design
     - Final Design
     - Construction

4. **Circle the Street Design Type** - *(See Ch X of Guidebook)*
   - **Street Design Type**
     - Main Street
     - Avenue
     - Boulevard
     - Parkway
     - Local/Subdivision Street
     - Rural Road
     - Local Collector
     - Arterial
     - Pedestrian/Bicycle-Oriented
     - Auto/Truck-Oriented

**A34** Draft Monterey Bay Area Complete Streets Guidebook (August 2013)
### CHECKLIST - Existing Conditions

#### 5. Existing Roadway Conditions

<table>
<thead>
<tr>
<th>ROW Width</th>
<th>Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement Width</td>
<td>Ft</td>
</tr>
<tr>
<td># of Lanes</td>
<td>NB/EB: SB/WB:</td>
</tr>
<tr>
<td>2-Way Center Turn lane</td>
<td>Yes No</td>
</tr>
<tr>
<td>Shoulder Width</td>
<td>Ft</td>
</tr>
<tr>
<td>Sidewalk Width</td>
<td>Ft</td>
</tr>
<tr>
<td>Bike Lane Width</td>
<td>Ft</td>
</tr>
<tr>
<td>Posted Speed Limit</td>
<td>MPH</td>
</tr>
<tr>
<td>Pavement Condition</td>
<td>Poor Fair Good</td>
</tr>
<tr>
<td>Traffic Volumes (AADT)</td>
<td>Yes No</td>
</tr>
<tr>
<td>Truck Route</td>
<td>Yes No</td>
</tr>
</tbody>
</table>

#### 6. Existing Land Uses (check all that apply)

- Multi-Family Residential
- Commercial
- School
- Civic/Public Facilities
- Park
- Visitor-Serving
- Senior Housing

#### 7. Safety (See Complete Streets Needs Assessment Matrix & http://tims.berkeley.edu/)

- Are there perceived safety/speeding issues in the project area? Yes No
- Is there a history of collisions in the project area? Pedestrian Bicyclist Motorist
CHECKLIST - Future Conditions

8. Future Roadway Conditions

Are there planned transportation projects that could affect circulation in the project area?

[ ] Yes [ ] No

If so, please list the project(s)


What are the projected traffic volumes in the project area?


Department Review Only

Given the Existing and Future Conditions the project area is a candidate for*:

- Road Diet (3 or more lanes; AADT<20,000; bicycle collisions)
  - [ ] Yes [ ] No

- Traffic Calming
  - [ ] Yes [ ] No

- Roundabout
  - [ ] Yes [ ] No

- Transit-Oriented Development/Transit Corridor (15 min headway)
  - [ ] Yes [ ] No

- Special Accomodations for School Children/Students
  - [ ] Yes [ ] No

- Special Accomodations for Seniors?
  - [ ] Yes [ ] No

* Click on treatment types for definitions and images; more information may also be found in the Guidebook Ch X.
The purpose of this section is to ensure all users have been considered in the design of the project. Complete street design is context-sensitive and a complete street in a rural area may look different than one in an urban area. Refer to safety and special user needs identified in the Existing and Future Conditions sections. The Monterey County Complete Streets Guidebook Chapter X contains design best-practices and sample accommodations for these users.

### 9. Pedestrian Design

Which of the following is provided through the project design?

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimize Driveways</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sidewalk/Path</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscaping/Parking Buffer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADA Access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Street Trees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossing Treatments</td>
<td></td>
<td></td>
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<tr>
<td>Traffic Calming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wayfinding Signage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audible Countdown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (Describe)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 10. Bicycle Design

Which of the following is provided through the project design?

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicycle Lanes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared-Lane Markings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiuse Path</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route/Wayfinding Signs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bicycle Parking</td>
<td></td>
<td></td>
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<tr>
<td>Bicycle Detection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bicycle Box</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color-Treated Bike Lanes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floating Bike Lanes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (Describe)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 11. Transit Design

Which of the following is provided through the project design?

<table>
<thead>
<tr>
<th>Service</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority Bus Lane</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus Bulbs/Pull-Outs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shelter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real Time Bus Arrival Info</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITS/Signal Priority</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transit Service (15 min headways)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wi-Fi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stop/Station Amenities*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (Describe)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Transit Amenities include: Bench, lighting, trash can, route information/maps, concessions, music, and public art.
APPENDIX I: Questions to Support Six-Step Process

APPENDIX- QUESTIONS FOR SUPPORTING SIX-STEP PROCESS

Six Steps

Step 1: Define the Existing and Future Land Use and Urban Design Context

- What does the area look like today?
- What are today’s land use mixtures and densities?
- What are the typical building types, their scale, setbacks, urban design characteristics, relation to street, any special amenities, etc...?
- Are there any particular development pressures on the area (the nature of this may vary according to whether the area is a “greenfield” versus an infill area and this type of information is particularly important in the absence of an area plan)?
- What are the “functions” and the general circulation framework of the neighborhood and adjacent areas?
- Is there a detailed plan for the area?
- If so, what does the adopted, detailed plan envision for the future of the area?
- Does the plan make specific recommendations regarding densities, setbacks, urban design, etc.?
- Are there any other adopted development policies for the area?
- If so, what do those policies imply for the area?
Step 2: Define the Existing and Future Transportation Context

- What is the character of the existing street? How does the street currently relate to the adjacent land uses?
- How does the street currently function? What are the daily and hourly traffic volumes? Operating and posted speeds? What is the experience for pedestrians? Cyclists? Motorists?
- What are the current design features, including number of lanes, sidewalk availability, bicycle facilities, traffic control features, street trees, etc.?
- What, if any, transit services are provided? Where are the transit stops?
- What is the relationship between the street segment being analyzed and the surrounding network (streets, sidewalks, transit, and bicycle connections)?
- Are there any programmed or planned transportation projects in the area that would affect the street segment?
- Are there any other adopted transportation policies that would affect the classification of the street segment?

Step 3: Identify Deficiencies

- Gaps in the bicycle or pedestrian network near or along the street segment;
- Gaps in the bicycle or pedestrian network in the area (which may increase the need for facilities on the segment, because of the lack of alternative routes);
- Insufficient pedestrian or bicycle facilities (in poor repair, poorly lighted, or not well buffered from traffic, e.g.);
- Gaps in the overall street network (this includes the amount of connectivity in the area, as well as any obvious capacity issues on other segments in the area);
- Inconsistencies between the amount or type of transit service provided along the street segment and the types of facilities and/or land uses adjacent to the street;
- Inconsistencies between the existing land uses and the features of the existing or planned street network.
Step 4: Describe Future Objectives

- What existing policies might or should influence the specific objectives for the street?
- What conditions are expected to stay the same (or, more importantly, what conditions should stay the same)?
- Would the community and the stakeholders like the street and the neighborhood to stay the same or to change?
- Why and how would the community and the stakeholders like the street and the neighborhood to change?
- Given this, what conditions are likely to change as a result of classifying the street (exactly how will the street classification and design support the stakeholders’ expectations)?

Step 5: Recommend Street Classification and Test Initial Cross-Section

- What is the recommended cross section?
- Is the cross section supportable considering:
  * right-of way,
  * Existing structures,
  * Existing trees or other environmental features,
  * Topography, and
  * Location and number of driveways.

Step 6: Describe Tradeoffs and Select Cross-Section

- Where alternative design scenarios considered?
- What refinements to the cross section were needed?
- What was the justification for selecting the final design scenario?
Summary of Economics of Complete Streets

An important question about complete streets is, Are the benefits greater than the costs; are complete streets a good investment? The economic impact of transportation project is particularly important in an environment where regions are pursuing a variety of economic development strategies to improve the quality of life for residents and resources for transportation investments are scarce.

Careful evaluation of the benefits of costs can reveal some of the downstream effects complete streets have on economic activity. However, isolating the economic impacts of a concept as broad and indefinite as complete streets makes simple conclusions difficult. The diversity of complete street types and specific implementations suggests a diversity of effects. Moreover, the effects depend on the development, market, and socioeconomic environment in which a complete street is implementing.

The White Paper on the Economics of Complete Streets presents a framework for evaluating the economic impacts of complete streets. The paper was prepared by ECONorthwest, a consulting firm specializing in economics, finance, and planning. ECONorthwest’s findings recognize that complete streets are a relatively new concept and that attempts to rigorously evaluate their economic impacts are limited. ECONorthwest’s research relies heavily on case studies rather than controlled time-series or cross-section studies. While case studies are excellent tools to confirm or challenge theory, to generalize their results into implementable policies comes with risk because one case study’s conditions may or may not be comparable to another.
Approach to Evaluating Economic Benefits of Complete Streets

Transportation systems should aim to do an efficient job of getting people and goods to many desired places safely and quickly. The efficiency of the system is typically evaluated in terms of congestion. Although complete streets investments may address congestion, through managing demand and better use of the existing system, determining the economic impacts of complete streets must go beyond looking at its impacts on congestion. Furthermore, secondary economic impacts can result from transportation investments.

ECONorthwest groups complete street impacts by direct transportation impacts including: trip volume, trip duration, trip quality, safety and construction and maintenance cost, and indirect transportation impacts including: access to amenities, health, and transportation costs, in additional to congestion. ECONorthwest then evaluates the economic effect of the impacts relative to investments, business activity, property values, and government fiscal health.

The white paper notes several points important to the interpretation of its findings. Factors such as existing conditions, transportation geography, time period, perspectives, distribution of impacts, and exogenous trends should be considered when applying the economic framework. The transportation and non-transportation effects of complete streets depend on the details of how complete streets are designed and implemented and on the modes they attempt to influence.

Economic effects of Complete Streets

Given the transportation effects and the non-transportation effects of complete streets, what are the likely effects on economic activity (employment, output, value added, sales, payroll/income, and property values) when measured through investment, business activity, property values and fiscal impacts?

There are some good theoretical reasons for believing that complete streets can have positive effects on the regional or local economy. The limited literature suggests that, in some instances, measures of economic activity have changed with implementation of complete streets. Because the literature is limited, due to the limited empirical work on the
topic, the anecdotal nature of the work, little known about the distributional impacts it does not support unambiguous statements like, “If complete streets are built, the net economic effects will be x.”

**Investment**
Do the levels and composition of public and private investment change with the introduction of complete street?

Transportation investments play an important role in the redevelopment of a center or corridor. Some research suggests that complete street accompany increases in investment for an area. It is reasonable to presume that as a street’s safety, health, and amenities improve, private and public entities will be more willing to invest in the area. But complete street may be part of broader redevelopment efforts that included other public investments. Such investment makes it difficult to separate out the unique effects of complete streets. For instance, it is possible that decisions to invest in complete streets makes areas more competitive for the awarding of such development funds. On the other hand it may be true for any type of transportation project. Theory and case studies support the conclusion that complete street can be an important part of a public investment policy that can change the distribution of economic activity within a region.

**Business Activity**
Do measures of business activity (e.g., business creation, employments, wages/income, sales, revenues) change around complete streets? Do consumes spending patterns change because of complete streets?

Some instances of complete streets have led to more business activity around them. However, an increase of jobs and businesses after the implementation of complete streets does not, by itself, give any indication of how much of that increase is attributable to complete streets. For example, other market forces and location, the amount of new public investment, or pre-development losses such that any new development would have increased measures of business activity.

Consumption patterns could be impacted by a change in the total number of consumers, the cost of goods to consumers, and a change in land values as a result of complete streets. One should expect more economic activity the greater the density and better access. The number of consumers could increase due to potential growth in trip volumes and proximity. Although the number of consumers may increase due to a potential for a growth in trip volumes and proximity, cost of goods may decrease because the transportation cost to the consumer may decrease,
and the higher densities and land values may result in higher rents and higher prices, none of these factors are expected to be affected in a big way. It is unlikely that complete streets decrease consumption. Research reveals that non-motorized consumers are competitive consumers. Although case studies suggest that complete street-type policies may improve bottom lines, it is possible that these kinds of changes will be primarily distributional. A possible exception to the distribution issues is the case where more isolated cities in recreational areas could increase the regional economic activity if they can create “Main Street” environments that are attractive to tourists.

**Property Values**
Do property values change with the introduction of complete streets?

People choose to live in a certain area, in part, because of the amenities it offers. If people value the effects of complete streets they are more likely to choose to live in or near complete street areas. In the event that complete streets increase amenity and travel by non-auto modes, and do not decrease the effectiveness of the automobile too much, complete streets could be correlated with increased property values. However, even if traffic calming features reduce vehicle volume, several studies show property values still increase. The role of improving walkability on increasing property values is depending upon densities and destinations. For example, making a five-lane road servicing commercial strip complete and walkable may have little effect on walking, transit and auto travel, while making a desirable shopping district more walkable cold raise property values.

Social engagement would also be increased if complete streets lead to more people use alternative modes of transportation and allowing users to interact more, which may also affect property values.

Increased property values would likely be a benefit to landowners, as their incomes would increase. Increased property values could be a cost to businesses and residents already operating and living there, as the increase could make the area unaffordable to them.

**Government Fiscal Health**
What is the net fiscal effect of complete streets on local governments and agencies?
In terms of revenues, while there are solid theoretical arguments and some empirical work for specific cases which explain why complete streets as a type of smart growth policy, could improve fiscal health due to increase sales tax, there is no way to tell that other factors aren’t responsible for the increase in tax revenue and sales tax alone do not tell the story of fiscal health.

As a type of transportation investments, complete streets will involve expenditures in public and private funds. Complete streets may increase the up-from implementation costs since they may be above and beyond existing project design improvements. In a 2012 analysis, City of Charlotte Department of Transportation staff found that complete street components, specifically bike lanes and sidewalks, only slightly increase the cost of a project (on the order of 3-5%). In cases where complete street design elements replace larger automotive infrastructure requires, the cost may remain constant or decrease.

If complete streets cause users to shift away from cars, then complete streets could have some maintenance cost savings. However the savings may be minimal because heavy vehicles cause a disproportionate share of road ware. On the other hand, complete street may create a more complicated environment to maintain and higher standards for maintenance, which would generate a higher maintenance cost.

Effects of Health on Economic Growth
Complete streets design frequently incorporates some element of traffic calming which can reduce the number of collisions. Though the safety impacts are worth pursuing for their moral merits alone, reducing the number of deaths and injuries has tangible economic benefits. Given the documented potential for complete streets improvements to reduce the number and severity of crashes, it is possible that the safety benefits alone justify complete streets as a policy.

Beyond gains in safety, complete street could facilitate health improvements by increasing activity levels, and reducing noise. If complete streets contribute to healthier people, the economic benefits of that improved health could be measured as longer life expectancy, improved productivity and reduced costs for health care. Although, complete streets could improve health outcomes for some, it could worsen health outcomes for those who remain automotive uses and are whose trip times could increase and for those who experience injuries, such as a sprained ankle from switching to other modes.
### Economic Framework for Evaluating Complete Streets

<table>
<thead>
<tr>
<th>Categories of Economic Activity</th>
<th>Direct and Non-Direct Transportation Impacts</th>
<th>Effect on Economic Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Possibly Negative</td>
</tr>
<tr>
<td>Business Activity</td>
<td>Access&lt;sup&gt;1&lt;/sup&gt;</td>
<td>![ Possibly None ]</td>
</tr>
<tr>
<td>Business Activity</td>
<td>Trip Volume</td>
<td>![ Possibly None ]</td>
</tr>
<tr>
<td>Fiscal Impact</td>
<td>Maintenance</td>
<td>![ Possibly None ]</td>
</tr>
<tr>
<td>Property Values/ Investment</td>
<td>Amenities</td>
<td>![ Possibly None ]</td>
</tr>
<tr>
<td>Economic Growth</td>
<td>Health&lt;sup&gt;4&lt;/sup&gt;</td>
<td>![ Possibly None ]</td>
</tr>
</tbody>
</table>

**Notes:**

1. New facilities for non-automobiles are likely to have a larger positive impact on economic activity than improving existing facilities.

2. An increase in trip duration for automobiles may negatively impact economic activity, while a reduction in trip duration for non-automobiles may result in a positive impact on economic activity.

3. Construction of new facilities may have significant economic impacts, while adding new elements may have no to little economic impacts.

4. If complete streets contribute to healthier people by encouraging regular physical activity, Complete Streets could positively impact the economic activity by...
APPENDIX K: Bicycle Facility Treatments

INTERSECTION TREATMENTS

Bike Box

Bike Signal

Right Turn Lane Treatment, MUTCD
BICYCLE DETECTION

Video Camera

Inductive Loop
ROADWAY TREATMENTS

- Green Lane
- Buffered Bike Lane
- Cycle Track
- Floating Bike Lane
BICYCLE AMENITIES

Oakland, CA

Portland, OR

Berkeley, CA

San Francisco, CA

Chicago, IL

Wayfinding Signage

Fix-it Station

Angled Parking

Racks on Transit

Draft Monterey Bay Area Complete Streets Guidebook (August 2013)