

# Napa County Transportation and Planning Agency

625 Burnell Street  
Napa, CA 94559



## Agenda - Draft

Thursday, June 4, 2015

2:00 PM

NCTPA/NVTA Conference Room

### Technical Advisory Committee

*All materials relating to an agenda item for an open session of a regular meeting of the Technical Advisory Committee (TAC) which are provided to a majority or all of the members of the TAC by TAC members, staff or the public within 72 hours of but prior to the meeting will be available for public inspection, on and after at the time of such distribution, in the office of the Secretary of the TAC, 625 Burnell Street, Napa, California 94559, Monday through Friday, between the hours of 8:00 a.m. and 5:00 p.m., except for NCTPA holidays. Materials distributed to a majority or all of the members of the TAC at the meeting will be available for public inspection at the public meeting if prepared by the members of the TAC or staff and after the public meeting if prepared by some other person. Availability of materials related to agenda items for public inspection does not include materials which are exempt from public disclosure under Government Code sections 6253.5, 6254, 6254.3, 6254.7, 6254.15, 6254.16, or 6254.22.*

***Members of the public may speak to the TAC on any item at the time the TAC is considering the item. Please complete a Speaker's Slip, which is located on the table near the entryway, and then present the slip to the TAC Secretary. Also, members of the public are invited to address the TAC on any issue not on today's agenda under Public Comment. Speakers are limited to three minutes.***

***This Agenda shall be made available upon request in alternate formats to persons with a disability. Persons requesting a disability-related modification or accommodation should contact the Administrative Assistant, at (707) 259-8631 during regular business hours, at least 48 hours prior to the time of the meeting.***

***This Agenda may also be viewed online by visiting the NCTPA website at [www.nctpa.net](http://www.nctpa.net), click on Minutes and Agendas – TAC or go to <http://www.nctpa.net/technical-advisory-committee-tac>.***

***Note: Where times are indicated for agenda items they are approximate and intended as estimates only, and may be shorter or longer, as needed.***

**1. Call To Order****2. Introductions****3. Public Comment****4. Committee Member and Staff Comments**

Note: Where times are indicated for the agenda items they are approximate and intended as estimates only, and may be shorter or longer, as needed.

**5. STANDING AGENDA ITEMS****5.1 Congestion Management Agency (CMA) Report\* (Kate Miller)**

*Information*

**5.2 Project Monitoring Funding Programs (Alberto Esqueda)**

*Information*

**5.3 Transit Update (VINE Performance) (Tom Roberts)**

*Information*

**5.4 Caltrans' Report (Ahmad Rahimi)**

*Information*

**5.5 Vine Trail Update (Rick Marshall)**

*Information*

**6. CONSENT AGENDA****6.1 Approval of Meeting Minutes of May 7, 2015**

**Recommendation:** Approval

**Estimated Time:** 2:40 p.m.

**Attachments:** [6.1 5-7-15 TAC Meeting Minutes DRAFT.pdf](#)

**7. REGULAR AGENDA ITEMS****7.1 Regional Transportation Plan (Alberto Esqueda)**

**Recommendation:** Information/Approval

**Estimated Time:** 2:45 p.m.

**Attachments:** [7.1 Regional Transportation Plan.pdf](#)

- 7.2 Countywide Pedestrian Plan Update (Diana Meehan)
  - Recommendation:** Approval
  - Estimated Time:** 3:00 p.m.
  - Attachments:** [7.2 Countywide Pedestrian Master Plan.pdf](#)
  
- 7.3 2016/17 Transportation Fund for Clean Air (TFCA) Project List (Diana Meehan)
  - Recommendation:** Approval
  - Estimated Time:** 3:10 p.m.
  - Attachments:** [7.3 TFCA.pdf](#)
  
- 7.4 Safe Routes to School additional year of OBAG Funding (Diana Meehan)
  - Recommendation:** Approval
  - Estimated Time:** 3:15 p.m.
  - Attachments:** [7.4 Safe Routes to School.pdf](#)
  
- 7.5 Legislative Update\* (Kate Miller)
  - Recommendation:** Information
  - Estimated Time:** 3:20 p.m.
  
- 7.6 NCTPA Board of Director's Agenda for June 17, 2015\*
  - Recommendation:** Information
  - Estimated Time:** 3:25 p.m.

**8. FUTURE AGENDA ITEMS**

**9. ADJOURNMENT**

**\*\*\*\*\* JOINT TECHNICAL ADVISORY MEETING/NAPA COUNTYWIDE TRANSPORTATION PLAN CITIZEN'S ADVISORY COMMITTEE MEETING\*\*\*\*\***

- 1. Call To Order**
- 2. Introductions**
- 3. Public Comment**
- 4. Napa Countywide Transportation Plan: Vision 2040 Moving Napa Forward (Kate Miller/Alberto Esqueda)
  - Recommendation:** Information/Approval
  - Estimated Time:** 3:35 p.m.

Attachments:     [TAC CAC 4. Napa Countywide Transportation Plan.pdf](#)

## 5. ADJOURNMENT

\*Report will be handed out at meeting

I hereby certify that the agenda for the above stated meeting was posted at a location freely accessible to members of the public at the NCTPA offices, 625 Burnell Street, Napa, CA, by 5:00 p.m., Friday, May 29, 2015 /s/ Karalyn E. Sanderlin, NCTPA Board Secretary

**Napa County Transportation and Planning Agency**

**Technical Advisory Committee  
(TAC)**

***MINUTES***

**Thursday, May 7, 2015**

**ITEMS**

**1. Call to Order**

Chair Kirn called the meeting to order at 2:05 PM.

Brent Cooper	City of American Canyon
Jason Holley	City of American Canyon
Mike Kirn, Chair	City of Calistoga
Eric Whan	City of Napa
Rick Tooker	City of Napa
Julie Lucido	City of Napa
Debra Hight	Town of Yountville
Rick Marshall	County of Napa
Doug Weir	Paratransit Coordinating Council

**2. Introductions**

Chair Kirn asked all in attendance to introduce their self.

**3. Public Comments**

None

**4. TAC Member and Staff Comments**

*Information Only / No Action Taken*

NCTPA (Diana Meehan) – Bike to Work Day is Thursday, May 14, 2015. NCTPA is hosting one of the afternoon energizer stations.

City of American Canyon (Brent Cooper) – Napa County Plan Bay Area meeting is 7 p.m. tonight at Elks Lodge.

Town of Yountville (Debby Hight) – Just started 160 feet of TDA funded sidewalk and gutter work which includes two streetlights at the end of town [on the south end of Washington Street].

City of Calistoga (Mike Kirn) – Part of the lower Washington St. bike path will be torn up during a sewer main replacement project, which will take about four months.

## 5. **STANDING REGULAR AGENDA ITEMS**

### *Information Only / No Action Taken*

#### **5.1 Congestion Management Agency (CMA) Report** (Kate Miller) –

Preliminary OBAG funding amounts have been released – there will not be a funding increase.

#### **5.2 Project Monitoring Funding Programs** (Alberto Esqueda)

- Handout 1a – Tulocay Creek Bridge project has been awarded by the City of Napa
- Handout 1b – City of Napa roundabouts project extension request will be sent to California Transportation Commission (CTC) this month
- Handout 1c – Silverado Trail in process
- Handout 1d – Theresa Avenue sidewalk project - invoice discussions with Caltrans in process; County of Napa - field review in process, invoice will be submitted by May 20, 2015; projects to watch – American Canyon Junction Elementary Road and NCTPA Vine Trail (invoice in process)

#### **5.3 Transit Report (*VINE Ridership*)** (Tom Roberts)

- Preliminary first quarter of 2015 reports show a 7% ridership increase over the first quarter of 2014
- Proposed service changes to American Canyon schedule to be presented to NCTPA board in June
- Calistoga Shuttle contract renewal in progress
- NCTPA Board approved purchase of nine buses
- BottleRock tickets will include a free ride on any VINE Bus Route

#### **5.4 Caltrans Report** - no report - Ahmad Rahimi was unable to attend the meeting.

#### **5.5 VINE TRAIL REPORT** (Rick Marshall)

E76 received on the Oak Knoll segment, construction contract going out to bid.

Phillip Sales added he is working on Active Transportation Program application for Napa and also for Solano. The Vine Trail has received easement approvals from twelve property owners.

Oak Knoll groundbreaking scheduled for Thursday, August 6, 2015.

## 6. **CONSENT AGENDA ITEMS (6.1)**

### 6.1 **Approval of Meeting Minutes**

**MOTION MADE by MARSHALL SECONDED by HIGHT to APPROVE the April 2, 2015 minutes as presented. Motion Passed Unanimously.**

## 7. **REGULAR AGENDA ITEMS**

### 7.1 **Napa Countywide Transportation Program (CTP) (Alberto Esqueda)**

#### *Action Item*

- The final public workshops were held
- Issue papers will be completed next week and sent to TAC members for final review
- Requested approval of project lists that were provided at the previous two TAC meetings.
- Introduced Ron West, who provided a report on preliminary traffic modeling results

**MOTION MADE by WHAN SECONDED BY HOLLEY to APPROVE the Constrained and Unconstrained lists for the Countywide Transportation Plan with the caveat that at a later date there will be a discussion on the RTP submitted projects.**

[At 3:20 p.m. Rick Marshall left the meeting]

### 7.2 **Pedestrian Plan (Diana Meehan)**

#### *Information Only / No Action Taken*

- Walk audits in progress
- Requested TAC review benchmarks and existing conditions and provide any corrections to Diana.

### 7.3 **Regional Transportation Plan (RTP) Call for Projects Guidelines (Alberto Esqueda)**

- Application process is web-based

- Final project submissions are due September 30, 2015
- Training at MTC on May 18, 2015 at 1:30 p.m.

**7.4 NCTPA Board of Director's Agenda for April 15, 2015 (Kate Miller)**

*Information Only / No Action Taken*

Kate Miller reviewed the agenda items and invited the Committee members to attend the Board retreat.

**7.5 Legislative Update and State Bill Matrix (Kate Miller)**

*Information Only / No Action Taken*

Kate Miller reviewed the legislative update and bill matrix.

**8. FUTURE AGENDA ITEMS**

Diana asked if the Committee was interested in a bike tour of Davis instead of holding the October meeting – the Committee was in agreement.

**9. ADJOURNMENT**

The next regular meeting date is June 4, 2015.

Meeting adjourned at 4:00 pm



June 4, 2015  
TAC Agenda Item 7.1  
Continued From: May 7  
**Action Requested: INFORMATION**

## NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY TAC Agenda Letter

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**TO:** Technical Advisory Committee (TAC)  
**FROM:** Kate Miller, Executive Director  
**REPORT BY:** Alberto Esqueda, Associate Planner  
(707) 259-5976 / Email: [aesqueda@nctpa.net](mailto:aesqueda@nctpa.net)  
**SUBJECT:** 2017 Regional Transportation Plan (RTP) Update

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### **RECOMMENDATION**

Information only

### **EXECUTIVE SUMMARY**

The Metropolitan Transportation Commission (MTC) has issued a “Call for Projects” (CFP) for the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The RTP/SCS is the 25-year Regional Strategic Transportation Plan that is revised every four (4) years. This RTP will promote policies to meet SB 375 requirements that mandate a companion “Sustainable Communities Strategy”, which must demonstrate how the RTP will achieve reductions in Greenhouse Gas emissions due to cars and light trucks and by linking transportation to new development.

TAC will evaluate RTP requirements in context of the Vision 2040: Moving Napa Forward draft constrained project list and refine it as necessary. MTC assigned each Bay Area county a target budget, intended as a general financial ceiling limit for projects and program submitted by each county. The revenue estimate for Napa County is \$340 million over the next 25 years. The discussion on RTP project selection will be continued at the July TAC meeting and a final project submittal list will be approved by the NCTPA Board at the September 16, 2015 board meeting to meet the regional deadline. Final project submittals are due to MTC by September 30, 2015.

### **FISCAL IMPACT**

Is there a Fiscal Impact? Yes. TAC will work to develop recommendations for approximately \$340 million in projects over the next 25 years.

## **BACKGROUND AND DISCUSSION**

The Regional Transportation Plan (RTP) is a 25-year plan that serves as framework for the regional planning process to establish consistent and sustainable planning goals throughout the nine-county Bay Area region. This long-range transportation and land use plan aims to link transportation and housing in future regional growth. The plan specifically addresses the requirements of SB 375 (the 2008 California Sustainable Communities and Climate Protection Act), to reduce greenhouse gas emissions implementing a Sustainable Community Strategy and advancing compact and mixed-use development. Integrating and promoting transportation linkages to new development to foster walkable communities and provide more access to schools, local jobs and retail and encourage the use of alternative transportation modes.

As part of this effort, the Association of Bay Area Governments (ABAG) and MTC are requesting 2015 land use data to update the 2010 database used in the previous 2013 RTP. Data requested from jurisdictions include growth and zoning policies that have impact on intensity of development, a listing of large development projects completed since 2010 and known future developments.

The RTP 25-year vision is supported by a similar 25-year Investment Plan drafted for the Countywide Transportation Plan (CTP), comprised of projects and programs submitted by jurisdictions based on needs of the community. In addition to identifying local projects and programs the Investment Plan determines the delivery order of identified projects. These projects and programs were collected through a Call for Projects in the fall of 2014. TAC will review and discuss projects submitted under the 2015 CTP and select projects from the Constrained Project list to submit to the RTP.

While a subset of projects from the CTP constrained list will be refined to submit to the RTP, those RTP projects will be subject to a budget. MTC assigned each county a target budget, intended as a general upper financial limit for the program of projects submitted by each county. For Napa County, the estimate is \$340 million for the next 25 years. The county target budgets were calculated based on the county population shares of estimated RTP/SCS discretionary funding plus an additional 75 percent. The county target budget is established for purposes of setting a reasonable limit on project submittals and is not to be construed as the budget used for allocating funds to projects in the RTP/SCS.

MTC issued a CFP on May 1, 2015 for the 2017 RTP update and launched a web-based application for the submittal of projects on May 18, 2015. Each jurisdiction should designate staff to submit projects and input detailed project information. Designated staff will need to access the Plan Bay Area (PBA) website at [projects.planbayarea.org](http://projects.planbayarea.org) and create an account to submit projects. NCTPA will coordinate and assist project sponsors with the application, as well as review project information prior to final submittal to MTC.

Project sponsors will select eligible projects from the CTP constrained list for inclusion in the RTP project list. RTP submittals were vetted by the community in a series of workshops on April 16, 22 and 23 in American Canyon, Napa, and St. Helena, respectively. However, TAC will discuss if additional outreach is desired.

## **SUPPORTING DOCUMENTS**

Attachments:

- (1) Plan Bay Area 2040—Project Update, Call for Projects and Needs Assessment Guidance Memo
- (2) ABAG/MTC Existing Land Use Data Collection Strategy
- (3) PBA 2040 Project Submittal Interface PowerPoint



April 29, 2015

*Dave Cortese, Chair*  
Santa Clara County

*Jake Mackenzie, Vice Chair*  
Sonoma County and Cities

*Alicia C. Aguirre*  
Cities of San Mateo County

*Tom Azumbrado*  
U.S. Department of Housing  
and Urban Development

*Jason Baker*  
Cities of Santa Clara County

*Tom Bates*  
Cities of Alameda County

*David Campos*  
City and County of San Francisco

*Dorene M. Giacomini*  
U.S. Department of Transportation

*Federal D. Glover*  
Contra Costa County

*Scott Haggerty*  
Alameda County

*Anne W. Halsted*  
San Francisco Bay Conservation  
and Development Commission

*Steve Kinsey*  
Marin County and Cities

*Sam Liccardo*  
San Jose Mayor's Appointee

*Mark Luce*  
Napa County and Cities

*Julie Pierce*  
Association of Bay Area Governments

*Bijan Sartipi*  
California State  
Transportation Agency

*Libby Schauf*  
Oakland Mayor's Appointee

*James P. Spering*  
Solano County and Cities

*Adrienne J. Tissier*  
San Mateo County

*Scott Wiener*  
San Francisco Mayor's Appointee

*Amy Rein Worth*  
Cities of Contra Costa County

*Steve Heminger*  
Executive Director

*Alix Bockelman*  
Deputy Executive Director, Policy

*Andrew B. Fremier*  
Deputy Executive Director, Operations

**RE: Plan Bay Area 2040 – Project Update, Call for Projects and Needs Assessments Guidance**

**To: Caltrans, Congestion Management Agencies, and Transit Operators**

As the Bay Area begins to develop Plan Bay Area 2040 (Plan), an update to the nine-county Regional Transportation Plan/Sustainable Communities Strategy, the Metropolitan Transportation Commission (MTC) requests the assistance of each of the nine Bay Area Congestion Management Agencies (CMAs) to coordinate project submittals for their county. Multi-county project sponsors (e.g. Caltrans, BART, Caltrain, WETA, etc.) may submit directly to MTC, but coordination with the appropriate CMA is encouraged. MTC is also seeking assistance of all of the region's transit operators in the development of the Transit Operating and Capital Needs Assessments for the Plan. Attached is the Project Update, Call for Projects and Needs Assessments Guidance that lays out the requirements for the county level calls for projects as well as the process for the needs assessments.

MTC requests all partner agencies to adhere to the following deadlines for the three processes:

- Project Update and Call for Projects: September 30, 2015 (agencies may submit evidence of governing board endorsement up to October 31, 2015)
- Transit Operating Needs Assessment: July 1, 2015
- Transit Capital Needs Assessment: July 1, 2015

MTC is developing a web-based application form for sponsors to submit their projects as a part of the Call for Projects process. Sponsors will be able to (a) remove projects in the current plan (Plan Bay Area) that are either now complete and open for service or no longer being pursued, (b) update projects in the current plan that should be carried forward in the Plan, and (c) add new projects. The web-based project application will be available in early May 2015. At that time, MTC will provide instructions to CMAs and multi-county sponsors on how to access and use the web-based form. MTC will also host a training session for local agency staff on the call for projects process on May 18, 2015, at 2:30 p.m. in the Auditorium of the Joseph P. Bort MetroCenter at MTC's offices in Oakland. Upon request, MTC staff can also provide a brief tutorial to CMA technical advisory committees.

Detailed information and guidance on the Transit Operating and Capital Needs Assessments will be released directly to transit operators on May 1, 2015.

MTC looks forward to receiving your project submittals and information on your operating and capital needs. If you have any questions about the Call for Projects or Needs Assessments processes, please contact the members of my staff listed in Attachment A for each of the three concurrent efforts. Thank you for your participation.

Sincerely,

A handwritten signature in blue ink that reads "Alix A. Bockelman". The signature is fluid and cursive, with a long horizontal line extending to the right.

Alix A. Bockelman  
Deputy Executive Director, Policy

AB:AN:WB

<https://metrotrans.sharepoint.com/teams/RTP/InternalDocuments/Call for Projects and Need Assessments Letter.docx>

#### Attachments

- Attachment A: Project Update, Call for Projects and Needs Assessments Guidance
- Attachment B: Plan Bay Area Performance Targets
- Attachment C: Project Types and Programmatic Categories
- Attachment D: Web-Based Project Application Form Requirements

## Project Update, Call for Projects and Needs Assessments Guidance

The Metropolitan Transportation Commission (MTC) requests the assistance of the nine Bay Area Congestion Management Agencies (CMAs) and multi-county project sponsors (e.g., Caltrans, BART and Caltrain) to assist with the Project Update and Call for Projects for Plan Bay Area 2040. MTC is also seeking the assistance of the region's transit operators in the development of the Transit Operating and Capital Asset Needs Assessment for Plan Bay Area 2040.

### A. PROJECT UPDATE AND CALL FOR PROJECTS

CMAs played a key role in developing Plan Bay Area, and will in this subsequent update. MTC expects the CMAs and multi-county project sponsors to plan and execute an effective public outreach and local engagement process to update Plan Bay Area project information and identify new projects for consideration in Plan Bay Area 2040. Detailed schedule information is available in section C of this document.

Projects/programs seeking future regional, state or federal funding through the planning horizon for Plan Bay Area 2040 must be submitted for consideration in the adopted Plan. CMAs are asked to coordinate and lead the Project Update and Call for Projects with local project sponsors in their respective counties. Sponsors of multi-county projects are asked to submit projects directly to MTC, but communication and coordination with CMAs is encouraged.

CMAs and multi-county project sponsors are encouraged to submit projects/programs that meet one or more of the general criterion listed below:

- Supports Plan Bay Area's performance targets (see Attachment B).
- Supports Plan Bay Area's adopted forecasted land use, including Priority Development Areas (PDA) and Priority Conservation Areas (PCA).
- Derives from an adopted plan, corridor study, or project study report (e.g., community-based transportation plans, countywide transportation plan, regional bicycle plan and climate action plans).

CMAs will assist MTC with the Project Update and Call for Projects by carrying out the following activities:

#### 1. Public Involvement and Outreach

- ***Conduct countywide outreach to stakeholders and the public.*** CMAs, as well as multi-county transit operators and Caltrans, will be expected to implement their public outreach efforts in a manner consistent with MTC's Public Participation Plan (MTC Resolution No. 4174), which can be found at [http://files.mtc.ca.gov/pdf/ppp/Final\\_Draft\\_PPP\\_and\\_PBA\\_Apendix\\_A\\_1-30-15.pdf](http://files.mtc.ca.gov/pdf/ppp/Final_Draft_PPP_and_PBA_Apendix_A_1-30-15.pdf). CMAs are expected, at a minimum, to:
  - Execute effective and meaningful local engagement efforts during the Project Update and Call for Projects process by working closely with local jurisdictions, elected officials, transit agencies, community-based organizations and the public through the process.
  - Hold at least one public meeting providing opportunity for public comment on the candidate projects/programs for Plan Bay Area 2040 prior to submittal to MTC.

- Explain the local Project Update and Call for Projects process, informing stakeholders and the public about the opportunities for public comments on projects and when decisions will be made on the list of candidate projects/programs.
  - Post notices of public meetings on their agency website; include information on how to request language translation for individuals with limited English proficiency. If agency protocol has not been established, please refer to MTC's Plan for Assisting Limited English Proficient Populations.
  - CMA staff are encouraged to provide MTC with a link so the information can also be viewed on the website PlanBayArea.org.
  - To the extent possible, hold public meetings in central locations that are accessible for people with disabilities and by public transit.
  - Offer language translations and accommodations for people with disabilities, if requested at least three days in advance of the meeting.
- Document the outreach effort undertaken for the Project Update and Call for Projects process by including a list of all public meetings and comment opportunities, and information on how the process meets the requirements of MTC's Public Participation Plan.

## 2. Agency Coordination

- Work closely with local jurisdictions, transit agencies, MTC, Caltrans and stakeholders to update Plan Bay Area project information and identify new candidate projects for consideration in Plan Bay Area 2040. CMAs will assist with agency coordination by:
  - Communicating this Project Update and Call for Projects guidance to local jurisdictions, transit agencies, Caltrans and stakeholders and coordinate with them on completing the project application form, reviewing and verifying project information and submitting projects for review by MTC.
  - Developing freeway operations and capacity enhancement projects in coordination with MTC and Caltrans staff.
  - Developing transit improvement projects in coordination with MTC and transit agency staff.

## 3. Title VI Responsibilities

- Ensure the public involvement process provides underserved communities access to the project submittal process in compliance with Title VI of the Civil Rights Act of 1964.
  - Assist community-based organizations, communities of concern and any other underserved community interested in submitting projects.
  - Remove barriers for persons with limited English proficiency to have access to the project submittal process.
  - For additional Title VI outreach strategies, please refer to MTC's Public Participation Plan found at: [http://files.mtc.ca.gov/pdf/ppp/Final\\_Draft\\_PPP\\_and\\_PBA\\_Apendix\\_A\\_1-30-15.pdf](http://files.mtc.ca.gov/pdf/ppp/Final_Draft_PPP_and_PBA_Apendix_A_1-30-15.pdf).

#### 4. Project Funding Plans

Project/programs must have a full funding plan for inclusion into Plan Bay Area 2040. These full funding plans may consist of both Committed and Discretionary funding sources. MTC Resolution No. 4182 establishes the Committed Projects and Funds Policy for Plan Bay Area 2040 by defining criteria to determine committed transportation projects and funding sources. The the Committed Projects and Funds Policy defines:

- **Committed** funding sources as -funds directed to a specific entity or for a specific purpose as mandated by statute or by the administering agency.
- **Discretionary** funding sources as:
  - Subject to MTC programming decisions.
  - Subject to compliance with Commission allocation conditions.
  - Subject to competitive state and federal funding programs often involving MTC advocacy.
- For additional information, please refer to the Committed Projects and Funds Policy at: [http://apps.mtc.ca.gov/meeting\\_packet\\_documents/agenda\\_2401/9a\\_Resolution\\_NO\\_4182.pdf](http://apps.mtc.ca.gov/meeting_packet_documents/agenda_2401/9a_Resolution_NO_4182.pdf)
- For the Call for Projects, CMAs and multi-county project sponsors must identify and confirm committed funds and make requests for consideration of discretionary funds, either as part of the County Target Budgets or as a direct request to MTC.

##### A. County Target Budgets

- Ensure that the list of candidate project/programs fits within the county target budget identified by MTC.
  - County target budgets are intended to place a cap on project/program submittals by CMAs.
  - County target budgets are not to be construed as the financially constrained budget used for assigning funds to projects/programs in the preferred investment strategy for Plan Bay Area 2040.
  - County target budget revenue sources include Regional Transportation Improvement Program (RTIP) and OneBayArea Grant (OBAG) funds, which consists of Surface Transportation Program (STP) and Congestion Mitigation and Air Quality Program (CMAQ) revenues. OBAG funds include STP and CMAQ funding for the period of FY 2017-18 to FY 2039-40 (23 years). All projects identified for the OBAG funding target in the Call for Projects must be eligible to receive OBAG funding; therefore, generally not road or transit expansion projects.
  - All committed funds sources (including existing county sales tax measures) are excluded from the county target budgets.
  - Anticipated local revenue refers to sales tax reauthorizations and new county revenue measures that are being considered for an election ballot prior to Plan Bay Area 2040 adoption (June 2017). Revenue from reauthorizations and new measures is included in the below table in column E.
    - Revenue from sales tax reauthorizations are included for the period from the expiration of existing committed and adopted county tax measures to FY

2039-40. Estimates are based on Plan Bay Area projections from county sales tax authorities. New county revenues are estimated for the period from FY 2017-18 to FY 2039-40, except for Sonoma County where revenues are forecasted only through FY 2018-19. These augmentation revenues are included to allow CMAs to submit candidate projects/programs that would be funded through a revenue augmentation in the Project Update and Call for Projects process. The inclusion of candidate augmentation projects/programs is necessary to allow for projects/programs that may be funded by local revenues secured over the course of the Plan development to be included in MTC's project-level performance assessments and air quality conformity analysis.

**County Target Budgets (in billions of Year-of-Expenditure \$)**

A	B	C	B + C = D	E
County	RTIP	OneBayArea Grant	Total Funds	Anticipated Local Revenue**
Alameda	\$2.03	\$0.62	\$2.65	n/a
Contra Costa	\$1.39	\$0.45	\$1.84	\$5.40
Marin	\$0.38	\$0.10	\$0.48	n/a
Napa	\$0.25	\$0.09	\$0.34	n/a
San Francisco	\$1.03	\$0.38	\$1.41	\$7.00
San Mateo	\$1.05	\$0.27	\$1.32	n/a
Santa Clara	\$2.41	\$0.87	\$3.28	\$5.80
Solano	\$0.63	\$0.19	\$0.82	\$1.60
Sonoma	\$0.77	\$0.24	\$1.01	\$1.60
<b>Total</b>	<b>\$9.92</b>	<b>\$3.21</b>	<b>\$13.13</b>	<b>\$21.40</b>

\*\*Numbers are based on most recent publicly available data, CMAs are requested to update as necessary.

**B. Regional Discretionary Requests**

- Some projects, particularly regional capital intensive projects will not fit within the constraints of the County Target Budgets, and should make discretionary funding requests directly to MTC.
- Similarly, multi-county transit operators, Caltrans and other regional agencies should coordinate discretionary funding requests within the project/program's respective county, but may make discretionary funding requests directly to MTC.

**5. Cost Estimation Review**

- Project/program cost estimates should be developed using a reasonable basis, including guidelines produced by local, state or federal agencies. MTC has identified the following cost estimation guidelines available for use:
  - Federal: National Cooperative Highway Research Program's Guidance for Cost Estimation and Management for Highway Projects During Planning, Programming and Preconstruction, [http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_w98.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_w98.pdf).

- State: Caltrans' Project Development Procedures Manual Chapter 20, Project Development Cost Estimates, [http://www.dot.ca.gov/hq/oppd/pdpm/chap\\_pdf/chapt20.pdf](http://www.dot.ca.gov/hq/oppd/pdpm/chap_pdf/chapt20.pdf).

## 6. Programmatic Categories

- Bundle projects into programmatic categories, where possible. Programmatic categories are groups of similar projects/programs and strategies that are included under a single listing for simplicity in Plan Bay Area 2040. Rules for establishing programmatic categories are as follows:
  - Programmatic categories consist of projects/programs that are exempt from air quality conformity requirements (CFR 40 §93.126-128) and/or projects with categorical exclusions (CE) or documented categorical exclusions (DCE) from NEPA approvals by the FHWA or FTA (CFR 23 §771.117-8).
  - Regionally significant projects/programs are not included in programmatic categories; projects/programs that add or remove vehicular or fixed-guideway transit capacity are listed separately.
  - Programmatic categories are established around a set of similar project types, not necessarily funding types.
- Projects/programs that do not fit within programmatic categories are listed individually. See Attachment C for guidance on the programmatic categories.

## 7. Project Application

- Submit candidate projects/programs for Plan Bay Area 2040 via MTC's web-based application. Sponsors will be able to:
  - Update/modify Plan Bay Area project/program information.
  - Remove Plan Bay Area project/programs that are either complete or are no longer being pursued.
  - Add new projects/programs.
- Training for the web-based application form will be available during MTC's May Partnership Technical Advisory Committee (PTAC) meeting, 1:30 p.m., Monday, May 18, 2015, MetroCenter Auditorium.

## 8. Submittal Process

- Submit to MTC as part of the official project/program submittal:
  - Board resolution authorizing the submittal of the candidate projects/programs for Plan Bay Area 2040 prior to MTC's September 30, 2015, deadline.
  - Documentation that a public meeting was held allowing the public to comment on the candidate projects/programs for Plan Bay Area 2040.
  - Documentation of how the Project Update and Call for Projects process was conducted in compliance with Title VI of the Civil Rights Act of 1964.

Questions about Project Update and Call for Projects for Plan Bay Area 2040 should be directed to Adam Noelting ([anoelting@mtc.ca.gov](mailto:anoelting@mtc.ca.gov), 510.817.5966).

## **B. TRANSIT OPERATING, TRANSIT CAPITAL ASSET, AND LOCAL STREETS/ ROADS ASSET NEEDS ASSESSMENTS**

MTC will work directly with transit operators to update information on transit operators' operating needs and revenues, as well as transit operators' capital asset needs through the FY 2039-40 planning horizon. CMAs should expect to play a supporting role should transit operators serving their county call on the CMA for assistance. The Local Streets and Roads Needs Assessment will be completed using data from the 2014 California Statewide Local Streets and Roads Needs Assessment. Detailed schedule information is available in section C of this document.

MTC is conducting the Call for Projects and Needs Assessments data collection efforts simultaneously to create efficiencies for CMA, local agencies and transit operators. Data from the Needs Assessments will inform the investment strategy for Plan Bay Area 2040.

### **9. Transit Operating Needs Assessment**

- In order to accurately reflect the transit operating and maintenance levels, costs and revenues in Plan Bay Area 2040, MTC staff will be collecting information from transit operators for the period from Fiscal Year (FY) 2014-15 to FY 2039-40. In May, transit operators will receive an Excel template from MTC with detailed instructions for completing the Transit Operating Needs Assessment. Requested information includes:
  - Projected costs to operate at existing service levels over the period of the Plan.
  - Projected costs and service levels associated with planned, committed projects.
  - Projected revenue from local sources to be used for transit operations.
- MTC recognizes the difficulty and uncertainty inherent in developing long-range revenue, operations cost and service level projections. As always, we ask each operator to provide its best estimate of future needs based on current conditions and MTC will work with operators to make necessary refinements as economic and other conditions change prior to Plan Bay Area 2040 adoption (2017).
- Additional details and technical guidance for the Transit Operating Needs Assessment will be released on May 1, 2015.

Questions about the Transit Operating Needs Assessments for Plan Bay Area 2040 should be directed to William Bacon ([wbacon@mtc.ca.gov](mailto:wbacon@mtc.ca.gov), 510.817.5628).

### **10. Transit Capital Asset Needs Assessment**

- The Regional Transit Capital Inventory (RTCI) houses the information used for projecting the transit capital needs for the Plan and the state of good repair of the region's transit system.

The RTCI was last updated in 2011. Operators will be asked to submit updates to the RTCI via MTC’s new web-based application. Sponsors will be able to:

- Update/modify their existing transit capital asset information.
  - Remove assets that are no longer part of the inventory.
  - Add new assets or assets that have not previously been included in the RTCI.
- The web-based application form will be available May 1, 2015.
  - Additional details and guidance on the transit capital needs assessment, RTCI, and MTC’s web-based project application will be released on May 1, 2015.

Questions about the Transit Capital Needs Assessments for Plan Bay Area 2040 should be directed to Melanie Choy ([mchoy@mtc.ca.gov](mailto:mchoy@mtc.ca.gov), 510.817.5607).

### 11. Local Streets and Roads Needs Assessment

- Plan Bay Area 2040 will use data provided for the 2014 California Statewide Local Streets and Roads Needs Assessment, which is produced jointly by the state’s cities, counties and regional transportation planning agencies. MTC provided project management for the 2014 assessment.

Questions about the Local Streets and Roads Needs Assessments for Plan Bay Area 2040 should be directed to Theresa Romell ([tromell@mtc.ca.gov](mailto:tromell@mtc.ca.gov), 510.817.5772).

### C. CALL FOR PROJECTS AND NEEDS ASSESSMENTS GUIDANCE PROCESS TIMELINE

Task	Start	End
<b><i>Guidance</i></b>		
Release Call for Projects Guidance	April	N/A
Release Detailed Transit Operating and Capital Asset Needs Assessments Guidance	May	N/A
<b><i>Project Submittals</i></b>		
Transit Operating Needs Data Collection	May 1	July 1
Transit Capital Asset Data Collection	May 1	July 1
Development of Local Streets and Roads Needs Assessment by MTC	May	July
Update Plan Bay Area Project/Program Information	May 1	Sept’ 30
Submit New Projects/Programs	May 1	Sept’ 30
Submit Official Board Action Authorizing Submittal of Final Project List	N/A	Oct’ 31

Plan Bay Area is based on 10 performance targets against which we can measure and evaluate various land use scenarios and transportation investments and policies. Some of these targets were made by law, while others were added through consultation with experts, stakeholders and the public.

The first two targets are required by Senate Bill 375, "The California Sustainable Communities and Climate Protection Act of 2008" (Steinberg), and address the respective goals of climate protection and adequate housing:

- (1) Reduce per-capita carbon dioxide emissions from cars and light-duty trucks by 7 percent by 2020 and by 15 percent by 2035, if there is a feasible way to do so.
- (2) House by 2035, 100 percent of the region's projected 25-year growth by income level, *without displacing current low-income residents. (language in italics adopted by MTC and ABAG and not identified in SB 375)*

The remaining eight targets reflect voluntary goals in the following categories:

#### Healthy and Safe Communities

- (3) Reduce premature deaths from exposure to particulate emissions:
  - (a) Reduce premature deaths from exposure to fine particulates (PM 2.5) by 10 percent;
  - (b) Reduce coarse particulate emissions (PM 10) by 30 percent; and,
  - (c) Achieve greater reductions in highly impacted areas.
- (4) Reduce by 50 percent the number of injuries and fatalities from all collisions (including bike and pedestrian).
- (5) Increase the average daily time walking or biking per person for transportation by 60 percent (for an average of 15 minutes per person per day).

#### Open Space and Agricultural Preservation

- (6) Direct all non-agricultural development within the urban footprint (existing urban development and urban growth boundaries).

#### Equitable Access

- (7) Decrease by 10 percent the share of low-income and lower-middle income residents' household income consumed by transportation and housing.

#### Economic Vitality

- (8) Increase gross regional product (GRP) by 90 percent – an average annual growth rate of approximately 2 percent (in current dollars).

#### Transportation System Effectiveness

- (9) Increase non-auto mode share by 10 percent and decrease automobile vehicle miles traveled per capita by 10 percent.
- (10) Maintain the transportation system in a state of good repair:
  - (a) Increase local road pavement condition index (PCI) to 75 or better;
  - (b) Decrease distressed lane-miles of state highways to less than 10 percent of total lane-miles; and,
  - (c) Reduce average transit asset age to 50 percent of useful life.

The matrix below illustrates how a variety of project types will be categorized in Plan Bay Area 2040. All project types should fall within one of the categories below, based on the transportation system of the project and the project purpose. Further detail on programmatic categories is provided on the following page.

		PROJECT PURPOSE			
		Expansion	System Management	Preservation	Operations
TRANSPORTATION SYSTEM	Local Road	<ul style="list-style-type: none"> <li>• New bike/ped facilities</li> <li>• New/extended roadway (more than ¼ mile)</li> <li>• New lane on existing roadway (more than ¼ mile, includes auxiliary lanes)</li> <li>• New bridge or expanded bridge capacity</li> <li>• Road diet (more than ¼ mile)</li> </ul>	<ul style="list-style-type: none"> <li>• Intersection improvements (less than ¼ mile)</li> <li>• Management systems</li> <li>• Safety and security</li> <li>• Multimodal streetscape improvements (less than ¼ mile)</li> <li>• Travel demand management</li> <li>• Congestion pricing</li> </ul>	<ul style="list-style-type: none"> <li>• Preservation/rehabilitation</li> </ul>	<ul style="list-style-type: none"> <li>• Routine operations and maintenance</li> </ul>
	State Highway	<ul style="list-style-type: none"> <li>• New bike/ped facilities</li> <li>• New/extended highway (more than ¼ mile)</li> <li>• New lane on existing highway (more than ¼ mile, includes auxiliary lanes)</li> <li>• New bridge or expanded bridge capacity</li> <li>• New I/C, I/C modification (with added capacity)</li> </ul>	<ul style="list-style-type: none"> <li>• Management systems</li> <li>• Safety and Security</li> <li>• Minor Highway Improvements (less than ¼ mile)</li> <li>• Travel demand management</li> <li>• I/C modifications (no added capacity)</li> </ul>	<ul style="list-style-type: none"> <li>• Preservation/rehabilitation</li> </ul>	<ul style="list-style-type: none"> <li>• Routine operations and maintenance</li> </ul>
	Public Transit	<ul style="list-style-type: none"> <li>• New/extended fixed guideway (rail, BRT, ferry)</li> <li>• New/expanded station/terminal (including parking facilities)</li> <li>• Fleet/service expansion</li> </ul>	<ul style="list-style-type: none"> <li>• Management systems</li> <li>• Safety and security</li> <li>• Minor transit improvements</li> </ul>	<ul style="list-style-type: none"> <li>• Preservation/rehabilitation</li> </ul>	<ul style="list-style-type: none"> <li>• Routine operations and maintenance</li> </ul>
	Tollway	<ul style="list-style-type: none"> <li>• New/extended toll/express lanes</li> <li>• Lane conversion</li> <li>• New toll bridge</li> </ul>	<ul style="list-style-type: none"> <li>• Management systems</li> <li>• Safety and Security</li> </ul>	<ul style="list-style-type: none"> <li>• Preservation/rehabilitation</li> </ul>	<ul style="list-style-type: none"> <li>• Routine operations and maintenance</li> </ul>
	Freight	<ul style="list-style-type: none"> <li>• New/expanded terminal</li> <li>• New/extended truck lanes (in urban areas)</li> <li>• New trackage</li> </ul>	<ul style="list-style-type: none"> <li>• Minor freight improvements</li> <li>• Safety and security</li> <li>• Track reconfiguration</li> </ul>	<ul style="list-style-type: none"> <li>• Preservation/rehabilitation</li> </ul>	
	Other		<ul style="list-style-type: none"> <li>• Travel demand management</li> <li>• Land use</li> <li>• Planning</li> <li>• Emission reduction technologies</li> </ul>		

\*Project types highlighted in green must be submitted individually, while project types that are not highlighted must be grouped into programmatic categories.

## Project Types and Programmatic Categories Description

### A. PROGRAMMATIC CATEGORIES

Programmatic categories are groups of similar projects, programs, and strategies that are included under a single group for ease of listing in the RTP/SCS. Rules for establishing programmatic categories are as follows:

- Programmatic categories consist of projects that are exempt from air quality conformity requirements (CFR 40 §93.126-128) and/or projects with categorical exclusions (CE) or documented categorical exclusions (DCE) from NEPA approvals by the FHWA or FTA (CFR 23 §771.117-8).
- Regionally significant projects are not included in programmatic categories; projects that add or remove vehicular or fixed-guideway transit capacity are listed separately.
- Programmatic categories are established around a set of similar project types, not necessarily funding types.
- Projects that do not fit into the programmatic categories are listed as individual projects.

Proposed programmatic categories are listed below:

#### Expansion

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**1. New Bicycle and Pedestrian Facilities**

Systems: Local Road, State Highway

Types: New and extended bike and pedestrian facilities (less than ¼ mile)

#### System Management

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**2. Management Systems**

Systems: Local Road, State Highway, Public Transit, Tollway

Types: Incident management; signal coordination; ITS; TOS/CMS; ramp metering; transit management systems; automatic passenger counters; CAD-AVL; fare media; Transit Sustainability Project; construction or renovation of power, signal, and communications systems; toll management systems; toll media

**3. Safety and Security**

Systems: Local Road, State Highway, Public Transit, Freight

Types: Railroad/highway crossings and warning devices; hazardous location or feature; shoulder improvements; sight distance; Highway Safety Improvement Program implementation; Safe Routes to Schools projects and programs; traffic control devices other than signalization; guardrails, median barriers, crash cushions; pavement marking; fencing; skid treatments; lighting improvements; widening narrow pavements with no added capacity; changes in vertical and horizontal alignment; transit safety and communications and surveillance systems; rail sight distance and realignments for safety; safety roadside rest areas; truck climbing lanes outside urban area; emergency truck pullovers

**4. Travel Demand Management**

Systems: Local Road, State Highway, Other

Types: Car and bike share; alternative fuel vehicles and facilities; parking programs; carpool/vanpool, ridesharing activities; information, marketing and outreach; traveler information

**5. Intersection Improvements**

Systems: Local Road

Types: Intersection channelization; intersection signalization at individual intersections; minor road extension or new lanes (less than ¼ mile)

**6. Multimodal Streetscape Improvements**

Systems: Local Road

Types: Minor bicycle and/or pedestrian facility gap closure; ADA compliance; landscaping; lighting; streetscape improvements; minor road diet (less than ¼ mile)

**7. Minor Highway Improvements**

Systems: State Highway

Types: Noise attenuation; landscaping; scenic easements; sign removal; directional and informational signs; minor highway extension or new lane (less than ¼ mile)

**8. Minor Transit Improvements**

Systems: Public Transit

Types: Minor/routine expansions to fleet and service; purchase of ferry vessels (that can be accommodated by existing facilities or new CE facilities); construction of small passenger shelters and information kiosks; small-scale/CE bus terminals and transfer points; public transit-human services projects and programs (including many Lifeline Transportation Program projects); ADA compliance; noise mitigation; landscaping; associated transit improvements (including bike/pedestrian access improvements); alternative fuel vehicles and facilities

**9. Minor Freight Improvements**

Systems: Freight

Types: Construction of new, or improvements to existing, rest areas and truck weigh stations; improvements to existing freight terminals (not expansion)

**10. Land Use**

Systems: Other

Types: Land conservation projects; TOD housing projects

**11. Planning**

Systems: Other

Types: Planning and research that does not lead directly to construction

**12. Emission Reduction Technologies**

Systems: Other

## Preservation

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### 13. Preservation/Rehabilitation

Systems: Local Road, State Highway, Public Transit, Tollway, Freight

Types: Pavement resurfacing and/or rehabilitation; bike/pedestrian facilities rehabilitation; non-pavement rehabilitation; preventive maintenance; emergency repair; bridge rehabilitation, replacement or retrofit with no new capacity; transit vehicle rehabilitation or replacement; reconstruction or renovation of transit buildings and structures; rehabilitation or reconstruction of track structures, track, and trackbed in existing rights-of-way; construction of new bus or rail storage/maintenance facilities (in industrial locations with adequate transportation capacity); modernization or minor expansions of transit structures and facilities outside existing right-of-way, such as bridges, stations, or rail yards; purchase of office and shop and operating equipment for existing facilities; purchase of operating equipment for vehicles, such as farebox, lifts, radios; purchase of support vehicles; toll bridge rehabilitation, replacement, or retrofit with no new capacity; freight track and terminal rehabilitation

## Operations

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### 14. Routine Operations and Maintenance

Systems: Local Road, State Highway, Public Transit, Tollway

Types: Routine patching and pothole repair; litter control, sweeping and cleaning; signal operations; communications; lighting; transit operations and fare collection; transit preventive maintenance; toll operations & fare collection

## B. INDIVIDUALLY LISTED PROJECTS

Projects that do not fit into a programmatic category must be listed individually in the RTP-SCS.

Project types that must be included individually are listed below:\*

## Expansion

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1. New or extended roadway or highway (length greater than ¼ mile)
2. New lane on existing roadway or highway (length greater than ¼ mile, includes auxiliary lanes)
3. New bridge or expanded bridge capacity
4. Road diet (length greater than ¼ mile)
5. New interchange or interchange modification (with added capacity)
6. New or extended fixed guideway (rail, BRT, ferry)
7. New or expanded station or terminal (including parking facilities)
8. Fleet/service expansion
9. New or extended toll/express lane
10. Lane conversion
11. New toll bridge
12. New or expanded freight terminal
13. New or extended truck lanes (within urban areas)
14. New trackage

## System Management

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15. Pricing program

16. Interchange modification (no additional capacity)
17. Freight track reconfiguration

\*This list of project types is not necessarily exhaustive; any project that does not fall within a programmatic category must be identified individually in the RTP-SCS.

**1. PROJECT TYPE & PROGRAM CATEGORIES MATRIX**

Field	Description	Requirements
Project/Program Type	Please select the primary project/program type, which can be considered as the primary mode, such as state highway or public transit.	

**2. COMMITTED STATUS**

1. Is this project/program 100% funded through Local Funds?
2. Does this project/program have a full funding plan?
3. Will this project/program have a certified Environmental Impact Report (EIR) or Record of Decision for Environmental Impact Statement (EIS) by September 30, 2015?  
If yes to Question 1, project is "Committed." If yes to Questions 2 and 3, project is "Committed."

**3. BASIC INFORMATION**

Field	Description	Requirements
Project Title	Please provide a brief title of the project/program. The title should indicate what the project/program is and NOT what the project/program does.  <i>(i.e. Main Street Bus Rapid Transit (NOT Implement Bus Rapid Transit on Main Street))</i>	Text
Project/Program Description	Please provide a brief description of the project/program, including location, limits and scope of work. This is where you can describe what the project/program does.  <i>(i.e., This project will implement BRT from City A to City B. The project will operate along Main Street from Point A to Point B)</i>  Note: large expansion projects will be asked to provide additional information to enable MTC staff to model the project.	Text, 255 characters max
County	Please select the county in which the project/program is located. If the project/program is located in more than one county, please select "Regional."	Text
Sponsor Agency	Please identify the agency that is serving as project/program sponsor.	Text
Operating Agency	Please identify the agency that will operate the facility once construction/procurement is complete.	Text
Implementing Agency	Please identify the agency that will implement/construct the project/program.	Text

#### 4. COST

Field	Description	Requirements
Capital Cost (2017\$)	Please provide the estimated total cost of construction, including all phases leading up to construction. For non-construction project/programs, please provide the total cost of the project/program here.	\$, rounded up to the nearest \$100,000
<i>Environmental / Design (2017\$)</i>		
<i>Right-of-Way (ROW) (2017\$)</i>		
<i>Construction (2017\$)</i>		
<i>Rolling Stock (2017\$)</i>		
Operations & Maintenance Start (2017\$)	Please provide the estimated cost to operate and maintain the project/program from year of completion through 2040. Enter a total cost, not an annual cost. For non-construction project/programs, please enter \$0.	\$, rounded up to the nearest \$100,000
<i>Operations (2017\$)</i>		
<i>Maintenance (2017\$)</i>		

Notes:

1. Please contact the MTC staff if you have questions with how to convert your project/program’s cost into 2017\$.
2. All 2017\$ cost values will be converted into the Year-of-Expenditure (YOE). MTC defines the YOE as the midpoint of construction.

*Example: YOE = [(Construction End – Construction Start) / 2 + Construction Start] or  
YOE = [(2025 – 2020) / 2 + 2020] = 2023*

#### 5. ESTIMATED BENEFIT BY MODE

Field	Description	Requirements
Auto	In addition to the primary project/program type, we would like to know if the project/program benefits other modes. For example, a new transit facility might also include bike paths. Please estimate the percentage of the project/program cost that can be attributed to each mode. This is a rough estimate and will only be used for summary purposes.	% of total cost
Transit		
Bike		
Pedestrian		
Freight		

## 6. SCHEDULE

Field	Description	Requirements
Certified Environmental Document Date	This is the date that the FEIR/FEIS was certified. This applies only to committed project/programs.	Month & Year
Capital Start Year	Please provide the first year of project/program construction (actual/estimated). For non-construction project/programs, please provide the first year the project/program will be implemented.	Year
<i>Environmental / Design</i>		
<i>Right-of-Way (ROW)</i>		
<i>Construction</i>		
<i>Rolling Stock</i>		
Operations & Maintenance Start Year	Please provide the first year of operations and maintenance costs (typically, the year after the construction is completed). For non-construction project/programs, please enter "0000."	Year
<i>Operations</i>		
<i>Maintenance</i>		

## 7. MODELING

Field	Description	Requirements
Notes	<p>Please describe the project/program in greater detail than what you submitted in the Project/Program Description. For roadway project/programs, we are looking for project extents and the number of lanes by type of lane (general purpose, HOV, HOT) before and after the project. For transit project/programs, we are looking for project extents, frequency before and after the project, changes in parking, station location, and any transit priority infrastructure (such as dedicated lanes and signal priority) that would be implemented with the project. For roadway and transit project/programs, we would also need to know what changes to bus routes that use the facility or support the new transit project would occur with the project.</p> <p>We acknowledge that describing a project in words is difficult. Please upload supporting documentation, which might include maps, CAD drawings, or even model files in Cube format.</p>	Text
Upload	This input accepts zipped folders only. Within the zipped folder, you can place any file type.	

## 8. FUNDING

Field	Description	Requirements
Prior Funding	Please indicate the total amount of funding (including federal, state, regional and local funds) that have been obligated or will have been obligated to this project/program prior to 2017.	\$
Committed Funding by Source	Please input the amount of funding, by source (including federal, state, regional and local funds) from the drop down menu, that have been committed to this project/program subsequent to 2017.	\$
Discretionary Funding by Source	Please identify the potential fund sources and dollar amounts for any additional discretionary funds that are needed to complete the project/program's full funding plan.	
<i>OneBayArea Grant</i>	Please coordinate your requests with your CMA to identify the amount of funds that will be requested.	\$
<i>RTIP</i>	Anticipated Local Discretionary Funds refers to revenues from possible new local/county revenue measures under consideration for implementation before the adoption of the Plan in 2017.	\$
<i>Anticipated Local Discretionary Funds</i>		\$
<i>Regional Discretionary Funds</i>	Please identify your request for other regional discretionary funds.	\$

## 9. CONTACT

Field	Description	Requirements
First Name	Please identify the project/program manager and their contact information.	Text
Last Name		Text
Title		Text
Phone		Text
Agency		Text
Email		Text

## ABAG/MTC Existing Land Use Data Collection Strategy Call For Input

ABAG and MTC are beginning the process of updating our base year land use database for analysis and UrbanSim modeling for the 2017 Regional Transportation Plan and Sustainable Communities Strategy. We will be collecting new data and comments through December 2015 and would appreciate your help in ensuring we have comprehensive and up-to-date information for the region's cities and counties.

### Development Projects or Pipeline List

1. A list of buildings built or started between 2010 and 2015 to make sure we have recent construction fully captured
2. A list of (large) projects planned for construction in *future* years
3. The lists should cover key project info (address, building type, units, square footage, year built, entitlement status of the project and, if known, completion year)

### Zoning and Growth Policy Updates

1. Zoning or General Plan maps with allowed *uses* and *intensities* (e.g., FAR, DUA)
2. Urban growth boundaries
3. Development caps
4. Impact fees and applicable geographies, when they vary in the jurisdiction

Because each jurisdiction uses different approaches and formats to record its information, we aim to offer a flexible means of data collection. If a jurisdiction or agency is interested in contributing data updates please:

1. Email Tom Buckley at MTC (tbuckley@mtc.ca.gov)
2. Tom will provide you with access to an online folder in MTC's Box Drive
3. In this folder, we have placed
  - a. A table on where and when we collected information previously
  - b. A guide to the type of information and variables we are trying to collect
4. Participants can upload information in a range of formats including:
  - a. A shapefile or other GIS data
  - b. Microsoft office files
  - c. PDFs
  - d. A note simply stating that we should update our information for a particular jurisdiction with any known information on how to find the new data

If you already have the data in a map or database we would be happy to take it that way, but any format will do. Please do not spend a lot of time creating new data for this effort.

Thank you for helping ABAG and MTC to update our regional land use data.

# Plan Bay Area 2040 Database Application

✕ CLOSE

- Import Projects
- Create Project
- My Projects
- Search Projects
- My Account
- Manage Users

## Napa County Transportation Planning Agency (NCTPA) Projects

Title	Sponsor Agency	Sponsor Status	MTC Status	
Construct new southbound Route 221 to southbound Route 29 flyover, including auxiliary lane to Route 12/Route 29	Napa County Transportation Planning Agency (NCTPA)	! Imported CMA	Not Submitted	<a href="#">EDIT</a>

1 - 1 of 1 items

## Edit Project

### Project Title:

Construct new southbound Route 221 to southbound Route 29 flyover, including auxiliary lane to Route 12/Route 29

### Project Description:

Builds new southbound Route 221 to southbound Route 29 flyover.

### Project/ Program Categories List

All project and program types should fall within one of the categories listed below. If your project includes more than one type, choose the type that makes up the majority of the project (either in scope or cost).

#### Step 1. Choose a Transportation System, Purpose and Project/Program Type ⓘ

Local Road   State Highway   Public Transit   Tolling   Freight   Other

#### Expansion

- New Bike/Pedestrian Facility
- New or Extended Roadway/Highway
- New Lane on Existing Roadway/ Highway (More than 1/4 mile.) ⓘ
- New/ Bridge or Expanded Bridge Capacity
- Road Diet (More than 1/4 mile)

#### System Management

- Intersection Improvements ⓘ
- Management Systems ⓘ
- Safety and Security ⓘ
- Multimodal Streetscape Improvements ⓘ
- Travel Demand Management ⓘ
- Pricing Program

#### Preservation

- Preservation/Rehabilitation ⓘ

#### Operations

- Routine Operations and Maintenance ⓘ

START OVER

≡ MENU

## Edit Project

**Project Title:**  
Construct new southbound Route 221 to southbound Route 29 flyover, including auxiliary lane to Route 12/Route 29

**Project Description:**  
Builds new southbound Route 221 to southbound Route 29 flyover.

**Project/ Program Categories List**

All project and program types should fall within one of the categories listed below. If your project includes more than one type, choose the type that makes up the majority of the project (either in scope or cost).

**Step 2. Determine Project/ Program Committed Status**

Is this project/program 100% funded through Local Funds?  
 Yes  No

Does this project/program have a full funding plan?  
 Yes  No

Will this project/program have a certified Environmental Impact Report (EIR) or Record of Decision for Environmental Impact Statement (EIS) by September 30, 2015?  
 Yes  No

START OVER

# Enter General Information

≡ MENU

## Edit Project

- 1 Project Type
- 2 General Information**
- 3 Cost & Schedule
- 4 Funding
- 5 Modeling Details
- 6 Detailed Cost & Schedule
- 7 Project Manager Contact
- 8 Review

### General Information

Title ⓘ Construct new southbound Route 221 to southbound Route 29 flyover, including auxiliary lane to Route 12/Route 29

Project Description ⓘ Builds new southbound Route 221 to southbound Route 29 flyover.

Please provide a brief description of the project, including location, limits, and scope of work

County ⓘ Napa

Sponsor Agency ⓘ Napa County Transportation Planning Agency (NCTPA)

Operating Agency ⓘ Caltrans

Implementing Agency ⓘ Caltrans

PREV NEXT

# Enter Cost (\$ 2017) & Schedule

MENU

## Edit Project

SAVE PROGRESS DISCARD CHANGES

- 1 Project Type
- 2 General Information
- 3 Cost & Schedule
- 4 Funding
- 5 Modeling Details
- 6 Detailed Cost & Schedule
- 7 Project Manager Contact
- 8 Review

### Cost & Schedule

Capital Cost ⓘ \$ (M) Cost

O&M Cost ⓘ \$ (M) Cost

Total Cost (2017\$) \$ (M) 0.0

Construction Start ⓘ Enter Year

O&M Start ⓘ Enter Year

**Estimated Benefit by Mode ⓘ**

Please estimate a percentage for each mode to indicate what percentage of a project's total cost is directed to project element's benefiting that mode.

Auto	Transit	Bike	Pedestrian	Freight	Total
%	%	%	%	%	0%

PREV NEXT

# Enter Funding

≡ MENU

- 1 Project Type
- 2 General Information
- 3 Cost & Schedule
- 4 Funding**
- 5 Modeling Details
- 6 Detailed Cost & Schedule
- 7 Project Manager Contact
- 8 Review

3	Anticipated Local Discretionary Funds ⓘ	\$ (M)	872,467.0
4	Regional Discretionary Funds ⓘ	\$ (M)	3,500,000.0
Total Discretionary Funding (YOES (M))		\$ (M)	11,372,467.0

Total Funding Year of Expenditure (YOES)

Prior 2017 Funding ⓘ	\$ (M)	0.0
Total Discretionary Funding (YOES)	\$ (M)	11,372,467.0
Total Committed Funding (YOES)	\$ (M)	0.0
Total Funding Value (YOES)	\$ (M)	11,372,467.0
Total Cost (YOES)	\$ (M)	11,372,467.0

PREV NEXT

# Enter Modeling/Additional Details

≡ MENU

1 Project Type

2 General Information

3 Cost & Schedule

4 Funding

5 Modeling Details

6 Detailed Cost & Schedule

7 Project Manager Contact

8 Review

## Modeling Details

### Detailed Project Description

Please describe the project/program in greater detail than what you submitted in the Project/Program Description. For roadway project/programs, we are looking for project extents and the number of lanes by type of lane (general purpose, HOV, HOT) before and after the project. For transit project/programs, we are looking for project extents, frequency before and after the project, changes in parking, station location, and any transit priority infrastructure (such as dedicated lanes and signal priority) that would be implemented with the project. For roadway and transit project/programs, we would also need to know what changes to bus routes that use the facility or support the new transit project would occur with the project.

Construct SB 221 to SB 29/12 flyover structure.

Place a detailed project description in the text area provided.

### File Upload

We acknowledge that describing a project in words is difficult. Please upload supporting documentation, which might include maps, CAD drawings, or even model files in Cube format. (Zip files only. Max file size 100mb.)

UPLOAD FILE

PREV NEXT

# Detailed Cost & Schedule

≡ MENU

## Edit Project

SAVE PROGRESS DISCARD CHANGES

- 1 Project Type
- 2 General Information
- 3 Cost & Schedule
- 4 Funding
- 5 Modeling Details
- 6 Detailed Cost & Schedule
- 7 Project Manager Contact
- 8 Review

### Detailed Cost & Schedule

Detail	Start Year	End Year	Cost (2017\$)
Environmental/ Design	<input type="text"/>	<input type="text"/>	\$ (M) <input type="text"/> Cost <input type="text"/>
Right- of- Way(ROW)	<input type="text"/>	<input type="text"/>	\$ (M) <input type="text"/> Cost <input type="text"/>
Construction	<input type="text"/>	<input type="text"/>	\$ (M) <input type="text"/> Cost <input type="text"/>
Rolling Stock	<input type="text"/>	<input type="text"/>	\$ (M) <input type="text"/> Cost <input type="text"/>
Operations	<input type="text"/>	<input type="text"/>	\$ (M) <input type="text"/> Cost <input type="text"/>
Maintenance	<input type="text"/>	<input type="text"/>	\$ (M) <input type="text"/> Cost <input type="text"/>

Detail Cost Total 0.0

PREV NEXT



## NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY TAC Agenda Letter

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**TO:** Technical Advisory Committee (TAC)  
**FROM:** Kate Miller, Executive Director  
**REPORT BY:** Diana Meehan, Associate Planner  
(707) 259-8327 / Email: [dmeehan@nctpa.net](mailto:dmeehan@nctpa.net)  
**SUBJECT:** Countywide Pedestrian Master Plan Update

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### **RECOMMENDATION**

TAC will receive and update on the Countywide Pedestrian Master Plan (CPMP)

### **EXECUTIVE SUMMARY**

NCTPA Staff and its consultants, Fehr & Peers, completed a series of public workshops for the Countywide Pedestrian Master Plan (CPMP) in January and early February. Fehr & Peers also met with staff in each jurisdiction to develop Benchmarking summary reports related to pedestrian facilities and programs. Walk audits were completed in key focus areas in May. Next steps in the planning process are to develop project lists, project future demand and develop cost estimates for priority projects.

In preparation for finalizing the plan, NCTPA staff requests feedback by June 12<sup>th</sup> on:

- Benchmarking summaries
- Project prioritization criteria (Attachment 2)

### **FISCAL IMPACT**

Is there a Fiscal Impact?      No

### **BACKGROUND AND DISCUSSION**

Consultants from Fehr & Peers met with staff in each jurisdiction to identify inventory within the pedestrian network, keeping the unique characteristics of each location in context. Inventory maps were created from these meetings and used in a series of public workshops held in January and February. From these exercises, Fehr & Peers created benchmarking for each jurisdiction. NCTPA originally solicited comments in April. To date, not all jurisdictions have responded.

Walk audits took place in identified key focus areas in all jurisdictions in May. Walk audits focused on conducting visual surveys and observing physical characteristics and conditions while examining the connectivity and continuity of the area's surrounding

pedestrian network. The audits will result in the development of a preliminary infrastructure improvement list for each area using proposed project prioritization criteria. (Attachment 2).

Jurisdictions have until June 12th to make comments on the benchmarking summaries and project prioritization materials.

**Project Timeline:**

- June: Review project prioritization criteria
- July: Development of project lists
- July-September: Draft Plans & Guidelines
- October-January 2015: Environmental Review Process
- November-December: Presentation/Final Adoption of Plans

**SUPPORTING DOCUMENTS**

Attachment(s): (1) Countywide Pedestrian Plan Benchmarking Summaries  
(2) Project Prioritization Criteria

## APPENDIX A: BENCHMARKING SUMMARIES

<b>TABLE 1: CALISTOGA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS</b>			
<b>Plans, Policies, &amp; Programs</b>	<b>Benchmark</b>	<b>Calistoga Response</b>	<b>Recommended Action Items</b>
<p><b>Coordination with Health Agencies</b> Involving non-traditional partners such as public health agencies, pediatricians, etc., in the planning or design of pedestrian facilities may create opportunities to be more proactive with pedestrian safety, identify pedestrian safety challenges and education venues, and secure funding. Additionally, under-reporting of pedestrian-vehicle collisions could be a problem that may be partially mitigated by involving the medical community in pedestrian safety planning.<sup>1</sup></p>	Key Strength	<p>Live Healthy Napa County, a coalition of local community stakeholders for improving health in Napa County, recently completed the Napa County Community Health Improvement Plan (CHIP) in February 2014. The document proposes a plan to address health issues through new policies and health promotion strategies, including transportation policies that encourage walking and biking.</p> <p>Live Healthy Napa County is also working to complete the first ever Napa County Community Obesity Prevention Plan, which addresses the need to increase active transportation options Countywide.</p> <p>In Calistoga, health agencies are not involved in pedestrian planning on a regular basis at the local level.</p>	<ul style="list-style-type: none"> <li>• Seek opportunities to meet goals in the CHIP related to active transportation, such as improving the built environment by ensuring all necessary sidewalk repairs are included in the City's Capital Improvement Program (CIP), and including additional pedestrian infrastructure projects in the program. Consider incorporating public comment from the recommended online comment form below under <i>Public Involvement</i>.</li> <li>• Involve health agencies in the development review process, especially related to active transportation improvements.</li> <li>• Ensure consistency with the CHIP by seeking partnership opportunities between health agencies and Safe Routes to School to expand the reach of education and promotion of walking.</li> </ul>
<p><b>Complete Streets Policy</b> Routine Accommodations or Complete Streets Policies accommodate all modes of travel and travelers of all ages and abilities.</p>	Key Strength	<p>The City of Calistoga has a Complete Streets Policy which follows the template provided by the Metropolitan Transportation Commission, and the policy is incorporated into the City's 2014 Circulation Element of the General Plan. According to the Circulation Element, Complete Streets practices must be integrated into public works projects and development projects as well as the retrofit or maintenance of existing streets.</p> <p>For implementation of the Complete Streets policy, development projects affecting the transportation system must be reviewed by the Active Transportation Advisory</p>	<ul style="list-style-type: none"> <li>• Develop a checklist for project review to ensure routine application of the Complete Streets policy.</li> <li>• Consider maintaining a GIS database of data collected as part of the policy evaluation, to include pedestrian volumes collected in this Plan.</li> </ul>

<sup>1</sup> Sciortino, S., Vassar, M., Radetsky, M. and M. Knudson, "San Francisco Pedestrian Injury Surveillance: Mapping, Underreporting, and Injury Severity in Police and Hospital Records," *Accident Analysis and Prevention*, Volume 37, Issue 6, November 2005, Pages 1102-1113

**TABLE 1: CALISTOGA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

		<p>Committee for consistency with other City planning documents and recommendations for Complete Streets elements.</p> <p>The City collects development impact fees for traffic impact mitigations, used to pay for transportation capital improvements not covered by other funding sources. Pedestrian and bicycle improvements are included in the cost estimations and the allocation of monies.</p>	
<p><b>Newspaper Rack Ordinance</b> Newspaper racks may obstruct walkways and reduce accessibility and pedestrian visibility when ordinances are not in place. A Newspaper Rack Ordinance improves the pedestrian realm by reducing clutter and organizing sidewalk zones and may detail size, location, and maintenance requirements.</p>	Key Strength	<p>Calistoga has a robust newspaper rack ordinance that addresses pedestrian safety and prohibits disruption of pedestrian flow. The policy also restricts the placement of newspaper racks anywhere that may obstruct a driver's line of sight.</p>	
<p><b>Street Tree Ordinance</b> Street trees enhance the pedestrian environment by providing shade and a buffer from vehicles. Street trees may also enhance property values, especially in residential neighborhoods. However, street trees, when improperly selected, planted, or maintained, may cause damage to adjacent public utilities.</p>	Key Strength	<p>Calistoga's tree ordinance includes requirements for maintaining vertical pedestrian clearances and installing root barriers to avoid sidewalk damage. Maintenance is the responsibility of the owner of the lot fronting the street where the tree is located. Calistoga has adopted the City of Santa Rosa's approved street tree list.</p>	
<p><b>Bicycle Parking Ordinance</b> Bicyclists become pedestrians after parking their bicycles. Safe and convenient bicycle parking is essential for encouraging bicycle travel (especially in-lieu of vehicle travel).</p>	Key Strength	<p>The City of Calistoga has a bicycle parking ordinance that includes requirements for residential and nonresidential. Racks or lockers are required to be placed in a safe and convenient location, adequately separated from vehicles and pedestrians.</p>	<ul style="list-style-type: none"> <li>Consider modifying the bicycle parking ordinance to distinguish and provide for both long-term and short-term bicycle parking.</li> </ul>
<p><b>Collision Reporting</b> Identifying and responding to</p>	Key Strength	<p>Collision data from the beginning of 2002 through the end of 2011 was mapped as part of Calistoga's Active</p>	<ul style="list-style-type: none"> <li>Comprehensive monitoring using Crossroads software would allow for more proactive</li> </ul>

**TABLE 1: CALISTOGA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p>collision patterns on a regular basis is an important reactive approach to pedestrian safety (which may be combined with proactive measures).</p>		<p>Transportation Plan (ATP) and reviewed for trends related to pedestrian safety. The ATP also includes a policy to reduce pedestrian and bicycle collisions by 50 percent by the year 2020, based on 2011 collision data, as well as to review collision data annually to identify and prioritize applicable projects and programs.</p>	<p>pedestrian safety projects and best practices such as collision typing for countermeasure selection. GIS efforts may be funded through an Office of Traffic Safety grant.</p> <ul style="list-style-type: none"> <li>• Sufficient pedestrian volume data could be used to prioritize collision locations based on collision rates (collisions/daily pedestrian volume). This could lead to a proactive approach to identify treatments and program funding. Volunteers can collect pedestrian volumes and other data at collision locations.</li> </ul>
<p><b>Safe Routes to Schools</b> Safe-Routes-to-School (SRTS) programs encourage children to safely walk or bicycle to school. The programs are important both for increasing physical activity (and reducing childhood obesity) and for reducing morning traffic associated with school drop-off, as much as 30% of morning peak hour traffic.</p> <p>Educational components of SRTS programs are especially important for school children where safe walking habits may be instilled as lifelong lessons. Funding for programs and/or projects is available at the state and federal levels.</p>	<p>Key Strength</p>	<p>The Napa County Office of Education (NCOE) currently has a three year grant to administer a Safe Routes to School (SRTS) Program across the County through 2016. Program leaders have a goal of reaching every interested school by the end of the grant term, and plan to work with Calistoga Elementary School and Calistoga Jr/Sr High School in 2015.</p> <p>The program includes events such as Walk and Roll to School Day, Bike Rodeos, and Safe Walking education presentations for students in grades K-3. Brochures are handed out during this program as well as at community events and PTA/parent meetings. Parent presentations include a review of pedestrian laws and ordinances.</p> <p>Although materials for these programs are available each year for schools across the County, reaching schools on a weekly or yearly basis has not been possible due to understaffing and scarcity of volunteers.</p> <p>In Calistoga, Safe Routes to School routes have been mapped in the ATP to identify potential locations for infrastructure improvements, and the City is currently working on applications for SRTS infrastructure funding. The City also includes schools in the development review process.</p>	<ul style="list-style-type: none"> <li>• Reference the public involvement, analysis, and prioritization efforts of the Countywide ATP and PSA when applying for grants to fund the top projects.</li> <li>• Seek partners to form school-specific committees of community agencies, parents, advocates, City staff, community health representatives, and other stakeholders to administer SRTS programs at each school in Calistoga. Hold regular meetings to maintain stakeholder involvement.</li> <li>• Determine feasibility of rolling out Walking School Bus program for Calistoga Elementary School.</li> <li>• Coordinate with NCTPA to seek additional funding for SRTS, to include allocating local sales tax money or starting a transportation tax to emulate local jurisdictions such as Marin and Sonoma.</li> </ul>
<p><b>Inventory of Pedestrian Facilities</b> A GIS-based sidewalk inventory enables project identification and</p>	<p>Key Strength</p>	<p>Calistoga has a Citywide inventory of existing and proposed sidewalks, existing and proposed pathways, and ADA-compliant curb ramps collected as part of the 2014 Active</p>	<ul style="list-style-type: none"> <li>• The Countywide ATP has created a GIS-based inventory to expand the City's existing inventory. Data collected includes</li> </ul>

**TABLE 1: CALISTOGA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p>prioritization, as well as project coordination with new development, roadway resurfacing, etc.</p>		<p>Transportation Plan (ATP) that is geo-referenced in GIS. Sidewalks are included in the City’s Capital Improvement Program and the annual funding level for sidewalk repairs or gap closures is approximately \$50,000.</p> <p>The City offers design guidance to developers building fronting sidewalks as well as a 50/50 cost sharing program for those repurposing an existing use. For new developments, pedestrian connectivity is required and if needed, the developer is responsible for the full cost of sidewalk construction. Property owners are generally responsible for the maintenance of fronting sidewalks; however the City uses 50/50 cost sharing for maintenance and repair efforts at their discretion, especially for sidewalks downtown along Lincoln Avenue.</p>	<p>crosswalks, existing and missing curb ramps, as well as additional features like sidewalk material and curb ramp direction. This facility inventory could be expanded to include proposed or planned pedestrian crossing improvements in the City.</p> <ul style="list-style-type: none"> <li>• Consider mapping public comments received going forward to ensure all necessary sidewalk repairs and other pedestrian improvements are included in the City’s Capital Improvement Program (CIP).</li> </ul>
<p><b>ADA Improvements</b> Compliance with the Americans with Disability Act (ADA) guidelines is important not only to enhance community accessibility, but also to improve walking conditions for all pedestrians.</p>	<p>Key Strength</p>	<p>For guidance on ADA compliance for buildings, the City follows CALDAG standards, a user-friendly manual and checklist that combines the 2013 California Building Code regulations with federal 2010 ADA requirements. For public roadway facilities, Calistoga has adopted the City of Santa Rosa Street Design and Construction Standards, which include standards for sidewalk obstruction transitions, ADA-compliant curb ramps, and designs to maintain a level sidewalk across the back of driveways. Standards do not include a detail for directional curb ramps except for those at mid-block locations. Updated City standards for curb ramps require non-yellow truncated domes.</p> <p>Lincoln Avenue and Foothill Boulevard are Caltrans highway facilities. According to the Active Transportation Plan (ATP), the City collaborates with Caltrans to create ADA-compliant facilities on state facilities.</p> <p>The City has a 2008 ADA Transition Plan which it uses to replace and retrofit non-compliant facilities in the public right-of-way. All new street and sidewalk construction projects must upgrade ramps in the area, and the City performs spot checks of new curb ramps.</p>	<ul style="list-style-type: none"> <li>• Maintain the existing GIS database of ADA-compliant curb ramps to ensure new updates are recorded. Consider adding sidewalk deficiencies listed in the ADA Transition Plan to track progress on completed improvements.</li> <li>• Consider adopting a City Standard for directional curb ramps and implement the design where practical.</li> </ul>
<p><b>Law Enforcement</b> Enforcement of pedestrian right-of-</p>	<p>Key Strength</p>	<p>Calistoga shares data, expertise, and knowledge with the Sheriff’s Office at the City of St. Helena. Officers are involved</p>	<ul style="list-style-type: none"> <li>• Coordinate with NCTPA on efforts to train officers in Calistoga on pedestrian safety</li> </ul>

**TABLE 1: CALISTOGA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p>way laws and speed limits is an important complement to engineering treatments and education programs.</p>		<p>in school drop-off activity along with school crossing guards.</p> <p>The police department’s educational outreach efforts are currently focused on bicycle safety, including distributing bicycle safety pocket cards and bike helmets. NCTPA is interested in collaborating with CHP officers to implement pedestrian education outreach efforts to motorists Countywide.</p> <p>In Calistoga, the Police Chief is involved in weekly project review.</p>	<p>enforcement principles and education outreach efforts.</p> <ul style="list-style-type: none"> <li>• Implement sustained pedestrian safety enforcement efforts and involve the media. Coordinate with NCTPA on the media safety campaign that NCTPA is pursuing, as an opportunity for education.</li> </ul>
<p><b>General Plan</b></p> <p>Planning principles contained in a city’s General Plan can provide an important policy context for developing pedestrian-oriented, walkable areas. Transit-oriented development, higher densities, and mixed uses are important planning tools for pedestrian-oriented areas. A city’s General Plan is also a key opportunity to establish the framework for pedestrian orientation. The Circulation Element of the Plan typically assigns roadway typologies, which can include a layered network approach with prioritized corridors for transit, pedestrian, bicycle, and auto travel.</p>	<p>Key Strength</p>	<p>Density in Calistoga is concentrated in the Central Business District on Lincoln Avenue and a few mixed-use zones are located in this area as well.</p> <p>The General Plan highlights the need to install crossings at pedestrian nodes on Lincoln Avenue and Foothill Boulevard, as well as a number of locations where crosswalk enhancements should be pursued at pedestrian nodes on Lincoln Avenue. In lieu of LOS standards, the General Plan includes a policy to balance the needs of all users during traffic evaluations, especially on Lincoln Avenue. The Plan also recommends assessing the feasibility of adjusting street standards to improve pedestrian conditions, such as reducing corner radii and narrowing streets.</p> <p>Although the demand for parking is increasing in downtown Calistoga, the General Plan discourages the use of additional large parking lots to preserve the pedestrian-friendly environment. The City currently uses in-lieu parking fees, charged to commercial developments that are unable to meet on-site parking requirements, to provide municipal parking and foster a “park once” environment.</p>	<ul style="list-style-type: none"> <li>• Explore opportunities for shared parking downtown and potential shuttle routes to key tourist sites to encourage “Car-Free” tourism.</li> </ul>
<p><b>Pedestrian Master Plan</b></p> <p>This type of plan includes a large menu of policy, program, and practice suggestions, as well as site-specific (and prototypical) engineering treatment suggestions. A Pedestrian (or Active Transportation) Master Plan</p>	<p>Key Strength</p>	<p>Calistoga completed an Active Transportation Plan in 2014 which includes a citywide inventory of sidewalks, pathways, and curb ramps as well as a review of pedestrian collisions. The Plan prioritizes pedestrian facility improvements, develops pedestrian policies, recommends pedestrian programs and provides funding sources for pedestrian improvements.</p> <p>Currently the City’s Senior Planner serves as the</p>	<ul style="list-style-type: none"> <li>• Develop a comprehensive, Citywide crosswalk policy and toolbox as part of the Countywide Pedestrian Plan.</li> <li>• Develop pedestrian safety and “eyes on the street” design guidelines as part of the Countywide Pedestrian Plan</li> </ul>

**TABLE 1: CALISTOGA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p>documents a jurisdiction's vision for improving walkability and pedestrian safety; establish policies, programs, and practices; and outline the prioritization and budgeting process for project implementation.</p>		<p>Bicycle/Pedestrian Coordinator and dedicates 20% of his time to pedestrian related work.</p>	
<p><b>Public Involvement</b> Responding to public concerns through public feedback mechanisms represents a more proactive and inclusive approach to pedestrian safety compared to a conventional approach of reacting to pedestrian collisions. Advisory committees serve as important sounding boards for new policies, programs, and practices. A citizens' pedestrian advisory committee is also a key component of proactive public involvement for identifying pedestrian safety issues and opportunities.</p>	<p>Enhancement</p>	<p>The City of Calistoga Public Works Department has online forms for the public to submit complaints, inquires, or requests and the City generally is able to respond or resolve an issue with 24 hours of a report.  The City has a five-member Active Transportation Advisory Committee that focuses on improving active modes of transportation within Calistoga. A representative from the City's ATAC also sits on the ATAC for NCTPA to discuss Countywide issues.</p>	<ul style="list-style-type: none"> <li>• Add a page to the City's website dedicated to receiving public input regarding transportation issues to include the existing comment forms and a subsection for pedestrian topics. This category or subcategory may allow residents to file comments or complaints for traffic control devices or conditions of concern, and could be used to ensure all necessary pedestrian improvements are included in the CIP.</li> </ul>
<p><b>Transportation Demand Management</b> Transportation Demand Management (TDM) programs encourage multi-modal travel by incentivizing non-auto options. As new development occurs, TDM programs can be expanded, formalized, and strengthened.</p>	<p>Enhancement</p>	<p>Employers of 50 or more full-time workers in the Bay Area are required to provide commuter benefits to their employees through the Bay Area Commuter Benefits Program, to comply with California SB 1339. The Program includes benefit options like transit passes, employer-provided shuttles, and vanpool subsidies.</p>	<ul style="list-style-type: none"> <li>• Develop a policy that supports the "Car Free" tourism program of the Napa Valley Destination Council and NCTPA, which provides information to visitors so they can plan a trip without relying solely on a car.</li> </ul>
<p><b>Design and Development Standards</b> Design policies and development standards can improve the pedestrian walking experience, encourage walking, enhance economic vitality, and offer funding</p>	<p>Enhancement</p>	<p>The City's adopted street standards require tree planting to include root barriers and comply with a list of approved trees. Although the City has no adopted standards for bulb outs, standard cross-sections do include sidewalks and narrow lanes in some cases. Lanes as narrow as nine feet are the standard for neighborhood streets with low speeds and</p>	<ul style="list-style-type: none"> <li>• Incorporate elements of the design guidelines presented in the Countywide Plan as part of the development review process and to existing infrastructure where feasible.</li> </ul>

**TABLE 1: CALISTOGA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p>opportunities for pedestrian improvements.</p>		<p>volumes.</p> <p>The City’s Residential Guidelines promote pedestrian-friendly neighborhoods by encouraging visual interest, scale and character as well as shade trees, pedestrian-scale lighting and pedestrian connections to adjoining facilities.</p> <p>The City’s General Plan includes a recommendation to assess the feasibility of adjusting street standards to improve pedestrian conditions such as reducing corner radii and narrowing streets.</p>	
<p><b>Pedestrian Safety Education Program</b></p> <p>Education is a critical element for a complete and balanced approach to improving pedestrian safety. Education campaigns may target pedestrians of all ages.</p>	<p>Enhancement</p>	<p>The City of Calistoga has advertised such events such as Bike to Work Day on the local news, and the Napa County Bike Coalition offers educational seminars for riding smart as well as bicycle safety laws and guidance on their website.</p> <p>In accordance with policies in the Napa Bike Plan and the General Plan, NCTPA is planning to pursue grant funding in November 2015 through the California Office of Traffic Safety (OTS) for a media safety campaign for motorists. The campaign will use Pittsburgh’s Drive With Care campaign for inspiration, which characterizes bicyclists and pedestrians as our firefighters, doctors, and neighbors and uses the slogan “someone you care about rides a bike”.</p>	<ul style="list-style-type: none"> <li>• Coordinate with NCTPA on pursuing a media safety campaign, and consider the following methods to distribute the campaign in Calistoga:</li> <li>• Include advertisements on buses and bus shelters, through SRTS and in-school curriculum, public service announcements, and/or brochures distributed by law enforcement, among many other strategies.</li> <li>• Pedestrian safety brochures could be distributed to the public independent of the media campaign to promote walking to community events.</li> </ul>
<p><b>Open Space Requirements</b></p> <p>Residents typically rate open space as among a jurisdiction’s key assets and needs. Open space may encourage walking, especially for recreational trips.</p>	<p>Enhancement</p>	<p>The City of Calistoga has development standards that require a certain percentage of lots to be landscaped. A Rural Residential – Hillside Zoning District was established to create incentives for increased density to preserve open space and to maintain and preserve natural landscaping and views.</p>	<ul style="list-style-type: none"> <li>• Consider requiring provisions for pedestrian safety and accessibility as part of the Rural Residential – Hillside District.</li> </ul>
<p><b>Sidewalk or Street Furniture Ordinance</b></p> <p>Street furniture encourages walking by accommodating pedestrians with benches to rest along the route or wait for transit; trash receptacles to maintain a clean environment; street</p>	<p>Enhancement</p>	<p>Calistoga has no specific street furniture ordinance, but does allow sidewalk dining within the public right-of-way with a permit. The City’s sidewalk dining ordinance requires that the location of the sidewalk dining not interfere with pedestrian safety, access, or flow.</p> <p>The City does not have authority over street furniture within</p>	<ul style="list-style-type: none"> <li>• Coordinate with Caltrans as needed for street furniture permits on Lincoln Avenue.</li> </ul>

**TABLE 1: CALISTOGA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p>trees for shade, etc. Uniform street furniture requirements also enhance the design of the pedestrian realm and may improve economic vitality.</p>		<p>Caltrans’ right-of-way on Lincoln Avenue.</p>	
<p><b>Walking Audit Program</b> Walking audits provide an interactive opportunity to receive feedback from key stakeholders about the study area as well as discuss potential solutions and their feasibility. They can be led by City staff, advocacy groups, neighborhood groups, or consultants.</p>	<p>Enhancement</p>	<p>Calistoga has not conducted comprehensive pedestrian walking audits before this Plan and PSA, although walking audits are part of the City’s trip and fall assessment to identify trip hazards and the need for sidewalk repairs Citywide.</p>	<ul style="list-style-type: none"> <li>• Conduct regular comprehensive walking audits as part of a citywide safety program for pedestrians. This effort could complement the “trip and fall” program or health-oriented programs within the City, as well as distribution of the media campaign NCTPA is pursuing.</li> </ul>
<p><b>Identifying Crossing Barriers</b> Crossing barriers such as railroads, freeways, and major arterials may discourage or even prevent pedestrian access. Additionally, crossing barriers are often associated with vehicle-pedestrian collisions. Identifying and removing barriers, as well as preventing new barriers, is essential for improving walkability and pedestrian safety.</p>	<p>Enhancement</p>	<p>Existing crossing barriers in Calistoga include Lincoln Avenue, Foothill Boulevard, and Napa River crossings. The City’s ATP includes a proposed Southern Crossing of the Napa River with “medium” priority.</p> <p>The City’s General Plan highlights locations with high levels of pedestrian activity where designated crossings are needed across Lincoln Avenue and Foothill Boulevard.</p>	<ul style="list-style-type: none"> <li>• Identify and create a comprehensive inventory of pedestrian barriers, to include the recommendations in the General Plan and the City ATP, along with appropriate remedies or projects.</li> </ul>
<p><b>Institutional Coordination</b> Institutional issues for pedestrian planning/design may refer to adopted or informal impediments. This may be policies, practices, funding issues or even stakeholders that make it challenging to improve walking in Calistoga.</p> <p>Institutional coordination associated with multiple agencies is necessary because of non-local control of right-of-way and differing policies regarding pedestrian</p>	<p>Enhancement</p>	<p>Caltrans has jurisdiction over Lincoln Avenue and Foothill Boulevard in Calistoga. Lincoln Avenue is a major pedestrian attractor in Calistoga, with multiple hotels and restaurants lining the corridor, and has also been identified as a crossing barrier.</p> <p>The City has had some challenges collaborating with Caltrans recently on the location of pedestrian curb ramps; however, they did reach agreement on the Vine Trail alignment in the City and have constructed ADA-compliant curb ramps on state facilities.</p> <p>The City has also had difficulty with constructing pathways due political and public safety concerns regarding new pathways through private property.</p>	<ul style="list-style-type: none"> <li>• Proactively seek opportunities to collaborate with Caltrans to improve pedestrian safety and accessibility along and across Lincoln Avenue.</li> </ul>

**TABLE 1: CALISTOGA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

accommodation.			
<p><b>Historical Preservation</b> Historic walking routes, such as the famous Freedom Trail in Boston, encourage walking and enhance economic vitality.</p>	Opportunity	<p>Several historic sites exist in Calistoga, although not all are included in historic registries. Calistoga’s Historic District was created to maintain the pedestrian oriented environment and historic character within the commercial core.</p> <p>The local history museum, The Sharpsteen Museum, offers walking tours by appointment.</p>	<ul style="list-style-type: none"> <li>• In coordination with The Sharpsteen Museum, develop a map to showcase natural or local sites of interest, including a walking route between the sites. Maps of the tour route and historic documentation materials could be made available online and wayfinding signs, maps, and plaques could also be provided throughout the City.</li> </ul>
<p><b>Speed Limits and Speed Surveys</b> Pedestrian fatality rates increase exponentially with vehicle speed. Thus, reducing vehicle speeds in pedestrian zones may be one of the most important strategies for enhancing pedestrian safety.</p>	Opportunity	<p>Minimal reviews of speed limits are completed by the City of Calistoga; however, speed surveys were completed in 2010 for all state facilities Speed limits are not posted in neighborhoods and are de facto 25 miles per hour.</p> <p>The City currently has one reduced speed limit zone of 15 mph that was implemented in response to a bicycle fatality. Enforcement is used when high speeds are present in pedestrian zones.</p>	<ul style="list-style-type: none"> <li>• Proactively consider pedestrian volumes when setting speed limits, especially in school zones. Work with Caltrans to review speed limits in pedestrian zones on Lincoln Avenue and Foothill Boulevard. Consider traffic calming in pedestrian zones where speed surveys suggest traffic speeds are too high.</li> <li>• Ensure design standards in pedestrian areas do not contribute to a routine need for traffic calming.</li> </ul>
<p><b>Pedestrian Volumes</b> Pedestrian volume data is important for prioritizing projects, developing collision rates, and determining appropriate pedestrian infrastructure.</p>	Opportunity	<p>The City of Calistoga does not collect pedestrian volumes routinely.</p>	<ul style="list-style-type: none"> <li>• Use collected volumes in the Countywide Plan to monitor volume levels.</li> <li>• Routinely collect pedestrian and bicycle volumes by requiring them to be conducted in conjunction with all traffic studies and manual intersection turning movement counts.</li> <li>• Geo-code existing and future pedestrian volume data with GIS software along with other data such as pedestrian control devices and collisions to analyze data for trends or hotspots related to pedestrian safety.</li> </ul>
<p><b>Economic Vitality</b> Improving pedestrian safety and walkability can enhance economic vitality. Similarly, enhancing economic vitality through innovative</p>	Opportunity	<p>Calistoga does not have a BID or a façade improvement program.</p>	<ul style="list-style-type: none"> <li>• Consider establishing a Business Improvement District that can fund streetscape and pedestrian improvements.</li> <li>• Consider implementing strategies like wayfinding to reinforce a “park-once”</li> </ul>

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<p>funding options such as Business Improvement Districts (BIDs), parking management, and facade improvement programs can lead to more active pedestrian areas and encourage walking.</p>			<p>environment along Lincoln Avenue.</p>
<p><b>Pedestrian-Oriented Traffic Warrants / Traffic Control Devices</b>          Providing all-way stop or signal control at an intersection may improve pedestrian safety by reducing speeds and controlling pedestrian-vehicle conflicts. The MUTCD defines warrants for installing signals and stop signs.</p> <p>The 2014 California <i>Manual of Uniform Traffic Control Devices</i> (MUTCD) requires the installation of countdown pedestrian signals for all crosswalks at new or modified signals where the pedestrian interval is more than 7 seconds.</p> <p>Leading Pedestrian Intervals (LPIs) can reduce conflicts between turning vehicles and pedestrians by providing pedestrians with a “head start” signal timing before vehicles on the parallel street are allowed to proceed through an intersection.</p>	<p>Opportunity</p>	<p>The City of Calistoga uses MUTCD warrants for signals and stop signs.</p> <p>Calistoga currently has one traffic signal at Lincoln Avenue and Washington Street, operated by Caltrans, although no lead pedestrian intervals (LPIs) or pedestrian countdown timers are installed. Four new signals are proposed in the City’s General Plan. All four will be on Caltrans facilities.</p>	<ul style="list-style-type: none"> <li>• Coordinate with Caltrans to install pedestrian countdown timers at signals along Lincoln Avenue and evaluate future need for LPIs in areas of high pedestrian activity.</li> <li>• Consider using City-specific, pedestrian-friendly stop sign warrants for locations where pedestrian safety is a concern. Best practices for stop-sign warrant application include:             <ul style="list-style-type: none"> <li>○ Requiring a collision history of three instead of five years based on routine underreporting</li> <li>○ Reducing traffic volume thresholds based on latent demand</li> <li>○ Providing consideration for school children, pedestrians and traffic speeds</li> </ul> </li> <li>• Expand the GIS-based inventory to include pedestrian-related markings and traffic signals with pedestrian facilities.</li> </ul>
<p><b>Crosswalk Design Guidelines</b>          A formal policy for crosswalk installation, removal, and</p>	<p>Opportunity</p>	<p>The City of Calistoga has a pedestrian crossing policy in their Active Transportation Plan (ATP) to provide safety features at uncontrolled pedestrian crossings, especially within</p>	<ul style="list-style-type: none"> <li>• Consider adopting a crosswalk policy as part of the Countywide Plan that reflects best practices and recent research to include</li> </ul>

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<p>enhancement provides transparency in decision-making and creates a consistent application of treatments Citywide.</p>		<p>pedestrian districts and at intersections of arterials with Class I trails<sup>2</sup>. The policy does not include criteria for appropriate enhancements.</p> <p>The City of Calistoga generally considers crosswalks at signals and high volume activity centers, especially near schools. The one existing signal is on Lincoln Avenue, a highway facility, and thus decisions regarding signalized crosswalk installation are made by Caltrans. Several uncontrolled crosswalks are installed on Lincoln Avenue at intersections with minor streets. The City does not install uncontrolled midblock crossings under current practice.</p>	<p>criteria for appropriate locations to install crosswalk enhancements such as flashing beacons, advanced yield markings, or in-roadway pedestrian signs.</p> <ul style="list-style-type: none"> <li>• Coordinate with Caltrans to include criteria in the crosswalk policy for identifying, installing, and enhancing crossings where strong desire lines exist, especially across Lincoln Avenue.</li> <li>• Using the proposed crosswalk policy, conduct audits of the adequacy of current crosswalks.</li> </ul>
<p><b>Traffic Calming Programs</b> Traffic Calming Programs and policies set forth a systematic and consistent approach for addressing neighborhood requests and approvals, as well as standard treatments and criteria.</p>	<p>Opportunity</p>	<p>The City of Calistoga does not have a Traffic Calming Program; however, radar speed detection signs are in use near the high school and were funded through an insurance pool for safety improvements.</p> <p>The City municipal code prohibits the use of speed humps in Calistoga.</p>	<ul style="list-style-type: none"> <li>• Consider adopting a Traffic Calming program for pedestrian concerns that arise from residents in Calistoga.</li> </ul>
<p><b>Coordination with Emergency Response and Transit Providers</b> Emergency response vehicles require special roadway design considerations that sometimes conflict with bicycle and pedestrian treatments. For example, while pedestrians benefit from reduced speeds of smaller curb radii, larger vehicles such as fire trucks and buses have more difficulty performing the turn within the smaller space. These conflicts require consensus building between the City and the respective departments.</p>	<p>Opportunity</p>	<p>The fire department represents emergency services and attends project review meetings to provide comments.</p> <p>Transit shelters were redesigned in 2009 and updated to meet ADA requirements. Transit providers are not currently involved in the pedestrian planning process, although the need for marked crosswalks at several bus stops has been identified.</p>	<ul style="list-style-type: none"> <li>• Seek opportunities for technical collaboration and funding with transit providers for pedestrian improvements.</li> <li>• Consider pilot testing programs for transit and emergency response and a more active involvement in project review for small projects and not just development projects.</li> <li>• In accordance with the General Plan and the Napa Bike Plan, explore ways to implement a Safe Routes to Transit Program that prioritizes bike and pedestrian access to transit connection points and transit centers.</li> </ul>

<sup>2</sup> City of Calistoga Active Transportation Plan, 2014



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Plans, Policies, & Programs	Benchmark	St. Helena Response	Recommended Action Items
<p><b>Coordination with Health Agencies</b>                      Involving non-traditional partners such as public health agencies, pediatricians, etc., in the planning or design of pedestrian facilities may create opportunities to be more proactive with pedestrian safety, identify pedestrian safety challenges and education venues, and secure funding.                      Additionally, under-reporting of pedestrian-vehicle collisions could be a problem that may be partially mitigated by involving the medical community in pedestrian safety planning.<sup>3</sup></p>	<p>Key Strength</p>	<p>Live Healthy Napa County, a coalition of local community stakeholders for improving health in Napa County, recently completed the Napa County Community Health Improvement Plan (CHIP) in February 2014. The document proposes a plan to address health issues through new policies and health promotion strategies, including transportation policies that encourage walking and biking.</p> <p>In St. Helena, health agencies are involved in the development review process, but there is no special involvement for pedestrian facilities.</p> <p>Live Healthy Napa County is also working to complete the first ever Napa County Community Obesity Prevention Plan, which addresses the need to increase active transportation options Countywide.</p>	<ul style="list-style-type: none"> <li>• Seek opportunities to meet goals in the CHIP related to active transportation, such as improving the built environment by ensuring all necessary sidewalk repairs are included in the City’s Capital Improvement Program (CIP), and including additional pedestrian infrastructure projects in the program. Consider a trip and fall monitoring program and/or incorporating public comment from the recommended online comment form under <i>Public Involvement</i> below.</li> <li>• Continue to involve health agencies in the development review process, especially related to active transportation improvements.</li> <li>• Ensure consistency with the CHIP by seeking partnership opportunities between health agencies and Safe Routes to School to expand the reach of education and promotion of walking.</li> </ul>
<p><b>Complete Streets Policy</b>                      Routine Accommodations or Complete Streets Policies accommodate all modes of travel and travelers of all ages and abilities.</p>	<p>Key Strength</p>	<p>The City of St. Helena has a Complete Streets Policy resolution which follows the template provided by MTC. The next update to the General Plan will incorporate Complete Streets policies and principles; however, it has yet to be adopted.</p> <p>For implementation of the Complete Streets policy, designs of projects affecting the transportation system must be reviewed by the Active Transportation Committee for consistency with the Vine Trail plans and the Countywide Bicycle Plan. Routine data</p>	<ul style="list-style-type: none"> <li>• Consider opportunities for Complete Streets, specifically pedestrian pathways and/or sidewalks, during restriping, repaving, new roadway construction, and utility installation projects.</li> <li>• Develop a checklist for project review to ensure routine application of the Complete Streets policy.</li> <li>• Consider maintaining a GIS database of data collected as part of the policy evaluation, to include pedestrian volumes collected in this</li> </ul>

<sup>3</sup> Sciortino, S., Vassar, M., Radetsky, M. and M. Knudson, “San Francisco Pedestrian Injury Surveillance: Mapping, Underreporting, and Injury Severity in Police and Hospital Records,” *Accident Analysis and Prevention*, Volume 37, Issue 6, November 2005, Pages 1102-1113

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		<p>collection is also required to evaluate how well all users are being served by the transportation network.</p> <p>Commercial and residential development projects are required to include sidewalks and the City additionally requests ADA-compliant driveway designs during development review.</p>	Plan.
<p><b>Newspaper Rack Ordinance</b> Newspaper racks may obstruct walkways and reduce accessibility and pedestrian visibility when ordinances are not in place. A Newspaper Rack Ordinance improves the pedestrian realm by reducing clutter and organizing sidewalk zones and may detail size, location, and maintenance requirements.</p>	Key Strength	<p>St Helena has an ordinance which requires the placement and maintenance of a newsrack not to interfere with building access or reduce the pedestrian travel way to less than six feet.</p>	
<p><b>Street Tree Ordinance</b> Street trees enhance the pedestrian environment by providing shade and a buffer from vehicles. Street trees may also enhance property values, especially in residential neighborhoods. However, street trees, when improperly selected, planted, or maintained, may cause damage to adjacent public utilities.</p>	Key Strength	<p>The St Helena Tree Committee developed the Master Street Tree List, a guide that organizes trees into categories depending on the recommended street type (large commercial, major in-town streets, and small neighborhood streets). The guide includes a list of undesirable trees, in accordance with the City's street tree ordinance, which lists trees that cannot be planted without proper root-control barriers due to their potential to cause damage to sidewalks.</p> <p>According to the St Helena tree ordinance, property owners are responsible for repairing sidewalk damage by trees fronting their property, while the City takes responsibility for trimming and maintaining trees on Main Street.</p>	
<p><b>Speed Limits and Speed Surveys</b> Pedestrian fatality rates increase exponentially with vehicle speed. Thus, reducing vehicle speeds in pedestrian zones may be one of the most important strategies for enhancing pedestrian safety.</p>	Key Strength	<p>Engineering speed studies are prepared every 5 years in St Helena, in accordance with state law. The City does use reduced speed limits of 15 mph in school zones as needed. De facto speed limits are 25 miles per hour.</p>	<ul style="list-style-type: none"> <li>• Proactively consider pedestrian volumes when setting speed limits, and consider traffic calming in pedestrian zones where speed surveys suggest traffic speeds are too high.</li> <li>• Ensure design standards in pedestrian areas do not contribute to a routine need for traffic calming.</li> </ul>

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<p><b>Bicycle Parking Ordinance</b> Bicyclists become pedestrians after parking their bicycles. Safe and convenient bicycle parking is essential for encouraging bicycle travel (especially in-lieu of vehicle travel).</p>	<p>Enhancement</p>	<p>The City of St. Helena includes the option to require bicycle parking in its municipal code for any use which must provide 10 or more vehicular spaces.</p>	<ul style="list-style-type: none"> <li>Consider modifying the bicycle parking ordinance to distinguish and provide for both long-term and short-term bicycle parking. Include requirements for rack placement to ensure a convenient location and adequate pedestrian clearances.</li> </ul>
<p><b>Collision Reporting</b> Identifying and responding to collision patterns on a regular basis is an important reactive approach to pedestrian safety (which may be combined with proactive measures).</p>	<p>Enhancement</p>	<p>According to collision history between 2003 and 2012, St Helena has the highest number of collisions Countywide besides the City of Napa. Collision locations and contributing factors are reviewed by City staff when there is a call for grant funding to identify candidate improvement projects.</p>	<ul style="list-style-type: none"> <li>Geo-coding (mapping) and comprehensive monitoring using Crossroads software would allow for more proactive pedestrian safety projects and best practices such as collision typing for countermeasure selection. GIS efforts may be funded through an Office of Traffic Safety grant.</li> <li>Sufficient pedestrian volume data could be used to prioritize collision locations based on collision rates (collisions/daily pedestrian volume). This could lead to a proactive approach to identify treatments and program funding. Volunteers can collect pedestrian volumes and other data at collision locations.</li> </ul>
<p><b>Public Involvement</b> Responding to public concerns through public feedback mechanisms represents a more proactive and inclusive approach to pedestrian safety compared to a conventional approach of reacting to pedestrian collisions. Advisory committees serve as important sounding boards for new policies, programs, and practices. A citizens’ pedestrian advisory committee is also a key component of proactive public involvement for identifying pedestrian safety issues and opportunities.</p>	<p>Enhancement</p>	<p>The City of St Helena does not have a formal online feedback process, but residents may call the Planning or Public Works office for specific complaints and concerns.  The City has an Active Transportation Committee with 5 members and 2 alternates. They are not linked directly to the ATAC for NCTPA, which has a separate representative from St Helena.</p>	<ul style="list-style-type: none"> <li>Add a page to the City’s website dedicated to receiving public input regarding transportation issues and a subsection for pedestrian topics. This category or subcategory may allow residents to file comments or complaints for traffic control devices or dangerous conditions.</li> <li>Designate time during the ATC meetings to address Countywide issues and opportunities with the representative on the NCTPA ATAC. Alternatively, a new position could be created on the City’s ATC to be assumed by the NCTPA ATAC representative to ensure collaboration and input on Countywide pedestrian topics.</li> </ul>
<p><b>Transportation Demand Management</b> Transportation Demand Management (TDM)</p>	<p>Enhancement</p>	<p>Employers of 50 or more full-time workers in the Bay Area are required to provide commuter benefits to</p>	<ul style="list-style-type: none"> <li>Consider implementing a “park-once” strategy downtown and along Main Street.</li> </ul>

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<p>programs encourage multi-modal travel by incentivizing non-auto options. As new development occurs, TDM programs can be expanded, formalized, and strengthened.</p>		<p>their employees through the Bay Area Commuter Benefits Program, to comply with California SB 1339. The Program includes benefit options like transit passes, employer-provided shuttles, and vanpool subsidies.</p>	<ul style="list-style-type: none"> <li>• Develop a policy that supports the “Car Free” tourism program of the Napa Valley Destination Council and NCTPA, which provides information to visitors so they can plan a trip without relying solely on a car.</li> </ul>
<p><b>Design and Development Standards</b> Design policies and development standards can improve the pedestrian walking experience, encourage walking, enhance economic vitality, and offer funding opportunities for pedestrian improvements.</p>	<p>Enhancement</p>	<p>The typical street cross-section in the General Plan is 2 lanes with a center two-way left turn lane, a pedestrian friendly design. Building orientation and setback requirements are included in the City’s zoning ordinance.</p>	<ul style="list-style-type: none"> <li>• Incorporate elements of the design guidelines presented in this Plan as part of the development review process.</li> <li>• Develop a Streetscape Master Plan for the City.</li> </ul>
<p><b>Historical Preservation</b> Historic walking routes, such as the famous Freedom Trail in Boston, encourage walking and enhance economic vitality.</p>	<p>Enhancement</p>	<p>Numerous historical sites throughout the City are listed in the Master Historical Resources List, but pedestrian access is not addressed.</p> <p>The St Helena municipal code includes a Historic Preservation Overlay District but does not address pedestrians.</p>	<ul style="list-style-type: none"> <li>• Develop a map to showcase natural or local sites of interest, and link key sites on the Master Historical Resources List, including a possible walking route between the sites. Maps of the tour route and historic documentation materials could be made available online and wayfinding signs, maps, and plaques could also be provided throughout the City.</li> </ul>
<p><b>Pedestrian Safety Education Program</b> Education is a critical element for a complete and balanced approach to improving pedestrian safety. Education campaigns may target pedestrians of all ages.</p>	<p>Enhancement</p>	<p>In accordance with policies in the Napa Bike Plan and the General Plan, NCTPA is planning to pursue grant funding through the California Office of Traffic Safety (OTS) for a media safety campaign for motorists. The campaign will use Pittsburgh’s Drive With Care campaign for inspiration, which characterizes bicyclists and pedestrians as our firefighters, doctors, and neighbors and uses the slogan “someone you care about rides a bike”. The OTS will release a call for projects around November 2015 for their 2017 funding cycle.</p>	<ul style="list-style-type: none"> <li>• Coordinate with NCTPA on pursuing a media safety campaign, and consider the following methods to distribute the campaign in St Helena:</li> <li>• Include advertisements on buses and bus shelters, through SRTS and in-school curriculum, public service announcements, and/or brochures distributed by law enforcement, among many other strategies</li> <li>• Pedestrian safety brochures could be distributed to the public independent of the media campaign to promote walking to community events.</li> </ul>
<p><b>Safe Routes to Schools</b> Safe-Routes-to-School (SRTS) programs encourage children to safely walk or bicycle</p>	<p>Enhancement</p>	<p>The Napa County Office of Education (NCOE) currently administers a Safe Routes To School (SRTS) Program across the County, and has hosted events such as Walk and Roll to School Day, where students</p>	<ul style="list-style-type: none"> <li>• Pursue SRTS grant funding for pedestrian infrastructure projects.</li> <li>• Seek partners to form school-specific</li> </ul>

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<p>to school. The programs are important both for increasing physical activity (and reducing childhood obesity) and for reducing morning traffic associated with school drop-off, as much as 30% of morning peak hour traffic.</p> <p>Educational components of SRTS programs are especially important for school children where safe walking habits may be instilled as lifelong lessons. Funding for programs and/or projects is available at the state and federal levels.</p>		<p>compete for the Golden Sneaker Trophy, awarded to classrooms with the best participation.</p> <p>A Safe Walking education presentation is offered to elementary schools Countywide for students in grades K-3. Brochures are handed out during this program as well as at staff meetings, PTA/parent meetings, community health fairs, and farmers markets. Parent presentations include a review of pedestrian laws and ordinances.</p> <p>While program leaders have a goal of reaching every interested school by the end of the grant term in 2016, reaching all schools on a weekly or yearly basis has been difficult due to understaffing and scarcity of volunteers</p>	<p>committees of community agencies, parents, advocates, City staff, community health representatives, and other stakeholders to administer SRTS programs at each school. Hold regular meetings to maintain stakeholder involvement.</p> <ul style="list-style-type: none"> <li>• Use distances from schools from parent survey results to determine feasibility of rolling out Walking School Bus program for St Helena Elementary School.</li> <li>• Coordinate with NCTPA to seek additional funding for SRTS, to include allocating local sales tax money or starting a transportation tax to emulate local jurisdictions such as Marin and Sonoma.</li> </ul>
<p><b>Open Space Requirements</b></p> <p>Residents typically rate open space as among a jurisdiction’s key assets and needs. Open space may encourage walking, especially for recreational trips.</p>	<p>Enhancement</p>	<p>The St Helena municipal code includes an Open Space District - designated areas associated with stream corridors in the City - but does not provide specific pedestrian accommodations for this area.</p>	<ul style="list-style-type: none"> <li>• Consider requiring provisions for pedestrian safety and accessibility as part of the Open Space District.</li> </ul>
<p><b>Economic Vitality</b></p> <p>Improving pedestrian safety and walkability can enhance economic vitality. Similarly, enhancing economic vitality through innovative funding options such as Business Improvement Districts (BIDs), parking management, and facade improvement programs can lead to more active pedestrian areas and encourage walking.</p>	<p>Enhancement</p>	<p>St Helena does not have a BID or a façade improvement program. A parking impact overlay zone does reduce off-street parking requirements in the central business district, which helps to preserve the pedestrian orientation of the street frontage and create a “park-once” environment.</p>	<ul style="list-style-type: none"> <li>• Consider establishing Business Improvement Districts that can fund streetscape and pedestrian improvements.</li> <li>• Consider way-finding strategies downtown to reinforce the “park-once” environment while managing parking spillover into residential areas.</li> </ul>
<p><b>Sidewalk or Street Furniture Ordinance</b></p> <p>Street furniture encourages walking by accommodating pedestrians with benches to rest along the route or wait for transit; trash receptacles to maintain a clean environment; street trees for shade, etc. Uniform street furniture requirements also enhance the design of the pedestrian realm and may improve economic vitality.</p>	<p>Opportunity</p>	<p>St Helena has no specific street furniture ordinance, but sidewalk dining is allowed with a permit in the zoning code. A four feet clear path of travel must be maintained.</p>	<ul style="list-style-type: none"> <li>• Consider adopting a Street Furniture Ordinance to include guidance for the design of transit stops and locations for additional street furniture amenities, other than those associated with transit stops, as appropriate.</li> </ul>

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<p><b>Inventory of Pedestrian Facilities</b> A GIS-based sidewalk inventory enables project identification and prioritization, as well as project coordination with new development, roadway resurfacing, etc.</p>	<p>Opportunity</p>	<p>The City does not have a GIS inventory of sidewalks or other pedestrian facilities, although trails and pathways are shown graphically in the City Bicycle Master Plan.</p> <p>Sidewalks are included in the City's Capital Improvement Program and has budgeted approximately \$17,000/year for the last 3 years for sidewalk repairs, although not all of it was spent.</p>	<ul style="list-style-type: none"> <li>• This Plan has developed a GIS-based inventory of sidewalks, curb ramps, crosswalks, and paths Citywide. This facility inventory could be expanded to include informal pathways and potential pedestrian opportunity areas in the City.</li> <li>• Consider implementing a trip and fall monitoring program and/or mapping public comment from the recommended comment form to ensure all necessary sidewalk repairs are included in the City's Capital Improvement Program (CIP).</li> </ul>
<p><b>Walking Audit Program</b> Walking audits provide an interactive opportunity to receive feedback from key stakeholders about the study area as well as discuss potential solutions and their feasibility. They can be led by City staff, advocacy groups, neighborhood groups, or consultants.</p>	<p>Opportunity</p>	<p>St. Helena has not conducted pedestrian walking audits before this Plan.</p>	<ul style="list-style-type: none"> <li>• Conduct regular walking audits as part of a citywide safety program for pedestrians. This effort could complement a "trip and fall" program or health-oriented programs within the City, as well as distribution of the media campaign NCTPA is pursuing.</li> </ul>
<p><b>Pedestrian Volumes</b> Pedestrian volume data is important for prioritizing projects, developing collision rates, and determining appropriate pedestrian infrastructure.</p>	<p>Opportunity</p>	<p>The City of St Helena does not collect pedestrian volumes as a matter of routine.</p>	<ul style="list-style-type: none"> <li>• Use collected volumes in this Plan to identify pedestrian nodes in the next update to the General Plan.</li> <li>• Routinely collect pedestrian and bicycle volumes by requiring them to be conducted in conjunction with all traffic studies and manual intersection turning movement counts.</li> <li>• Geo-code existing and future pedestrian volume data with GIS software along with other data such as pedestrian control devices and collisions to analyze data for trends or hotspots related to pedestrian safety.</li> </ul>
<p><b>ADA Improvements</b> Compliance with the Americans with Disability Act (ADA) guidelines is important not only to enhance community accessibility,</p>	<p>Opportunity</p>	<p>Standard drawings for the City of St Helena include minimum sidewalk widths of 4 feet and curb ramps that include grooving details or a rougher surface than the surrounding sidewalk, which help users</p>	<ul style="list-style-type: none"> <li>• Seek funding opportunities for ADA deficiency areas identified as part of this Plan.</li> <li>• Conduct ADA field surveys of additional</li> </ul>

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<p>but also to improve walking conditions for all pedestrians.</p> <p>An ADA Transition Plan sets forth the process for bringing public facilities into compliance with ADA regulations.</p>		<p>detect the presence of the ramp and to provide a non-slip surface. City standards also include a detail for sidewalk obstruction transitions.</p> <p>Curb return standards show curb ramps to be located at the center of the curb return and the City does not have a detail for directional curb ramps.</p>	<p>priority corridors listed in this Plan to add to a City-maintained GIS database.</p> <ul style="list-style-type: none"> <li>• Consider adopting a City Standard for directional curb ramps and implement the design where practical.</li> <li>• Review and revise standard drawings to align with PROWAG recommendations.</li> <li>• Consider adopting an ADA Transition Plan to track ADA improvements and create a plan for future priorities and enhancements.</li> </ul>
<p><b>Identifying Crossing Barriers</b></p> <p>Crossing barriers such as railroads, freeways, and major arterials may discourage or even prevent pedestrian access. Additionally, crossing barriers are often associated with vehicle-pedestrian collisions. Identifying and removing barriers, as well as preventing new barriers, is essential for improving walkability and pedestrian safety.</p>	<p>Opportunity</p>	<p>Crossing barriers in St Helena include the highway, which coincides with Main Street, the Wine Train tracks, and several creeks.</p> <p>The City does not maintain an inventory of pedestrian crossing barriers, and many existing crossings do not have pedestrian facilities.</p>	<ul style="list-style-type: none"> <li>• Identify and create a comprehensive inventory of pedestrian barriers, along with appropriate remedies or projects.</li> </ul>
<p><b>Pedestrian-Oriented Traffic Warrants / Traffic Control Devices</b></p> <p>Providing all-way stop or signal control at an intersection may improve pedestrian safety by reducing speeds and controlling pedestrian-vehicle conflicts. The MUTCD defines warrants for installing signals and stop signs.</p> <p>The 2014 California <i>Manual of Uniform Traffic Control Devices</i> (MUTCD) requires the installation of countdown pedestrian signals for all crosswalks at new or modified signals where the pedestrian interval is more than 7 seconds.</p> <p>Leading Pedestrian Intervals (LPIs) can reduce conflicts between turning vehicles and pedestrians by providing pedestrians with a</p>	<p>Opportunity</p>	<p>The City of St Helena uses MUTCD warrants for signals and stop signs.</p> <p>All traffic signals are along Main Street/Highway 29 and are operated by Caltrans. No lead pedestrian intervals (LPIs) or pedestrian countdown timers are installed.</p>	<ul style="list-style-type: none"> <li>• Coordinate with Caltrans to install pedestrian countdown timers at signals along Main Street and evaluate need for LPIs in areas of high pedestrian activity.</li> <li>• Consider using City-specific, pedestrian-friendly stop sign warrants for locations where pedestrian safety is a concern. Best practices for stop-sign warrant application include:             <ul style="list-style-type: none"> <li>○ Requiring a collision history of three instead of five years based on routine underreporting</li> <li>○ Reducing traffic volume thresholds based on latent demand</li> <li>○ Providing consideration for school children, pedestrians and traffic speeds</li> </ul> </li> <li>• Expand the GIS-based inventory to include pedestrian-related markings and traffic</li> </ul>

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<p>"head start" signal timing before vehicles on the parallel street are allowed to proceed through an intersection.</p>			<p>signals with pedestrian facilities.</p>
<p><b>Crosswalk Design Guidelines</b> A formal policy for crosswalk installation, removal, and enhancement provides transparency in decision-making and creates a consistent application of treatments Citywide.</p>	<p>Opportunity</p>	<p>The City of St Helena does not have a formal crosswalk policy, and many uncontrolled crosswalks exist on Main Street and Pope Street.</p>	<ul style="list-style-type: none"> <li>• Consider adopting a crosswalk policy as part of this Plan that reflects best practices and recent research to include criteria for appropriate locations to install crosswalk enhancements such as flashing beacons, advanced yield markings, or in-roadway pedestrian signs.</li> <li>• Include criteria in the crosswalk policy for identifying, installing, and enhancing crossings where strong desire lines exist, especially across Main Street.</li> <li>• Using the proposed crosswalk policy, conduct audits of the adequacy of current crosswalks.</li> </ul>
<p><b>Law Enforcement</b> Enforcement of pedestrian right-of-way laws and speed limits is an important complement to engineering treatments and education programs.</p>	<p>Opportunity</p>	<p>Law enforcement is usually only involved in the planning and development process when a bar is under consideration.</p> <p>Additionally, NCTPA is interested in training CHP officers to implement pedestrian education outreach efforts to motorists Countywide.</p>	<ul style="list-style-type: none"> <li>• Coordinate with NCTPA to train officers in St Helena on pedestrian safety enforcement principles and education outreach efforts.</li> <li>• Consider designating traffic safety officers who conduct pedestrian related enforcement activities, such as monitoring school circulation activity.</li> <li>• Implement sustained pedestrian safety enforcement efforts and involve the media. Coordinate with NCTPA on the media safety campaign that NCTPA is pursuing, as an opportunity for education by distributing pedestrian safety pamphlets in-lieu of, or in addition to, citations.</li> </ul>
<p><b>Traffic Calming Programs</b> Traffic Calming Programs and policies set forth a systematic and consistent approach for addressing neighborhood requests and approvals, as well as standard treatments and criteria.</p>	<p>Opportunity</p>	<p>The City of St. Helena does not have a Traffic Calming Program; however, the General Plan does not allow four lane roads.</p> <p>The high school is concerned with cut-through traffic from Main Street. Although the highest vehicle volumes in the City are on Main Street, traffic is</p>	<ul style="list-style-type: none"> <li>• Consider adopting a Traffic Calming program for pedestrian concerns that arise from residents in St Helena.</li> <li>• Coordinate with the high school to evaluate traffic calming measures along the school frontage.</li> </ul>

**TABLE 2: ST HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

		congested, providing a form of traffic calming on the corridor.	
<p><b>General Plan</b></p> <p>Planning principles contained in a city's General Plan can provide an important policy context for developing pedestrian-oriented, walkable areas. Transit-oriented development, higher densities, and mixed uses are important planning tools for pedestrian-oriented areas.</p> <p>A city's General Plan is also a key opportunity to establish the framework for pedestrian orientation. The Circulation Element of the Plan typically assigns roadway typologies, which can include a layered network approach with prioritized corridors for transit, pedestrian, bicycle, and auto travel.</p>	Opportunity	<p>Density in St Helena is concentrated downtown, with very few high-density areas and no mixed use zones. Although mixed-use is proposed in the Central Business and Service Commercial Districts for the General Plan update, it is not yet adopted.</p> <p>Parking policies include a parking impact overlay district, located generally within the central business district, which allows lower off-street parking requirements for buildings built before February 1980. Any new property in this district can pay an in-lieu fee. Senior Housing is allowed reduced off-street parking requirements.</p> <p>The primary pedestrian node in St Helena is Main Street. While the current General Plan does not focus on accommodating pedestrians, the pending update to the General Plan will.</p>	<ul style="list-style-type: none"> <li>• Establish transit and auto-vehicle policies in the General Plan that are pedestrian-friendly and support a balanced multi-modal transportation network.</li> <li>• Identify pedestrian nodes in future updates to the General Plan.</li> <li>• Develop roadway typologies in the next update to the General Plan to identify any prioritized corridors for pedestrians.</li> </ul>
<p><b>Coordination with Emergency Response and Transit Providers</b></p> <p>Emergency response vehicles require special roadway design considerations that sometimes conflict with bicycle and pedestrian treatments. For example, while pedestrians benefit from reduced speeds of smaller curb radii, larger vehicles such as fire trucks and buses have more difficulty performing the turn within the smaller space. These conflicts require consensus building between the City and the respective departments.</p>	Opportunity	<p>There is little coordination between transit planning and pedestrian planning in St Helena, and emergency responders are involved in the development review process but not specifically in pedestrian projects.</p>	<ul style="list-style-type: none"> <li>• Seek opportunities for technical collaboration and funding with first responders and transit providers for pedestrian improvements.</li> <li>• Consider pilot testing programs for transit and emergency response and a more active involvement in project review for small projects and not just development projects.</li> <li>• Explore ways to implement a Safe Routes to Transit Program that prioritizes bike and pedestrian access to transit connection points and transit centers.</li> </ul>
<p><b>Institutional Coordination</b></p> <p>Institutional issues for pedestrian planning/design may refer to adopted or informal impediments. This may be policies, practices, funding issues or even stakeholders that make it challenging to</p>	Opportunity	<p>Caltrans has jurisdiction over Main Street in St Helena, which is one of St Helena's busiest pedestrian corridors and coincides with downtown. Several signals on Main Street do not include pedestrian countdown heads and several uncontrolled</p>	<ul style="list-style-type: none"> <li>• Proactively seek opportunities to collaborate with Caltrans to improve pedestrian safety along and across Main Street.</li> </ul>

**TABLE 2: ST HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p>improve walking in St. Helena.</p> <p>Institutional coordination associated with multiple agencies is necessary because of non-local control of right-of-way and differing policies regarding pedestrian accommodation.</p>		<p>crosswalks exist across the corridor.</p> <p>Coordination with Caltrans is necessary due to the potential difference in policies regarding pedestrian accommodation, although recent policies within Caltrans now require the agency to consider multimodal needs.</p>	
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**TABLE 3: YOUNTVILLE PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

Plans, Policies, & Programs	Benchmark	Yountville Response	Recommended Action Items
<p><b>Coordination with Health Agencies</b></p> <p>Involving non-traditional partners such as public health agencies, pediatricians, etc., in the planning or design of pedestrian facilities may create opportunities to be more proactive with pedestrian safety, identify pedestrian safety challenges and education venues, and secure funding. Additionally, under-reporting of pedestrian-vehicle collisions could be a problem that may be partially mitigated by involving the medical community in pedestrian safety planning.<sup>4</sup></p>	<p>Key Strength</p>	<p>Live Healthy Napa County, a coalition of local community stakeholders for improving health in Napa County, recently completed the Napa County Community Health Improvement Plan (CHIP) in February 2014. The document proposes a plan to address health issues through new policies and health promotion strategies, including transportation policies that encourage walking and biking. Town staff is partnering with the County to coordinate goals in the CHIP related to the built environment with the Town’s Capital Improvement Program.</p> <p>Live Healthy Napa County is also working to complete the first ever Napa County Community Obesity Prevention Plan, which addresses the need to increase active transportation options Countywide.</p>	<ul style="list-style-type: none"> <li>• Continue efforts to bolster the Town’s Capital Improvement Program to meet built environment goals in the CHIP by incorporating feedback from SpeakUp Yountville related to pedestrian infrastructure improvements.</li> <li>• Involve health agencies in the development review process, especially related to active transportation improvements.</li> <li>• Seek partnership opportunities between health agencies and Safe Routes to School to align with goals in the CHIP to expand the reach of education and promotion of walking.</li> </ul>
<p><b>Collision Reporting</b></p> <p>Identifying and responding to collision patterns on a regular basis is an important reactive approach to pedestrian safety (which may be</p>	<p>Key Strength</p>	<p>Yountville generates quarterly collision reports which are reviewed with Council.</p>	<ul style="list-style-type: none"> <li>• Geo-coding (mapping) and comprehensive monitoring using Crossroads software would allow for more proactive pedestrian safety projects and best practices such as collision typing for countermeasure selection. GIS</li> </ul>

<sup>4</sup> Sciortino, S., Vassar, M., Radetsky, M. and M. Knudson, “San Francisco Pedestrian Injury Surveillance: Mapping, Underreporting, and Injury Severity in Police and Hospital Records,” *Accident Analysis and Prevention*, Volume 37, Issue 6, November 2005, Pages 1102-1113

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<p>combined with proactive measures).</p>			<p>efforts may be funded through an Office of Traffic Safety grant.</p> <ul style="list-style-type: none"> <li>• Sufficient pedestrian volume data could be used to prioritize collision locations based on collision rates (collisions/daily pedestrian volume). This could lead to a proactive approach to identify treatments and program funding. Volunteers can collect pedestrian volumes and other data at collision locations.</li> </ul>
<p><b>Public Involvement</b> Responding to public concerns through public feedback mechanisms represents a more proactive and inclusive approach to pedestrian safety compared to a conventional approach of reacting to pedestrian collisions. Advisory committees serve as important sounding boards for new policies, programs, and practices. A citizens' pedestrian advisory committee is also a key component of proactive public involvement for identifying pedestrian safety issues and opportunities.</p>	<p>Key Strength</p>	<p>The Town of Yountville recently developed an online community engagement platform called SpeakUp Yountville, a forum for the public to post ideas and provide feedback as well as comment on specific items or legislation on the agenda for upcoming public meetings.</p>	<ul style="list-style-type: none"> <li>• Add a page to SpeakUp Yountville dedicated to receiving public input regarding transportation issues and a subsection for pedestrian topics. This category or subcategory may allow residents to file comments or complaints for traffic control devices or dangerous conditions.</li> <li>• Consider forming a Town ATAC to review development projects and address issues and opportunities for active transportation improvements in Town and Countywide.</li> </ul>
<p><b>Design and Development Standards</b> Design policies and development standards can improve the pedestrian walking experience, encourage walking, enhance economic vitality, and offer funding opportunities for pedestrian improvements.</p>	<p>Key Strength</p>	<p>Although the Town of Yountville's street network is primarily built-out, Public Works standards do include a gravel or decomposed granite path on both sides of residential streets and sidewalks on both sides of commercial streets. However, design standards in the municipal code discourage the use of new concrete sidewalks to preserve the rural character of the town.</p> <p>The Yountville Bike Plan provides design guidelines for the path along Hopper Creek and the municipal code includes policies to provide new segments of the path. Additional policies in the municipal code intended to preserve the walkable aspect of Town include requiring active pedestrian-oriented uses on Washington Street within the Retail Overlay designation and locating parking behind commercial buildings</p>	<ul style="list-style-type: none"> <li>• Incorporate elements of the design guidelines presented in this Plan as part of the development review process and to existing facilities when possible.</li> </ul>

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		to preserve the street frontage.  Pedestrian-oriented design standards are provided in the municipal code for the Old Town Commercial District and include guidance for building façades and setbacks, pedestrian amenities like street furniture and public art, pedestrian-scaled signage, and pedestrian pathways.	
<p><b>Historical Preservation</b> Historic walking routes, such as the famous Freedom Trail in Boston, encourage walking and enhance economic vitality.</p>	Key Strength	<p>The Town of Yountville has several properties identified in the California Register, a master list of State historical resources. The Old Town Commercial District was created to maintain the historic character of Yountville and encourage pedestrian-oriented design.</p> <p>The Yountville Chamber of Commerce provides Historical Walking Tour &amp; Pathway Maps to the public.</p>	<ul style="list-style-type: none"> <li>• Include the Walking Tour map online and consider installing way-finding signs, maps, and plaques throughout the Town to align with the route.</li> </ul>
<p><b>ADA Improvements</b> Compliance with the Americans with Disability Act (ADA) guidelines is important not only to enhance community accessibility, but also to improve walking conditions for all pedestrians.</p> <p>An ADA Transition Plan sets forth the process for bringing public facilities into compliance with ADA regulations.</p>	Key Strength	<p>Town Standards require pedestrian clearances behind driveways and curb ramps and include ADA-compliant slopes and detectable warning surfaces. The Town does not have a standard for directional curb ramps, although a few have been installed around Town.</p> <p>New developments and those applying for a change in use must comply with ADA requirements. The Town makes ADA improvements every year to existing facilities using the ADA Transition Plan as a guide.</p> <p>The City is developing a 2015 update to the ADA Transition Plan.</p>	<ul style="list-style-type: none"> <li>• Develop and maintain a GIS database of ADA-compliant facilities to track the progress of the ADA Transition Plan.</li> <li>• Consider adopting a Town Standard for directional curb ramps.</li> <li>• Review and revise standard drawings to align with current PROWAG recommendations.</li> </ul>
<p><b>General Plan</b> Planning principles contained in a General Plan can provide an important policy context for developing pedestrian-oriented, walkable areas. Transit-oriented development, higher densities, and mixed uses are important planning tools for pedestrian-oriented areas.</p> <p>A General Plan is also a key opportunity to establish the framework for pedestrian orientation. The Circulation Element of</p>	Key Strength	<p>Average densities in Yountville are around 5-8 dwelling units/acre. The Town is primarily residential, and commercial uses are concentrated on Washington Street, Yountville’s main pedestrian corridor. Pedestrian-oriented policies that apply to Washington Street include minimizing the number of driveways, building street-oriented commercial uses, and allowing vertical and horizontal mixing of housing and commercial uses.</p> <p>The Old Town Commercial district also allows the mixing of residential and commercial uses and focuses on creating an attractive environment for pedestrians by embodying the</p>	

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<p>the Plan typically assigns roadway typologies, which can include a layered network approach with prioritized corridors for transit, pedestrian, bicycle, and auto travel.</p>		<p>historic character of early development in Yountville.</p> <p>Practices for commercial development include locating parking behind buildings and allowing shared parking and access for adjoining properties where feasible.</p> <p>Policies in the General Plan address combining pedestrian routes along Hopper Creek and creating pedestrian links to open space as well as to link residential areas to parks, schools, and the commercial core.</p>	
<p><b>Complete Streets Policy</b> Routine Accommodations or Complete Streets Policies accommodate all modes of travel and travelers of all ages and abilities.</p>	<p>Enhancement</p>	<p>The Town of Yountville has a Complete Streets policy that is based on a model provided by the Metropolitan Transportation Commission (MTC) that applies to the development review process. The Town will incorporate Complete Streets policies and concepts into the next update of the Circulation Element.</p> <p>The Town collects Traffic Facility Impact Fees from developers to finance capital projects related to circulation improvements, which can include pedestrian improvements.</p>	<ul style="list-style-type: none"> <li>• Consider opportunities for Complete Streets, specifically pedestrian pathways and/or sidewalks, during restriping, repaving, and utility installation projects.</li> <li>• Develop a checklist for project review to ensure routine application of the Complete Streets policy.</li> <li>• Consider maintaining a GIS database of data collected for the policy evaluation, to include pedestrian volumes collected in this Plan.</li> </ul>
<p><b>Street Tree Ordinance</b> Street trees enhance the pedestrian environment by providing shade and a buffer from vehicles. Street trees may also enhance property values, especially in residential neighborhoods. However, street trees, when improperly selected, planted, or maintained, may cause damage to adjacent public utilities.</p>	<p>Enhancement</p>	<p>The Town of Yountville has a Master Tree List that designates the types of trees that may be planted in or overhanging public streets. The municipal code also includes a list of prohibited trees to avoid sidewalk damage and other potential liability.</p>	<ul style="list-style-type: none"> <li>• Consider adopting a Street Tree Ordinance including all development types and specifying where and how often street trees may be planted/ replaced.</li> </ul>
<p><b>Speed Limits and Speed Surveys</b> Pedestrian fatality rates increase exponentially with vehicle speed. Thus, reducing vehicle speeds in pedestrian zones may be one of the most important strategies for enhancing pedestrian safety.</p>	<p>Enhancement</p>	<p>The de facto speed on the majority of roadways in the Town of Yountville is 25 mph, and speeds are reviewed on an as-needed basis.</p>	<ul style="list-style-type: none"> <li>• Proactively consider pedestrian volumes when setting speed limits and consider traffic calming in pedestrian zones where speed surveys suggest traffic speeds are too high.</li> <li>• Ensure design standards in pedestrian areas do not contribute to a routine need for traffic calming.</li> <li>• Consider implementing reduced speed</li> </ul>

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			zones of 15 mph in school zones.
<p><b>Transportation Demand Management</b></p> <p>Transportation Demand Management (TDM) programs encourage multi-modal travel by incentivizing non-auto options. As new development occurs, TDM programs can be expanded, formalized, and strengthened.</p>	Enhancement	Employers of 50 or more full-time workers in the Bay Area are required to provide commuter benefits to their employees through the Bay Area Commuter Benefits Program, to comply with California SB 1339. The Program includes benefit options like transit passes, employer-provided shuttles, and vanpool subsidies.	<ul style="list-style-type: none"> <li>Develop a policy that supports the “Car Free” tourism program of the Napa Valley Destination Council and NCTPA, which provides information to visitors so they can plan a trip without relying solely on a car.</li> </ul>
<p><b>Pedestrian Safety Education Program</b></p> <p>Education is a critical element for a complete and balanced approach to improving pedestrian safety. Education campaigns may target pedestrians of all ages.</p>	Enhancement	In accordance with policies in the Napa Bike Plan and the General Plan, NCTPA is planning to pursue grant funding through the California Office of Traffic Safety (OTS) for a media safety campaign for motorists. The campaign will use Pittsburgh’s Drive With Care campaign for inspiration, which characterizes bicyclists and pedestrians as our firefighters, doctors, and neighbors and uses the slogan “someone you care about rides a bike”. The OTS will release a call for projects around November 2015 for their 2017 funding cycle.	<ul style="list-style-type: none"> <li>Coordinate with NCTPA on pursuing a media safety campaign, and consider the following methods to distribute the campaign in Yountville: <ul style="list-style-type: none"> <li>Include advertisements on buses and bus shelters, through SRTS and in-school curriculum, public service announcements, and/or brochures distributed by law enforcement, among many other strategies</li> </ul> </li> <li>Pedestrian safety brochures could be distributed to the public independent of the media campaign to promote walking to community events.</li> </ul>
<p><b>Safe Routes to Schools</b></p> <p>Safe-Routes-to-School (SRTS) programs encourage children to safely walk or bicycle to school. The programs are important both for increasing physical activity (and reducing childhood obesity) and for reducing morning traffic associated with school drop-off, as much as 30% of morning peak hour traffic.</p> <p>Educational components of SRTS programs are especially important for school children where safe walking habits may be instilled as lifelong lessons.</p>	Enhancement	<p>The Napa County Office of Education (NCOE) currently has a three year grant to administer a Safe Routes to School (SRTS) Program across the County through 2016. Program leaders have a goal of reaching every interested school by the end of the grant term, and have reached out to Principals at Yountville Elementary School for participation in 2015.</p> <p>The program includes events such as Walk and Roll to School Day, Bike Rodeos, and Safe Walking education presentations for students in grades K-3. Brochures are handed out during this program as well as at community events and PTA/parent meetings. Parent presentations include a review of pedestrian laws and ordinances.</p> <p>Although materials for these programs are available each year for schools across the County, reaching schools on a weekly or</p>	<ul style="list-style-type: none"> <li>Pursue SRTS grant funding for pedestrian infrastructure projects.</li> <li>Seek partners to form school-specific committees of community agencies, parents, advocates, Town staff, community health representatives, and other stakeholders to administer SRTS programs at each school. Hold regular meetings to maintain stakeholder involvement.</li> <li>Determine feasibility of rolling out Walking School Bus program for Yountville Elementary School.</li> <li>Coordinate with NCTPA to seek additional funding for SRTS, to include allocating local</li> </ul>

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<p>Funding for programs and/or projects is available at the state and federal levels.</p>		<p>yearly basis has not been possible due to understaffing and scarcity of volunteers.</p>	<p>sales tax money or starting a transportation tax to emulate local jurisdictions such as Marin and Sonoma.</p>
<p><b>Economic Vitality</b> Improving pedestrian safety and walkability can enhance economic vitality. Similarly, enhancing economic vitality through innovative funding options such as Business Improvement Districts (BIDs), parking management, and facade improvement programs can lead to more active pedestrian areas and encourage walking.</p>	<p>Enhancement</p>	<p>According to the Town’s General Plan, recent economic studies show a continued demand for tourism and recommend that this be accommodated by concentrating retail uses around the existing business core on Washington Street. A retail overlay designation in the area establishes criteria for proposed uses to create pedestrian activity and interest. Design standards for buildings along Washington Street within the Old Town Commercial District include pedestrian-scaled signage, minimal driveways and criteria for attractive, pedestrian oriented building facades and design.</p> <p>The Town of Yountville’s Tourism Improvement District, comprised of local hoteliers and other tourism-related business owners, often provides funds for infrastructure improvements.</p>	<ul style="list-style-type: none"> <li>• Consider establishing a directive for the Tourism Improvement District to fund streetscape and pedestrian improvements.</li> <li>• Consider way-finding strategies downtown to reinforce a “park-once” environment while managing parking spillover into residential areas.</li> </ul>
<p><b>Inventory of Pedestrian Facilities</b> A GIS-based sidewalk inventory enables project identification and prioritization, as well as project coordination with new development, roadway resurfacing, etc.</p>	<p>Enhancement</p>	<p>Yountville maintains an inventory of street signs in GIS. An assessment system for these signs is in development to ensure the city is meeting the California MUTCD standards.</p> <p>While Yountville does not have an inventory of other pedestrian infrastructure such as sidewalks, the Town’s Circulation Element does identify pathways and opportunity areas.</p> <p>Sidewalk improvements are included in the Town’s Capital Improvement Program and the Town has an annual funding level of approximately \$160,000 to replace sidewalks and fill gaps. Property owners are responsible for sidewalk maintenance by ordinance. The Home Owners Associations help pay for residential sidewalk repairs and the Town offers partnership reimbursement on a case by case basis, including replacement of asphalt sidewalks with concrete.</p>	<ul style="list-style-type: none"> <li>• This Plan has developed a GIS-based inventory of sidewalks, curb ramps, crosswalks, and paths throughout the Town. This facility inventory could be expanded to include informal pathways and potential pedestrian opportunity areas in the Town.</li> <li>• Consider mapping public comment from SpeakUp Yountville to ensure all necessary sidewalk repairs are included in the Town’s Capital Improvement Program (CIP).</li> </ul>
<p><b>Identifying Crossing Barriers</b> Crossing barriers such as railroads, freeways, and major arterials may discourage or even prevent pedestrian</p>	<p>Enhancement</p>	<p>Yountville does not have any wide arterials, and many main roadways in Town have several pedestrian crossings. On roadways that transition from the unincorporated area into Town, however, vehicles maintain higher speeds, making it</p>	<ul style="list-style-type: none"> <li>• Create an inventory of existing pedestrian barriers along with appropriate remedies or projects for those that are not addressed in this Plan.</li> </ul>

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<p>access. Additionally, crossing barriers are often associated with vehicle-pedestrian collisions. Identifying and removing barriers, as well as preventing new barriers, is essential for improving walkability and pedestrian safety.</p>		<p>difficult for pedestrians to cross and walk along these streets.</p> <p>Hopper Creek runs east-west and north-south through Town and several pedestrian bridges cross the creek to connect neighborhoods to multi-use paths.</p> <p>Most roadways that cross the creek have pedestrian facilities including pedestrian bridges separated from the roadway, although a couple locations do not accommodate pedestrians.</p> <p>The Wine Train Tracks and Highway 29 also border the Town and crossings of both are used by seniors from the Veterans Home along California Drive. These crossings lack enhancements like lighting and ADA-compliant features and are often only provided on one side of the street.</p>	
<p><b>Pedestrian-Oriented Traffic Warrants / Traffic Control Devices</b></p> <p>Providing all-way stop or control at an intersection may improve pedestrian safety by reducing speeds and controlling pedestrian-vehicle conflicts. The MUTCD defines warrants for installing stop signs.</p>	<p>Enhancement</p>	<p>The Yountville Municipal Code allows for traffic control devices, including stop signs, to be installed based on engineering judgment by the Town Engineer.</p>	<ul style="list-style-type: none"> <li>• Consider using Town-specific, pedestrian-friendly stop sign warrants for locations where pedestrian safety is a concern. Best practices for stop-sign warrant application include: <ul style="list-style-type: none"> <li>○ Requiring a collision history of three instead of five years based on routine underreporting</li> <li>○ Reducing traffic volume thresholds based on latent demand</li> <li>○ Providing consideration for school children, pedestrians and traffic speeds</li> </ul> </li> <li>• Expand the GIS-based inventory to include pedestrian-related markings and signs.</li> </ul>
<p><b>Crosswalk Design Guidelines</b></p> <p>A formal policy for crosswalk installation, removal, and enhancement provides transparency in decision-making and creates a consistent application of treatments Townwide.</p>	<p>Enhancement</p>	<p>The Yountville municipal code includes a crosswalk policy that allows the Town Engineer the authority to establish marked crosswalks at intersections and at mid-block locations on blocks of 400 feet or greater. Several mid-block crosswalks exist along Washington Street and the elementary school frontage. Decisions regarding crosswalk installation and enhancements are made based on engineering judgment.</p>	<ul style="list-style-type: none"> <li>• Consider adopting a crosswalk policy as part of this Plan that reflects recent research to include criteria for appropriate locations to install crosswalk enhancements such as bulb outs, advanced yield markings, or in-roadway pedestrian signs.</li> <li>• Include criteria in the crosswalk policy for identifying, installing, and enhancing crossings where strong desire lines exist.</li> <li>• Using the proposed crosswalk policy,</li> </ul>

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			conduct audits of the adequacy of current crosswalks.
<p><b>Traffic Calming Programs</b> Traffic Calming Programs and policies set forth a systematic and consistent approach for addressing neighborhood requests and approvals, as well as standard treatments and criteria.</p>	Enhancement	A Draft Implementation Plan was developed in 2005 to develop priorities for potential traffic calming enhancements in Town. The Town has constructed several bulb-outs in Town and installed a radar speed sign with rumble strips along Yountville Cross Road. Efforts to decrease speeds by increasing enforcement have been successful along roads such as Yountville Cross Road.	<ul style="list-style-type: none"> <li>Refresh and adopt the Traffic Calming Implementation Plan to reflect current needs.</li> <li>Consider adopting a Traffic Calming program for pedestrian concerns that arise from residents in Yountville.</li> <li>Coordinate with the unincorporated County to evaluate traffic calming measures along Finnell Road and additional measures along Yountville Cross Road.</li> </ul>
<p><b>Institutional Coordination</b> Institutional issues for pedestrian planning/design may refer to adopted or informal impediments. This may be policies, practices, funding issues or even stakeholders that make it challenging to improve walking in Yountville.</p> <p>Institutional coordination associated with multiple agencies is necessary because of non-local control of right-of-way and differing policies regarding pedestrian accommodation.</p>	Enhancement	<p>Yountville has identified some of the barriers to improving pedestrian infrastructure including public and political will, the desire to preserve the rural and historic character of the Town, as well as lack of jurisdictional control in some areas such as the Veterans Home, the mobile home parks, and the surrounding unincorporated area.</p> <p>Successful institutional cooperation efforts include the recent Council approval of a sidewalk on Yount Street from Adams Road to Yountville Cross Road.</p>	<ul style="list-style-type: none"> <li>Proactively seek opportunities to collaborate with the Veterans Home and Caltrans to improve pedestrian safety along and across California Drive.</li> <li>Proactively seek opportunities to collaborate with the unincorporated County engineers to improve pedestrian safety along Yountville Cross Road and Finnell Road.</li> <li>Seek opportunities to connect existing pedestrian pathways between neighborhoods and to the Town's commercial core.</li> </ul>
<p><b>Newspaper Rack Ordinance</b> Newspaper racks may obstruct walkways and reduce accessibility and pedestrian visibility when ordinances are not in place. A Newspaper Rack Ordinance improves the pedestrian realm by reducing clutter and organizing sidewalk zones and may detail size, location, and maintenance requirements.</p>	Opportunity	The Town of Yountville does not have a newspaper rack ordinance.	<ul style="list-style-type: none"> <li>Consider adopting a Newspaper Rack Ordinance that specifies the number and location of allowable newspaper racks and ensures the maintenance of a clear pedestrian sidewalk area.</li> </ul>
<p><b>Bicycle Parking Ordinance</b> Bicyclists become pedestrians after parking their bicycles. Safe and</p>	Opportunity	The Town of Yountville does not have a Bicycle Parking ordinance.	<ul style="list-style-type: none"> <li>Consider implementing a bicycle parking ordinance to that distinguishes and provides for both long-term and short-term bicycle</li> </ul>

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convenient bicycle parking is essential for encouraging bicycle and pedestrian travel (especially in-lieu of vehicle travel).			parking. Include requirements for rack placement to ensure a convenient location and adequate pedestrian clearances.
<p><b>Open Space Requirements</b></p> <p>Residents typically rate open space as among a jurisdiction’s key assets and needs. Open space may encourage walking, especially for recreational trips.</p>	Opportunity	The Yountville municipal code includes provisions for the maintenance responsibility of open space and the inclusion of open space with residential uses. Open space is also required for uses in the commercial district to provide public space such as courtyards to visitors and shoppers.	<ul style="list-style-type: none"> <li>Consider requiring provisions for pedestrian safety and accessibility as part of preserving open space such as the Yountville Hills and surrounding area along Yount Mill Road.</li> </ul>
<p><b>Sidewalk or Street Furniture Ordinance</b></p> <p>Street furniture encourages walking by accommodating pedestrians with benches to rest along the route or wait for transit; trash receptacles to maintain a clean environment; street trees for shade, etc. Uniform street furniture requirements also enhance the design of the pedestrian realm and may improve economic vitality.</p>	Opportunity	Street furniture is encouraged in the Old Town Commercial District on private property as part of the pedestrian-oriented design standards for the area.	<ul style="list-style-type: none"> <li>Consider adopting a Street Furniture Ordinance to include guidance for the design of transit stops and locations for additional street furniture amenities in the public right-of-way, other than those associated with transit stops, as appropriate.</li> </ul>
<p><b>Pedestrian Volumes</b></p> <p>Pedestrian volume data is important for prioritizing projects, developing collision rates, and determining appropriate pedestrian infrastructure.</p>	Opportunity	Yountville does not routinely collect pedestrian volumes, and they are not typically collected for traffic studies.	<ul style="list-style-type: none"> <li>Use collected volumes in this Plan to monitor volume levels.</li> <li>Routinely collect and geocode pedestrian and bicycle volumes by requiring them to be conducted in conjunction with all traffic studies and manual intersection turning movement counts.</li> </ul>
<p><b>Law Enforcement</b></p> <p>Enforcement of pedestrian right-of-way laws and speed limits is an important complement to engineering treatments and education programs.</p>	Opportunity	<p>The Town of Yountville contracts with the Napa County Sheriff’s Office to provide services for the Town. Enforcement efforts related to active transportation are primarily bicycle-oriented.</p> <p>Although no officers are dedicated to pedestrian safety efforts, NCTPA is interested in training CHP officers to implement pedestrian education outreach efforts to motorists Countywide.</p>	<ul style="list-style-type: none"> <li>Identify training opportunities for officers in Yountville on pedestrian safety enforcement principles and education outreach efforts.</li> <li>Consider designating traffic safety officers who conduct pedestrian related enforcement activities, such as monitoring school circulation activity.</li> <li>Implement sustained pedestrian safety enforcement efforts and involve the media. Coordinate with NCTPA on the media safety campaign they are pursuing as an educational opportunity to distribute</li> </ul>

**TABLE 3: YOUNTVILLE PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

			pedestrian safety pamphlets in-lieu of, or in addition to, citations.
<p><b>Walking Audit Program</b></p> <p>Walking audits provide an interactive opportunity to receive feedback from key stakeholders about the study area as well as discuss potential solutions and their feasibility. They can be led by Town staff, advocacy groups, neighborhood groups, or consultants.</p>	Opportunity	Yountville has not conducted comprehensive pedestrian walking audits before this Plan although annual sidewalk audits are completed as part of the Town’s “trip and fall” program to evaluate the need for maintenance or expansion.	<ul style="list-style-type: none"> <li>Conduct comprehensive walking audits to evaluate the need for additional safety features at intersections, mid-block crossing locations, and existing desire lines. This effort could complement the “trip and fall” program or health-oriented programs within the Town, as well as distribution of the media campaign NCTPA is pursuing. An initial round of walking audits will be completed with this Plan.</li> </ul>
<p><b>Coordination with Emergency Response and Transit Providers</b></p> <p>Emergency response vehicles require special roadway design considerations that sometimes conflict with bicycle and pedestrian treatments. For example, while pedestrians benefit from reduced speeds of smaller curb radii, larger vehicles such as fire trucks and buses have more difficulty performing the turn within the smaller space. These conflicts require consensus building between the Town and the respective departments.</p>	Opportunity	<p>Emergency response officials and transit operators in Yountville are not regularly involved in project review.</p> <p>Although the Yountville Shuttle and on-demand Yountville Trolley operators are not involved in the planning or design of pedestrian facilities, sidewalks do connect to all existing transit stops in the Town vicinity.</p>	<ul style="list-style-type: none"> <li>Consider pilot testing programs for transit and emergency response and a more active involvement in project review for small projects and not just development projects.</li> <li>In accordance with the Napa Bike Plan, explore ways to implement a Safe Routes to Transit Program that prioritizes pedestrian access to Yountville Shuttle stops to include crosswalk installation.</li> </ul>

**TABLE 4: NAPA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

Plans, Policies, & Programs	Benchmark	Napa Response	Recommended Action Items
<p><b>Inventory of Pedestrian Facilities</b> A GIS-based sidewalk inventory enables project identification and prioritization, as well as project coordination with new development, roadway resurfacing, etc.</p>	<p>Key Strength</p>	<p>The City is currently assembling a GIS-based inventory of existing or missing sidewalks and curb ramps through their Asset Management Plan, which is separate from the inventory collection process for this Plan.</p> <p>Sidewalk projects are funded through the CIP and the sidewalk maintenance program, which has an annual funding level of approximately \$1,500,000. This program includes maintaining curb ramps, repairing tree damage, and constructing missing sections of sidewalk.</p> <p>The City offers partial reimbursement of funds for repairs of displaced or damaged sidewalks to property owners through the Sidewalk Repair Program.</p>	<ul style="list-style-type: none"> <li>• Combine inventory from Asset Management Program with inventory collected as part of this Plan to create a consolidated database.</li> <li>• Expand the GIS sidewalk inventory to include informal pathways and key pedestrian opportunity areas in the City.</li> <li>• Coordinate efforts for the 10-mile repaving program with sidewalk repair projects to combine resources if possible.</li> </ul>
<p><b>Traffic Calming Programs</b> Traffic Calming Programs and policies set forth a systematic and consistent approach for addressing neighborhood requests and approvals, as well as standard treatments and criteria.</p>	<p>Key Strength</p>	<p>The City of Napa has a Traffic Calming Program that considers non-vertical elements first, such as striping, radar speed signs, or enforcement. Vertical installation, like speed humps, are prohibited on primary response routes.</p> <p>Funding is limited for data collection and surveys required to justify traffic calming, and residents are given the option to raise private funds. The Traffic Advisory Committee is responsible for providing guidance on securing funds for developing a Neighborhood Traffic Calming Plan as each request is submitted.</p>	<ul style="list-style-type: none"> <li>• Consider identifying specific alternate traffic calming tools to be used on key emergency response routes. This could include adding additional specifications on speed cushions to accommodate the wheel base of a City of Napa fire truck.</li> <li>• Include a line item in the annual budget to create a formal Neighborhood Traffic Management Program (NTMP) to allow additional traffic calming implementation and an inventory of improvements.</li> </ul>
<p><b>Identifying Crossing Barriers</b> Crossing barriers such as railroads, freeways, and major arterials may discourage or even prevent pedestrian access. Additionally, crossing barriers are often associated with vehicle-pedestrian collisions. Identifying and removing barriers, as well as preventing new barriers, is essential for improving walkability and pedestrian safety.</p>	<p>Key Strength</p>	<p>The Downtown Napa Specific Plan (NCSP) identifies pedestrian barriers in the downtown area, along with a proposed network of multi-use paths through downtown that will connect to existing Napa River crossings. Additional shared use crossings are proposed in the downtown area across the Napa River, the Wine Train tracks, and high-volume streets like Soscol Avenue, Third Street and below First Street.</p>	<ul style="list-style-type: none"> <li>• Secure funding for proposed crossings in the NCSP and the 2040 Countywide Transportation Plan.</li> </ul>

**TABLE 4: NAPA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

		<p>Outside of downtown, several suggested crossings are identified along proposed routes in the City of Napa Bike Plan. An undercrossing at SR 29 along Napa Creek and a Vine Trail connection across Redwood Road are proposed for the 2040 Countywide Transportation Plan Project List.</p>	
<p><b>Design and Development Standards</b> Design policies and development standards can improve the pedestrian walking experience, encourage walking, enhance economic vitality, and offer funding opportunities for pedestrian improvements.</p>	<p>Key Strength</p>	<p>The City has developed and adopted the 2012 Downtown Napa Specific Plan (DNSP), providing local design guidelines for walkability and pedestrian facilities. The DNSP also includes a proposed streetscape plan and typical cross-sections with minimum sidewalk widths for identified “Core Streets” and “Secondary Streets”. Zoning overlays govern the allowed Building Forms for development that contribute to a “sense of place” in Downtown Napa.</p> <p>The DNSP also recommends adopting a policy to balance the design requirements of delivery vehicles and pedestrians downtown by designating pedestrian-oriented streets and delivery vehicle-oriented streets with appropriate design guidelines for each.</p> <p>Pedestrian-friendly design is included in the development guidelines for the Soscol / Downtown Riverfront Design Guidelines, with a focus on human-scale design and streetscape improvements. The 2004 Residential Design Guidelines emphasize place making for infill neighborhoods in evolving areas and encourage new projects to consider pedestrian connections, avoid parking that separates the project from the street edge, include a streetscape plan, and fully integrate parks and community facilities.</p>	<ul style="list-style-type: none"> <li>• Implement Residential Guidelines policy H-3.D, which requires the City to study street standards for new subdivisions to improve their pedestrian friendly quality and traffic calming features, and apply similar treatments to existing streets to the extent possible.</li> <li>• With this Plan, create design guidelines for delivery vehicle-oriented streets and pedestrian-oriented streets and designate streets for the appropriate application.</li> </ul>
<p><b>Complete Streets Policy</b> Routine Accommodations or Complete Streets Policies accommodate all modes of travel and travelers of all ages and abilities.</p>	<p>Key Strength</p>	<p>The City of Napa has a Complete Streets Policy that is compliant with MTC requirements and applies to development review. Routine data collection is also required to evaluate how well all users are being served by the transportation network.</p> <p>Impact fees are assessed for transportation impact mitigations and are available for pedestrian</p>	<ul style="list-style-type: none"> <li>• Consider using multi-modal level of service criteria.</li> <li>• Consider maintaining a GIS database of data collected as part of the policy evaluation, to include pedestrian volumes collected in this Plan.</li> <li>• Coordinate the 10-mile repaving program with</li> </ul>

**TABLE 4: NAPA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

		improvements.	<p>sidewalk repair projects to more efficiently use available resources, when possible.</p> <ul style="list-style-type: none"> <li>• Develop a checklist for project review to ensure routine application of the Complete Streets policy.</li> </ul>
<p><b>Street Tree Ordinance</b> Street trees enhance the pedestrian environment by providing shade and a buffer from vehicles. Street trees may also enhance property values, especially in residential neighborhoods. However, street trees, when improperly selected, planted, or maintained, may cause damage to adjacent public utilities.</p>	Key Strength	Napa has a street tree ordinance specifying the responsibility of maintenance of street trees and the permitting requirements for planting and removal of street trees. The Tree Advisory Committee maintains a tree species list that is approved to prevent root damage to sidewalks.	
<p><b>Walking Audit Program</b> Walking audits provide an interactive opportunity to receive feedback from key stakeholders about the study area as well as discuss potential solutions and their feasibility. They can be led by City staff, advocacy groups, neighborhood groups, or consultants.</p>	Key Strength	Project-specific walking audits have been conducted in the City of Napa, including one for the Imola Boulevard corridor. The City is planning another walking audit for the Vine Trail gap from 3 <sup>rd</sup> Street to Vallejo Street.	<ul style="list-style-type: none"> <li>• Conduct regular walking audits as part of a citywide safety program for pedestrians. This effort could complement the “trip and fall” program and other health-oriented programs within the City, as well as aid the distribution of the media campaign that Napa County Transportation and Planning Agency (NCTPA) is pursuing.</li> </ul>
<p><b>Coordination with Health Agencies</b> Involving non-traditional partners such as public health agencies, pediatricians, etc., in the planning or design of pedestrian facilities may create opportunities to be more proactive with pedestrian safety, identify pedestrian safety challenges and education venues, and secure funding. Additionally, under-reporting of pedestrian-vehicle collisions could be a problem that may be partially mitigated by involving the</p>	Key Strength	<p>Live Healthy Napa County, a coalition of local community stakeholders for improving health in Napa County, recently completed the Napa County Community Health Improvement Plan (CHIP) in February 2014. The document proposes a plan to address health issues through new policies and health promotion strategies, including transportation policies that encourage walking and biking.</p> <p>The City of Napa does not include health agencies or professionals in the planning and design of pedestrian facilities, although they may attend public meetings if</p>	<ul style="list-style-type: none"> <li>• Seek opportunities to meet goals in the CHIP related to active transportation, such as improving the built environment by including additional pedestrian infrastructure projects in the City’s Capital Improvement Program (CIP).</li> <li>• Involve health professionals in the development review process, especially related to active transportation improvements.</li> <li>• Ensure consistency with the CHIP by seeking partnership opportunities between health agencies and Safe Routes to School to expand</li> </ul>

**TABLE 4: NAPA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p>medical community in pedestrian safety planning.<sup>5</sup></p>		<p>they are a key stakeholder in the area.</p> <p>Live Healthy Napa County is also working to complete the first ever Napa County Community Obesity Prevention Plan, which addresses the need to increase active transportation options Countywide.</p>	<p>the reach of education and promotion of walking.</p>
<p><b>ADA Improvements</b></p> <p>Compliance with the Americans with Disability Act (ADA) guidelines is important not only to enhance community accessibility, but also to improve walking conditions for all pedestrians.</p> <p>An ADA Transition Plan sets forth the process for bringing public facilities into compliance with ADA regulations.</p>	<p>Enhancement</p>	<p>The City of Napa follows state design standards for curb ramps which include truncated domes and grooving details as well as required pedestrian clearances. All new construction or modifications require ADA upgrades.</p> <p>City-specific standards for curb returns show curb ramps to be placed at the center of the curb return, and do not include a detail for directional curb ramps.</p> <p>The City has a 2008 ADA Transition Plan which prioritizes facility improvements that provide access to or within City Buildings. According to the Plan, the City has a number of programs dedicated to making the City's streets and sidewalks more accessible, including annual installation, repair, and maintenance programs, a complaint/request process, and pedestrian-related capital projects.<sup>6</sup></p>	<ul style="list-style-type: none"> <li>• Implement directional curb ramps where practical, and consider replacing Caltrans Standards for curb ramps with a City Standard for directional curb ramps.</li> <li>• Review and revise standard drawings to align with PROWAG recommendations.</li> <li>• Per recommended actions in the ADA Transition Plan, consider developing a schedule for surveying the remaining City-maintained curb ramps and sidewalks.</li> </ul>
<p><b>Pedestrian Volumes</b></p> <p>Pedestrian volume data is important for prioritizing projects, developing collision rates, and determining appropriate pedestrian infrastructure.</p>	<p>Enhancement</p>	<p>Napa does not regularly collect pedestrian counts, but does require some project-specific traffic studies to collect pedestrian counts with manual intersection counts.</p>	<ul style="list-style-type: none"> <li>• Use collected volumes in this Plan to identify pedestrian nodes in the next update to the General Plan.</li> <li>• Routinely collect pedestrian and bicycle volumes by requiring them to be conducted in conjunction with all manual intersection turning movement counts.</li> <li>• Geo-code existing and future volumes with GIS software along with other data such as pedestrian control devices and collisions to analyze data for trends or hotspots related to</li> </ul>

<sup>5</sup> Sciortino, S., Vassar, M., Radetsky, M. and M. Knudson, "San Francisco Pedestrian Injury Surveillance: Mapping, Underreporting, and Injury Severity in Police and Hospital Records," *Accident Analysis and Prevention*, Volume 37, Issue 6, November 2005, Pages 1102-1113

<sup>6</sup> City of Napa ADA Self-Evaluation & Transition Plan, 2008

**TABLE 4: NAPA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

			pedestrian safety.
<p><b>Pedestrian-Oriented Traffic Warrants / Traffic Control Devices</b></p> <p>Providing all-way stop or signal control at an intersection may improve pedestrian safety by reducing speeds and controlling pedestrian-vehicle conflicts. The MUTCD defines warrants for installing signals and stop signs.</p> <p>The 2014 California <i>Manual of Uniform Traffic Control Devices</i> (MUTCD) requires the installation of countdown pedestrian signals for all crosswalks at new or modified signals where the pedestrian interval is more than 7 seconds.</p> <p>Leading Pedestrian Intervals (LPIs) can reduce conflicts between turning vehicles and pedestrians by providing pedestrians with a “head start” signal timing before vehicles on the parallel street are allowed to proceed through an intersection.</p>	Enhancement	<p>Napa follows MUTCD requirements for both stop sign and signal warrants.</p> <p>The City of Napa requires countdown signals and LED indications to be installed when an existing signal is modified or a new signal is installed. The City is in the process of collecting an inventory of stop signs, sidewalks, curb ramps, trees, and lighting for a GIS database as part of their Asset Management Plan.</p> <p>No LPIs are installed in Napa.</p>	<ul style="list-style-type: none"> <li>• Consider developing City-specific signal and stop sign warrants that are pedestrian friendly for locations where pedestrian safety is a concern. Best practices for stop-sign warrant application include: <ul style="list-style-type: none"> <li>○ Requiring a collision history of three instead of five years based on routine underreporting</li> <li>○ Reducing traffic volume thresholds based on latent demand</li> <li>○ Providing consideration for school children, pedestrians and traffic speeds</li> </ul> </li> <li>• Expand the GIS-based inventory to include pedestrian-related markings and traffic signals with pedestrian facilities.</li> <li>• Install LPIs in areas of high pedestrian activity throughout the City, providing a right-turn-on-red restriction as necessary per recent research findings<sup>7</sup>.</li> </ul>
<p><b>Speed Limits and Speed Surveys</b></p> <p>Pedestrian fatality rates increase exponentially with vehicle speed. Thus, reducing vehicle speeds in pedestrian zones may be one of the most important strategies for enhancing pedestrian safety.</p>	Enhancement	<p>In Napa, speed surveys are conducted every five years following MUTCD guidelines. The City has reduced speed limits to 25 mph in selected school zones, but this does not meet recommended best practices of 15 mph in all school zones. Traffic calming is considered in known pedestrian zones like downtown if speeds are higher than the posted limit. Residents may also submit a request for traffic calming in areas of specific concern. Tactics like police enforcement or striping are the first tools considered for traffic calming.</p>	<ul style="list-style-type: none"> <li>• Proactively consider pedestrian volumes when setting speed limits.</li> <li>• Consider implementing reduced speed limits of 15 mph in school zones.</li> <li>• Continue to employ traffic calming strategies in locations where speed surveys suggest traffic speeds are too high for pedestrian areas.</li> <li>• Ensure design standards in pedestrian areas do not contribute to a routine need for traffic calming.</li> </ul>
<p><b>Crosswalk Design Guidelines</b></p>	Enhancement	<p>The City currently does not have a crosswalk policy, but design guidelines for enhanced crosswalks are</p>	<ul style="list-style-type: none"> <li>• Consider adopting a crosswalk policy as part of this Plan that reflects best practices and recent</li> </ul>

<sup>7</sup> Hubbard, S, Bullock, D and J. Thai, Trial Implementation of a Leading Pedestrian Interval: Lessons Learned, ITE Journal, October 2008, pp. 32-41.

**TABLE 4: NAPA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p>A formal policy for crosswalk installation, removal, and enhancement provides transparency in decision-making and creates a consistent application of treatments Citywide.</p>		<p>included in the Downtown Napa Specific Plan, which also recommends considering additional mid-block crossing locations.</p> <p>The City makes decisions regarding crosswalks on a case by case basis, and prefers crosswalks to be located at signalized crossings rather than mid-block. The City has removed mid-block crossings downtown and requires strong justification for new mid-block crossings to be approved, although no specific thresholds are provided.</p>	<p>research to include criteria for appropriate locations to install crosswalk enhancements such as flashing beacons, advanced yield markings, or in-roadway pedestrian signs.</p> <ul style="list-style-type: none"> <li>• Include criteria for identifying, installing, and enhancing midblock crossings where strong desire lines exist in the crosswalk policy.</li> <li>• Using the proposed crosswalk policy, conduct audits of the adequacy of current crosswalks.</li> </ul>
<p><b>General Plan</b>                  Planning principles contained in a city's General Plan can provide an important policy context for developing pedestrian-oriented, walkable areas. Transit-oriented development, higher densities, and mixed uses are important planning tools for pedestrian-oriented areas.</p> <p>A city's General Plan is also a key opportunity to establish the framework for pedestrian orientation. The Circulation Element of the Plan typically assigns roadway typologies, which can include a layered network approach with prioritized corridors for transit, pedestrian, bicycle, and auto travel.</p>	<p>Enhancement</p>	<p>Residential densities in Napa range from 2 to 60 dwelling units/acre. Mixed-use is encouraged in designated areas by Napa's General Plan, with three tiers of density designated downtown as part of the Building Form Zones in the Downtown Napa Specific Plan.</p> <p>A Parking Exempt (PE) District has been established downtown, which allows lower off-street parking requirements to maintain a pedestrian-scaled street frontage and encourage drivers to "park once" when arriving downtown. The DNSP recommends several parking policies downtown, which are under consideration.</p> <p>The City's General Plan highlights the importance of maintaining walkability downtown and identifies the proposed River Trail and a trail along the Wine Train tracks as potential "pedestrian arterials" to connect neighborhoods to downtown. The General Plan does not establish a street typology framework, but the DNSP uses a typology hierarchy of "Core Streets" and "Secondary Streets" to apply streetscape features to downtown streets.</p>	<ul style="list-style-type: none"> <li>• Develop an implementation plan for some of the recommended parking policies in the DNSP that reinforce a park-once environment:                         <ul style="list-style-type: none"> <li>○ Market pricing</li> <li>○ Residential permitting</li> <li>○ Valet parking</li> <li>○ New parking structures</li> <li>○ Shared parking in mixed-use districts</li> <li>○ Expansion of the PE district</li> </ul> </li> <li>• Establish transit and auto-vehicle policies in the General Plan that are pedestrian-friendly and support a balanced multi-modal transportation network.</li> <li>• Identify pedestrian nodes in future updates to the General Plan.</li> <li>• Consider relaxing auto Level of Service standards in pedestrian-oriented overlay zones such as downtown and the Soscol-Riverfront, and prioritizing sidewalk improvement projects in these areas.</li> <li>• Develop roadway typologies in the next update to the General Plan to identify prioritized corridors for pedestrians.</li> </ul>
<p><b>Historical Preservation</b>                  Historic walking routes, such as the famous Freedom Trail in Boston, encourage walking</p>	<p>Enhancement</p>	<p>The Downtown Napa Specific Plan stresses preserving historic sites and includes design guidelines for historic resources, and the public realm. Specific historic sites from the City's Historic Resource</p>	<ul style="list-style-type: none"> <li>• Develop a map to showcase natural or local sites of interest, and link key features in the City, including a possible walking route between the sites. Maps of the tour route and</li> </ul>

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<p>and enhance economic vitality.</p>		<p>Inventory are covered in the Historic Resources Guidelines, but they refer to the Soscol Corridor/Downtown Riverfront Development and Design Guidelines for pedestrian-oriented considerations.</p> <p>The City does not have a historic walking route, map, or wayfinding program; however, information on historic interest sites is available on the City's website for visitors.</p>	<p>historic documentation materials could be made available online and wayfinding signs, maps, and plaques could also be provided throughout the City.</p>
<p><b>Open Space Requirements</b> Residents typically rate open space as among a jurisdiction's key assets and needs. Open space may encourage walking, especially for recreational trips.</p>	<p>Enhancement</p>	<p>The City of Napa has multiple zoning districts allocated for public lands devoted to public open spaces and trails, greenways, parkways, and nature preserves, including the Downtown Public land use district and the Parks and Open Space District. The Downtown Parks and Open Space land use district is intended for passive and active recreational uses including public gatherings and events. Pedestrian access to open space is only addressed in ordinances for specific sites, such as those for the Gasser Master Plan district.</p> <p>Some ordinances reference the requirement of an approved landscaping plan for open space areas, but no requirement of pedestrian access is mentioned. The DNSP does recommend requiring open space improvements for development downtown to connect to the network of pedestrian-friendly sidewalks, courtyards, and plazas and includes open space guidelines that accommodate pedestrians.</p>	<ul style="list-style-type: none"> <li>• Consider expanding open space requirements to include provisions for pedestrian safety and accessibility.</li> </ul>
<p><b>Transportation Demand Management</b> Transportation Demand Management (TDM) programs encourage multi-modal travel by incentivizing non-auto options. As new development occurs, TDM programs can be expanded, formalized, and strengthened.</p>	<p>Enhancement</p>	<p>Employers of 50 or more full-time workers in the Bay Area are required to provide commuter benefits to their employees through the Bay Area Commuter Benefits Program, to comply with California SB 1339. The Program includes benefit options like transit passes, employer-provided shuttles, and vanpool subsidies.</p> <p>The DNSP includes TDM strategies for downtown including employer based programs, parking pricing strategies, car-sharing and ridesharing, which are still</p>	<ul style="list-style-type: none"> <li>• As part of a comprehensive TDM program for the City of Napa:</li> <li>• Hire or identify a part-time TDM Coordinator</li> <li>• Create a TDM program and accompanying website with separate pages for employees, residents, and visitors</li> <li>• Develop a TDM policy which:</li> <li>• Explores transit improvements downtown proposed in the DNSP, such as restoring the</li> </ul>

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		under consideration.	<p>Napa Downtown Trolley, development of a Bus Rapid Transit system, and potential rail service</p> <ul style="list-style-type: none"> <li>• Implements ideas from the DNSP like car-sharing and parking pricing strategies</li> <li>• Supports the “Car Free” tourism program of the Napa Valley Destination Council and NCTPA, which provides information to visitors so they can plan a trip without relying solely on a car</li> </ul>
<p><b>Public Involvement</b></p> <p>Responding to public concerns through public feedback mechanisms represents a more proactive and inclusive approach to pedestrian safety compared to a conventional approach of reacting to pedestrian collisions.</p> <p>Advisory committees serve as important sounding boards for new policies, programs, and practices. A citizens’ pedestrian advisory committee is also a key component of proactive public involvement for identifying pedestrian safety issues and opportunities.</p>	Enhancement	<p>The City also provides an on-line service center for residents to file complaints for safety improvements on City streets, and the information is sent directly to street crews.</p> <p>The City has a Bicycle and Trails Advisory Commission (BTAC) that is required to cover pedestrian issues by the MTC. The BTAC members include the chair of the Active Transportation Committee for NCTPA as well as a representative from the Parks and Rec department.</p> <p>The City of Napa Police Department posts advisory notices, road closures, and other neighborhood-specific information on their website. Each neighborhood has a separate webpage, where residents can also post concerns and sign up for neighborhood meetings.</p>	<ul style="list-style-type: none"> <li>• Consider adding a page to the City’s website dedicated to receiving public input regarding transportation issues and a subsection for pedestrian topics. This category or subcategory may allow residents to file comments or complaints for traffic control devices or dangerous conditions.</li> <li>• Establish a directive for the BTAC to separately address pedestrian needs.</li> <li>• Consider organizing neighborhood groups from the active participants in the neighborhood meetings that identify street needs, including greening and traffic calming.</li> </ul>
<p><b>Economic Vitality</b></p> <p>Improving pedestrian safety and walkability can enhance economic vitality. Similarly, enhancing economic vitality through innovative funding options such as Business Improvement Districts (BIDs), parking management, and facade improvement programs can lead to more active pedestrian areas and encourage walking.</p>	Enhancement	<p>Napa does not have a BID; however the Downtown Napa Specific Plan does include façade improvement design guidelines with an emphasis on visual interest for pedestrians.</p> <p>Downtown parking guidelines emphasize the appearance of and access to parking. A park once environment is desired downtown, and is reinforced by the Parking Exempt District and reduced parking ratios downtown, as well as recommendations for mixed-use high-density development and restoring the Downtown trolley service.</p>	<ul style="list-style-type: none"> <li>• Consider establishing Business Improvement Districts that can fund streetscape and pedestrian improvements. Implementation of the DNSP may provide an opportunity to establish a BID.</li> <li>• Consider adding transit-oriented overlay zones to the zoning code.</li> </ul>
<p><b>Pedestrian Safety Education Program</b></p> <p>Education is a critical element for a complete</p>	Enhancement	In accordance with policies in the Napa Bike Plan and the General Plan, NCTPA is planning to pursue grant	<ul style="list-style-type: none"> <li>• Coordinate with NCTPA on pursuing a media safety campaign, and consider the following</li> </ul>

**TABLE 4: NAPA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p>and balanced approach to improving pedestrian safety. Education campaigns may target pedestrians of all ages.</p>		<p>funding through the California Office of Traffic Safety (OTS) for a media safety campaign for motorists. The campaign will use Pittsburgh’s Drive With Care campaign for inspiration, which characterizes bicyclists and pedestrians as our firefighters, doctors, and neighbors and uses the slogan “someone you care about rides a bike”. The OTS will release a call for projects around November 2015 for their 2017 funding cycle.</p>	<p>methods to distribute the campaign in the City of Napa:</p> <ul style="list-style-type: none"> <li>• Include advertisements on buses and bus shelters, through SRTS and in-school curriculum, community school courses, public service announcements, and/or brochures distributed by law enforcement, among many other strategies</li> <li>• Pedestrian safety brochures could be distributed to the public independent of the media campaign to promote walking to City events.</li> </ul>
<p><b>Safe Routes to Schools</b> Safe-Routes-to-School (SRTS) programs encourage children to safely walk or bicycle to school. The programs are important both for increasing physical activity (and reducing childhood obesity) and for reducing morning traffic associated with school drop-off, as much as 30% of morning peak hour traffic.</p> <p>Educational components of SRTS programs are especially important for school children where safe walking habits may be instilled as lifelong lessons. Funding for programs and/or projects is available at the state and federal levels.</p>	<p>Enhancement</p>	<p>Napa has applied for Safe Routes to School funding in multiple years for lighted crosswalks, but did not receive it. The City was unsuccessful in obtaining funding for a pedestrian undercrossing, but city staff plan to reapply for funding in 2015.</p> <p>The Napa County Office of Education (NCOE) currently administers a Safe Routes To School (SRTS) Program, and has hosted events such as “Walk and Roll” to School Day at schools in Napa, where students compete for the Golden Sneaker Trophy, awarded to classrooms with the best participation.</p> <p>A Safe Walking education presentation is offered to elementary schools in Napa for students in grades K-3. Brochures are handed out during this program as well as at staff meetings, PTA/parent meetings, community health fairs, and farmers markets. Parent presentations include a review of pedestrian laws and ordinances.</p> <p>While program leaders have a goal of reaching every interested school by the end of the grant term in 2016, reaching schools on a weekly or yearly basis has been difficult due to understaffing and scarcity of volunteers.</p>	<ul style="list-style-type: none"> <li>• Seek partners to form school-specific committees of community agencies, parents, advocates, City staff, community health representatives, and other stakeholders to administer SRTS programs at each school in Napa. Hold regular meetings to maintain stakeholder involvement.</li> <li>• Use distances from schools from parent survey results to determine feasibility of rolling out Walking School Bus program for schools in Napa.</li> <li>• Coordinate with NCTPA to seek additional funding for SRTS, to include allocating local sales tax money or starting a transportation tax to emulate local jurisdictions such as Marin and Sonoma.</li> </ul>
<p><b>Law Enforcement</b> Enforcement of pedestrian right-of-way laws and speed limits is an important complement</p>	<p>Enhancement</p>	<p>The City of Napa Police Department supports a staff position dedicated to the traffic calming program. The Police Department is part of the development review</p>	<ul style="list-style-type: none"> <li>• Coordinate with NCTPA to train officers in Napa on pedestrian safety enforcement principles and education outreach efforts.</li> </ul>

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<p>to engineering treatments and education programs.</p>		<p>process and has also been involved in pedestrian education activities at local schools. Additionally, the Police Department has a page on their website where residents can sign up for neighborhood meetings to discuss local issues and concerns.</p> <p>NCTPA is currently working to train California Highway Patrol (CHP) officers in how to educate county motorists about pedestrian safety.</p>	<p>Consider including specific pedestrian concerns in the Police Department neighborhood meetings.</p> <ul style="list-style-type: none"> <li>• Consider designating traffic safety officers who conduct pedestrian related enforcement activities, such as monitoring school circulation activity.</li> <li>• Implement sustained pedestrian safety enforcement efforts and involve the media. Coordinate with NCTPA on the media safety campaign that NCTPA is pursuing, as an opportunity for education by distributing pedestrian safety pamphlets in-lieu of, or in addition to, citations.</li> </ul>
<p><b>Bicycle Parking Ordinance</b> Bicyclists become pedestrians after parking their bicycles. Safe and convenient bicycle parking is essential for encouraging bicycle travel (especially in-lieu of vehicle travel).</p>	<p>Enhancement</p>	<p>According to the City of Napa municipal code, bicycle parking is required for nonresidential uses which require 10 or more vehicle parking spaces. Bicycle lockers are optional.</p>	<ul style="list-style-type: none"> <li>• Consider modifying the bicycle parking ordinance to distinguish and provide for both long-term and short-term bicycle parking. Include requirements for rack placement to ensure a convenient location and adequate pedestrian clearances.</li> </ul>
<p><b>Newspaper Rack Ordinance</b> Newspaper racks may obstruct walkways and reduce accessibility and pedestrian visibility when ordinances are not in place. A Newspaper Rack Ordinance improves the pedestrian realm by reducing clutter and organizing sidewalk zones and may detail size, location, and maintenance requirements.</p>	<p>Opportunity</p>	<p>The City of Napa does not currently have a newspaper rack ordinance.</p>	<ul style="list-style-type: none"> <li>• Consider adopting a Newspaper Rack Ordinance that specifies the permitted number and location of newspaper racks and ensures that racks do not interfere with pedestrian sidewalk access.</li> </ul>
<p><b>Sidewalk or Street Furniture Ordinance</b> Street furniture encourages walking by accommodating pedestrians with benches to rest along the route or wait for transit; trash receptacles to maintain a clean environment; street trees for shade, etc. Uniform street furniture requirements also enhance the design of the pedestrian realm and may improve economic vitality.</p>	<p>Opportunity</p>	<p>The City of Napa does not currently have a street furniture ordinance, although the municipal code requires that street furniture in Landmark Districts be appropriate and not interfere with the historic character.</p>	<ul style="list-style-type: none"> <li>• Consider adopting a Street Furniture Ordinance that provides guidance on the design of transit stops and the placement of additional street furniture amenities, other than those associated with transit stops, as appropriate.</li> </ul>

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<p><b>Collision Reporting</b> Identifying and responding to collision patterns on a regular basis is an important reactive approach to pedestrian safety (which may be combined with proactive measures).</p>	<p>Opportunity</p>	<p>The City of Napa currently has no set practices for reviewing collision data, but periodic reviews may occur by public works staff to help identify CIP projects or evaluate development in the area. The Police Department files accident data, and public works staff can run queries as needed.</p>	<ul style="list-style-type: none"> <li>• Geo-coding (mapping) and comprehensive monitoring using Crossroads software would allow for more proactive pedestrian safety projects and best practices such as collision typing for countermeasure selection. GIS efforts may be funded through an Office of Traffic Safety grant.</li> <li>• Sufficient pedestrian volume data could be used to prioritize collision locations based on collision rates (collisions/daily pedestrian volume). This could lead to a proactive approach to identify treatments and program City CIP funding. Volunteers can collect pedestrian volumes and other data at collision locations.</li> </ul>
<p><b>Coordination with Emergency Response and Transit Providers</b> Emergency response vehicles require special roadway design considerations that sometimes conflict with bicycle and pedestrian treatments. For example, while pedestrians benefit from reduced speeds of smaller curb radii, larger vehicles such as fire trucks and buses have more difficulty performing the turn within the smaller space. These conflicts require consensus building between the City and the respective departments.</p>	<p>Opportunity</p>	<p>Police and Fire Department staff is involved in the City’s plan-check process.</p> <p>Transit agencies are a key stakeholder in pedestrian-related improvements since many transit riders walk to and from their destinations on either end of their transit trip. There is minimal coordination between transit planning and pedestrian planning in Napa, although the General Plan does include a policy to consider a Safe Routes to Transit Program.</p>	<ul style="list-style-type: none"> <li>• Seek opportunities for technical collaboration and funding with first responders and transit providers.</li> <li>• Consider pilot testing programs for transit and emergency response and a more active involvement in project review for small projects and not just development projects.</li> <li>• In accordance with the General Plan and the Napa Bike Plan, explore ways to implement a Safe Routes to Transit Program that prioritizes bike and pedestrian access to major transit connection points and transit centers.</li> </ul>
<p><b>Institutional Coordination</b> Institutional issues for pedestrian planning/design may refer to adopted or informal impediments. This may be policies, practices, funding issues or even stakeholders that make it challenging to improve walking conditions in Napa.</p>	<p>Opportunity</p>	<p>City of Napa staff noted that institutional obstacles vary by project, and they did not identify any specific challenges.</p>	<ul style="list-style-type: none"> <li>• Continue to seek opportunities to collaborate with local schools to improve pedestrian safety around transit stops.</li> <li>• Proactively seek opportunities to collaborate with Caltrans and/or local jurisdictions to improve pedestrian safety.</li> </ul>

**TABLE 5: AMERICAN CANYON PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

Plans, Policies, & Programs	Benchmark	American Canyon Response	Recommended Action Items
<p><b>ADA Transition Plan</b> Compliance with the Americans with Disability Act (ADA) guidelines is important not only to enhance community accessibility, but also to improve walking conditions for all pedestrians.</p> <p>An ADA Transition Plan sets forth the process for bringing public facilities into compliance with ADA regulations.</p>	Key Strength	<p>American Canyon’s Engineering Design Standards require curbs with grooves facing towards the center of the intersection at all street crossings and curb returns. The Standards do not include truncated domes or directional curb ramps.</p> <p>The City has an ADA Transition Plan from 2008 that includes an inventory of needed improvements for deficient sidewalks and curb ramps in the public right-of-way along priority corridors.</p>	<ul style="list-style-type: none"> <li>• Consider tracking ADA improvements using practices recommended in ADA Transition Plan, updated as part of this Plan, to be implemented by the ADA Coordinator</li> <li>• Implement directional curb ramps where practical and truncated domes in all cases. Review and revise standard drawings to align with PROWAG recommendations.</li> </ul>
<p><b>Traffic Calming Programs</b> Traffic Calming Programs and policies set forth a systematic and consistent approach for addressing neighborhood requests and approvals, as well as standard treatments and criteria.</p>	Key Strength	<p>American Canyon has a Traffic Calming Program that outlines the steps for a community interested in traffic calming, defines the various traffic calming options and appropriate uses, and establishes guidelines for installing the traffic calming measures. There is no specific funding set aside for these improvements.</p>	<ul style="list-style-type: none"> <li>• Include a line item in the annual budget to create a formal Neighborhood Traffic Management Program (NTMP) to allow additional traffic calming implementation and an inventory of improvements.</li> <li>• Encourage the routine use of traffic calming measures beyond speed humps.</li> </ul>
<p><b>Complete Streets Policy</b> Routine Accommodations or Complete Streets Policies accommodate all modes of travel and travelers of all ages and abilities.</p>	Key Strength	<p>The City’s Complete Streets policy, adopted in 2012, includes principles, implementation strategies, and exemptions from complete streets requirements. As part of implementation, the City of American Canyon Open Space Advisory Committee, serving as the City’s Bicycle and Pedestrian Advisory Committee per Resolution 2010-115, reviews transportation projects to provide recommendations regarding Complete Streets.</p> <p>Routine data collection is also required to evaluate how well all users are being served by the transportation network.</p>	<ul style="list-style-type: none"> <li>• Consider maintaining a GIS database for data collected as part of the policy evaluation, to include pedestrian volumes collected in this Plan.</li> <li>• Develop a checklist for project review to ensure routine application of the Complete Streets policy.</li> <li>• Consider using multi-modal level of service criteria.</li> </ul>
<p><b>Public Involvement</b> Responding to public concerns through public feedback mechanisms represents a more proactive and inclusive approach to pedestrian safety compared to a conventional approach of reacting to pedestrian</p>	Key Strength	<p>American Canyon residents (or visitors) may file requests for safety improvements on City streets via phone or email. Additionally, the City’s “SeeClickFix” app allows people to report non-emergency issues on a web-based map of the City. Residents can submit information directly to the city regarding damaged sidewalk, deficient lighting, or other non-emergency issues.</p>	<ul style="list-style-type: none"> <li>• Consider adding a page to the City’s website dedicated to receiving public input regarding transportation issues and a subsection for pedestrian topics. This category or subcategory may allow residents to file comments or complaints for traffic control devices or dangerous conditions. Encourage broad use of the</li> </ul>

**TABLE 5: AMERICAN CANYON PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p>collisions. Advisory committees serve as important sounding boards for new policies, programs, and practices. A citizens’ pedestrian advisory committee is also a key component of proactive public involvement for identifying pedestrian safety issues and opportunities.</p>		<p>Public involvement occurs through several groups including the Parks and Community Services Commission, the Open Space Advisory Committee (OSAC), and the Senior Council. The OSAC serves as the City’s Bicycle and Pedestrian Advisory Committee per Resolution 2010-115, and is involved with site plan review and the review of transportation projects to provide Complete Streets recommendations.</p>	<p>“SeeClickFix” app for pedestrian issue and opportunity input.</p> <ul style="list-style-type: none"> <li>• Consider creating a formal Active Transportation Advisory Committee (ATAC) for City-specific issues. This Committee could include the American Canyon representative on the ATAC for NCTPA.</li> <li>• Consider organizing neighborhood groups that identify street needs, including greening and traffic calming.</li> </ul>
<p><b>Pedestrian Volumes</b> Pedestrian volume data is important for prioritizing projects, developing collision rates, and determining appropriate pedestrian infrastructure.</p>	<p>Enhancement</p>	<p>While American Canyon has collected pedestrian and bicycle counts for some projects, the City does not regularly collect pedestrian or bicycle counts, nor does it require that bicycle or pedestrian counts be collected with manual intersection counts.</p>	<ul style="list-style-type: none"> <li>• Use collected volumes in this Plan to identify pedestrian nodes in the next update to the General Plan</li> <li>• Routinely collect pedestrian volumes with all transportation impact studies (TIAs).</li> <li>• Geo-code existing and future pedestrian volume data with GIS software along with other data such as pedestrian control devices and collisions to analyze data for trends or hotspots related to pedestrian safety.</li> </ul>
<p><b>Speed Surveys and Speed Limits</b> Pedestrian fatality rates increase exponentially with vehicle speed. Thus, reducing vehicle speeds in pedestrian zones may be one of the most important strategies for enhancing pedestrian safety.</p>	<p>Enhancement</p>	<p>In American Canyon, speed surveys are conducted in response to reported concerns, frequent collisions, or at the request of citizens or the Napa County Sheriff’s deputies, who patrol the streets in the City.</p>	<ul style="list-style-type: none"> <li>• Proactively consider pedestrian volumes when setting speed limits.</li> <li>• Explore the use of reduced speed limits in school zones.</li> <li>• Ensure design standards in pedestrian areas do not contribute to a routine need for traffic calming.</li> </ul>
<p><b>Identifying Crossing Barriers</b> Crossing barriers such as railroads, freeways, and major arterials may discourage or even prevent pedestrian access. Additionally, crossing barriers are often associated with vehicle-pedestrian collisions. Identifying and removing barriers, as well as preventing new barriers, is</p>	<p>Enhancement</p>	<p>American Canyon does not have a policy in place for identifying pedestrian barriers, but the City staff listed several barriers, including SR-29, the California Northern railroad, running parallel to SR-29 to the Napa Junction and continuing to the west north of City Hall, and American Canyon Creek running through the Vintage Ranch neighborhood. The Vine Trail efforts include looking for opportunities to reduce those barriers through additional crossings, and a project to identify three overcrossings over SR-29 addresses that barrier indirectly.</p>	<ul style="list-style-type: none"> <li>• Identify and create a comprehensive inventory of pedestrian barriers, along with appropriate remedies or projects.</li> </ul>

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essential for improving walkability and pedestrian safety.			
<p><b>Design and Development Standards</b></p> <p>Design policies and development standards can improve the pedestrian walking experience, encourage walking, enhance economic vitality, and offer funding opportunities for pedestrian improvements.</p>	Enhancement	American Canyon does not have City-wide design recommendations outside of this Plan for walking facilities. Several local plans, including the Watson Ranch Specific Plan Draft (2014) and the County-generated plan for SR-29, do support pedestrian connectivity.	<ul style="list-style-type: none"> <li>• Use elements of the design guidelines presented in this Plan as part of the development review process.</li> <li>• Develop a Streetscape Master Plan for the City.</li> </ul>
<p><b>Bicycle Parking Ordinance</b></p> <p>Bicyclists become pedestrians after parking their bicycles. Safe and convenient bicycle parking is essential for encouraging bicycle travel (especially in-lieu of vehicle travel).</p>	Enhancement	American Canyon’s municipal code has a bicycle parking requirement for commercial and employment areas. According to the municipal code, “bicycle parking should be located in highly visible locations and should be lockable.” <sup>8</sup>	<ul style="list-style-type: none"> <li>• Consider modifying the bicycle parking ordinance to distinguish and provide for both long-term and short-term bicycle parking. Include requirements for rack placement to ensure a convenient location and adequate pedestrian clearances.</li> </ul>
<p><b>Pedestrian Safety Education Program</b></p> <p>Education is a critical element for a complete and balanced approach to improving pedestrian safety. Education campaigns may target pedestrians of all ages.</p>	Enhancement	In accordance with policies in the Napa Bike Plan and the General Plan, NCTPA is planning to pursue grant funding through the California Office of Traffic Safety (OTS) for a media safety campaign for motorists. The campaign will use Pittsburgh’s Drive With Care campaign for inspiration, which characterizes bicyclists and pedestrians as our firefighters, doctors, and neighbors and uses the slogan “someone you care about rides a bike”. The OTS will release a call for projects around November 2015 for their 2017 funding cycle.	<ul style="list-style-type: none"> <li>• Coordinate with NCTPA on pursuing a media safety campaign, and consider the following methods to distribute the campaign in American Canyon:             <ul style="list-style-type: none"> <li>○ Include advertisements on buses and bus shelters, through SRTS and in-school curriculum, community school courses, public service announcements, and/or brochures distributed by law enforcement, among many other strategies.</li> </ul> </li> <li>• Pedestrian safety brochures could be distributed to the public independent of the media campaign to promote walking to City events.</li> </ul>

<sup>8</sup> American Canyon Municipal Code, 19.21.050 Bicycle parking requirements: <http://qcode.us/codes/americancanyon/>

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<p><b>Institutional Coordination</b>                  Institutional issues for pedestrian planning/design may refer to adopted or informal impediments. This may be policies, practices, funding issues or even stakeholders that make it challenging to improve walking in American Canyon.</p> <p>Institutional coordination associated with multiple agencies is necessary because of non-local control of right-of-way and differing policies regarding pedestrian accommodation.</p>	<p>Enhancement</p>	<p>American Canyon shares jurisdiction over components of the transportation network with Caltrans.</p> <p>The City's working relationship with Caltrans was a challenge in the past, but it has been improving in recent years. The City has also coordinated effectively with area schools to pursue Safe Routes to School grants.</p> <p>According to staff, funding is the biggest obstacle the City faces in project implementation.</p>	<ul style="list-style-type: none"> <li>• Continue to seek opportunities to collaborate with local transit agencies to improve pedestrian safety around transit stops.</li> <li>• Proactively seek opportunities to collaborate with Caltrans and/or local jurisdictions to improve pedestrian safety along SR-29.</li> <li>• Reference the public involvement, analysis, and prioritization efforts of this Plan when applying for grants to fund the top projects</li> </ul>
<p><b>Safe Routes to School</b>                  Safe-Routes-to-School (SRTS) programs encourage children to safely walk or bicycle to school. The programs are important both for increasing physical activity (and reducing childhood obesity) and for reducing morning traffic associated with school drop-off, as much as 30% of morning peak hour traffic. Educational components of SRTS programs are especially important for school children where safe walking habits may be instilled as lifelong lessons. Funding for programs and/or projects is available at the state and federal levels.</p>	<p>Enhancement</p>	<p>The Napa County Office of Education (NCOE) currently has a three year grant to administer a Safe Routes to School (SRTS) Program across the County through 2016. Program leaders have a goal of reaching every interested school by the end of the grant term, and plan to work with Canyon Oaks Elementary School and Donaldson Way Elementary School in 2015.</p> <p>The program includes events such as Walk and Roll to School Day, Bike Rodeos, and Safe Walking education presentations for students in grades K-3. Brochures are handed out during this program as well as at community events and PTA/parent meetings. Parent presentations include a review of pedestrian laws and ordinances.</p> <p>Although materials for these programs are available each year for schools across the County, reaching schools on a weekly or yearly basis has not been possible due to understaffing and scarcity of volunteers.</p> <p>The American Canyon Public Works Department created a map of suggested routes to American Canyon High School in 2010 that includes American Canyon transit stop locations.</p>	<ul style="list-style-type: none"> <li>• Pursue SRTS grant funding for pedestrian infrastructure projects.</li> <li>• Seek partners to form school-specific committees of community agencies, parents, advocates, City staff, community health representatives, and other stakeholders to administer SRTS programs at each school in American Canyon. Hold regular meetings to maintain stakeholder involvement.</li> <li>• Use distances from schools from parent survey results to determine feasibility of rolling out Walking School Bus program for schools in Napa.</li> <li>• Coordinate with NCTPA to seek additional funding for SRTS, to include allocating local sales tax money or starting a transportation tax to emulate local jurisdictions such as Marin and Sonoma.</li> </ul>
<p><b>Collision Reporting</b></p>	<p>Opportunity</p>	<p>American Canyon does not have a regular practice of reviewing</p>	<ul style="list-style-type: none"> <li>• Geo-coding (mapping) and comprehensive</li> </ul>

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<p>Identifying and responding to collision patterns on a regular basis is an important reactive approach to pedestrian safety (which may be combined with proactive measures).</p>		<p>collision data. Engineering staff review collision reports as needed on a case-by-case basis. City engineers previously received regular reports from SWITRS, but this data now goes straight to the Police Department.</p>	<p>monitoring using Crossroads software would allow for more proactive pedestrian safety projects and best practices such as collision typing for countermeasure selection. GIS efforts may be funded through an Office of Traffic Safety grant.</p> <ul style="list-style-type: none"> <li>• Sufficient pedestrian volume data could be used to prioritize collision locations based on collision rates (collisions/daily pedestrian volume). This could lead to a proactive approach to identify treatments and program City CIP funding. Volunteers can collect pedestrian volumes and other data at collision locations.</li> </ul>
<p><b>Pedestrian-Oriented Traffic Warrants / Traffic Control Devices</b></p> <p>Providing all-way stop or signal control at an intersection may improve pedestrian safety by reducing speeds and controlling pedestrian-vehicle conflicts. The MUTCD defines warrants for installing signals and stop signs.</p> <p>The 2014 California <i>Manual of Uniform Traffic Control Devices</i> (MUTCD) requires the installation of countdown pedestrian signals for all crosswalks at new or modified signals where the pedestrian interval is more than 7 seconds.</p> <p>Leading Pedestrian Intervals (LPIs) can reduce conflicts between turning vehicles and pedestrians by providing pedestrians with a "head start" signal timing before vehicles on the parallel</p>	<p>Opportunity</p>	<p>American Canyon roughly follows MUTCD requirements for both stop sign and signal warrants; however, even when staff's recommendations follow the requirements, City Council does not always follow those recommendations. Additionally, there are some all-way stop control intersections in American Canyon that were based on judgment rather than MUTCD recommendations.</p> <p>There is not a comprehensive inventory of signs, markings, and signals in American Canyon. Partial inventories are available through specific projects.</p> <p>American Canyon does not have any LPIs installed.</p>	<ul style="list-style-type: none"> <li>• Consider developing City-specific signal and stop sign warrants that are pedestrian friendly for locations where pedestrian safety is a concern. Best practices for stop-sign warrant application include:             <ul style="list-style-type: none"> <li>○ Requiring a collision history of three instead of five years based on routine underreporting</li> <li>○ Reducing traffic volume thresholds based on latent demand</li> <li>○ Providing consideration for school children, pedestrians and traffic speeds</li> </ul> </li> <li>• Expand the GIS-based inventory created with this Plan to include pedestrian-related markings and traffic signals with pedestrian facilities</li> <li>• Consider installing LPIs in areas where vehicle yielding may be an issue, providing a right-turn-on-red restriction as necessary per recent research findings<sup>9</sup>.</li> </ul>

<sup>9</sup> Hubbard, S, Bullock, D and J. Thai, Trial Implementation of a Leading Pedestrian Interval: Lessons Learned, ITE Journal, October 2008, pp. 32-41.

**TABLE 5: AMERICAN CANYON PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

street are allowed to proceed through an intersection.			
<p><b>Inventory of Pedestrian Facilities</b> A GIS-based sidewalk inventory enables project identification and prioritization, as well as project coordination with new development, roadway resurfacing, etc.</p>	Opportunity	<p>The City does not have a GIS inventory of sidewalks or other pedestrian facilities, although developments built after 1996 all have sidewalks (often only one side of the street).</p> <p>While sidewalk projects do not have a set annual budget, they tend to comprise approximately \$100,000 of the annual capital improvements program funding.</p>	<ul style="list-style-type: none"> <li>Expand the GIS-based facility inventory, created as part of this Plan, to include informal pathways and key pedestrian opportunity areas in the City.</li> </ul>
<p><b>Walking Audit Program</b> Walking audits provide an interactive opportunity to receive feedback from key stakeholders about the study area as well as discuss potential solutions and their feasibility. They can be led by City staff, advocacy groups, neighborhood groups, or consultants.</p>	Opportunity	American Canyon has not conducted pedestrian walking audits before this Plan.	<ul style="list-style-type: none"> <li>Conduct regular walking audits as part of a citywide safety program for pedestrians. This effort could complement a "trip and fall" program or health-oriented programs within the City, as well as distribution of the media campaign NCTPA is pursuing.</li> </ul>
<p><b>Crosswalk Design Guidelines</b> A formal policy for crosswalk installation, removal, and enhancement provides transparency in decision-making and creates a consistent application of treatments Citywide.</p>	Opportunity	The City currently does not have a crosswalk policy and makes decisions regarding crosswalks on a case by case basis.	<ul style="list-style-type: none"> <li>Consider adopting a crosswalk policy as Part of this Plan that reflects best practices and recent research to include criteria for installing crosswalk enhancements such as flashing beacons, advanced yield markings, or in-roadway pedestrian signs.</li> <li>Include criteria in the crosswalk policy for identifying, installing, and enhancing midblock crossings where strong desire lines exist.</li> </ul>
<p><b>General Plan</b> Planning principles contained in a city's General Plan can provide an important policy context for developing pedestrian-oriented, walkable areas. Transit-oriented development, higher densities, and mixed uses are important planning tools for pedestrian-oriented areas. A city's General Plan is also a key</p>	Opportunity	<p>According to the General Plan, residential densities in American Canyon are allowable up to 10-20 dwelling units/acre. There are currently some areas of three-story residential development, and new four-story residential buildings have been approved but not built. Density is concentrated along SR-29, although the Watson Ranch development will also have higher density. The City does allow for both vertical and horizontal mixed-use (only horizontal mixed-use has been built).</p> <p>American Canyon does not officially designate pedestrian nodes,</p>	<ul style="list-style-type: none"> <li>Identify pedestrian nodes in future updates to the General Plan</li> <li>Consider defining opportunities for mixed-uses by ordinance, particularly in pedestrian priority areas identified in this Plan. Identify future priority areas in the City where varied densities could accommodate or attract pedestrian activity.</li> <li>Consider relaxing auto Level of Service standards in pedestrian-oriented overlay</li> </ul>

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<p>opportunity to establish the framework for pedestrian orientation. The Circulation Element of the Plan typically assigns roadway typologies, which can include a layered network approach with prioritized corridors for transit, pedestrian, bicycle, and auto travel.</p>		<p>but staff identified a pedestrian node in the commercial district of American Canyon at the Walmart, a park, and a cluster of several other stores. This node is part of a Priority Development Area (PDA) which will eventually have more transit via enhanced bus service. Developments at Watson Ranch, the industrial development south of the Airport, and the former Eucalyptus Grove area will also have higher density and the potential to become pedestrian nodes.</p>	<p>zones that align with focus areas in this Plan, and prioritizing sidewalk improvement projects in these areas.</p>
<p><b>Historical Preservation</b> Historic walking routes, such as the famous Freedom Trail in Boston, encourage walking and enhance economic vitality.</p>	<p>Opportunity</p>	<p>The ruins of the Standard Portland Cement Company plant, while not eligible for the National or California Historic Register, are locally recognized in American Canyon. The site is part of a preservation plan within the Watson Ranch Specific Plan Draft. The plan proposes a mix of preservation approaches, including rehabilitation, alteration, addition, selective demolition, stabilization, and converting the uses to a winery, chapel, event space, farmers' market, and beer garden.</p>	<ul style="list-style-type: none"> <li>• Develop a map to showcase natural or local sites of interest, including the Portland Cement plant, with a possible walking route between the sites. Maps of the tour route and historic documentation materials could be made available online and way-finding signs, maps, and plaques could also be provided throughout the City.</li> </ul>
<p><b>Newspaper Rack Ordinance</b> Newspaper racks may obstruct walkways and reduce accessibility and pedestrian visibility when ordinances are not in place. A Newspaper Rack Ordinance improves the pedestrian realm by reducing clutter and organizing sidewalk zones and may detail size, location, and maintenance requirements.</p>	<p>Opportunity</p>	<p>American Canyon's Municipal Code does not include a newspaper rack ordinance.</p>	<ul style="list-style-type: none"> <li>• Consider adopting a Newspaper Rack Ordinance that specifies the number and location of allowable newspaper racks and ensures the maintenance of a clear pedestrian sidewalk area.</li> </ul>
<p><b>Sidewalk or Street Furniture Ordinance</b> Street furniture encourages walking by accommodating pedestrians with benches to rest along the route or wait for transit; trash receptacles to maintain a clean environment; street trees for shade, etc. Uniform street furniture requirements also enhance the design of the pedestrian realm and may improve economic vitality.</p>	<p>Opportunity</p>	<p>American Canyon's Municipal Code does not include street furniture requirements.</p>	<ul style="list-style-type: none"> <li>• Consider adopting a Street Furniture Ordinance to include guidance for the design of transit stops and locations for additional street furniture amenities, other than those associated with transit stops, as appropriate.</li> </ul>

**TABLE 5: AMERICAN CANYON PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p><b>Street Tree Ordinance</b> Street trees enhance the pedestrian environment by providing shade and a buffer from vehicles. Street trees may also enhance property values, especially in residential neighborhoods. However, street trees, when improperly selected, planted, or maintained, may cause damage to adjacent public utilities.</p>	<p>Opportunity</p>	<p>American Canyon does not have a street tree ordinance.</p>	<ul style="list-style-type: none"> <li>Consider adopting a Street Tree Ordinance including all development types, that specifies where and how often street trees may be planted/ replaced, and which types of trees are appropriate.</li> </ul>
<p><b>Open Space Requirements</b> Residents typically rate open space as among a jurisdiction’s key assets and needs. Open space may encourage walking, especially for recreational trips.</p>	<p>Opportunity</p>	<p>American Canyon does not have an open space requirement, but subdivision requirements do contain park dedication requirements.</p>	<ul style="list-style-type: none"> <li>Consider open space requirements that include provisions for pedestrian safety and accessibility.</li> <li>Consider modifying subdivision requirements to include pedestrian provisions in park requirements.</li> </ul>
<p><b>Transportation Demand Management</b> Transportation Demand Management (TDM) programs encourage multi-modal travel by incentivizing non-auto options. As new development occurs, TDM programs can be expanded, formalized, and strengthened.</p>	<p>Opportunity</p>	<p>Employers of 50 or more full-time workers in the Bay Area are required to provide commuter benefits to their employees through the Bay Area Commuter Benefits Program, to comply with California SB 1339. The Program includes benefit options like transit passes, employer-provided shuttles, and vanpool subsidies.</p> <p>Additionally, the NCTPA has a contract with an agency in Solano to facilitate rideshare matching.</p>	<ul style="list-style-type: none"> <li>As part of a comprehensive TDM program for American Canyon:</li> <li>Hire or identify a part-time TDM Coordinator</li> <li>Create a TDM program and accompanying website with separate pages for employees, residents, and visitors.</li> <li>Develop a TDM policy which:</li> <li>Supports the “Car Free” tourism program of the Napa Valley Destination Council and NCTPA, which provides information to visitors so they can plan a trip without relying solely on a car</li> </ul>
<p><b>Economic Vitality</b> Improving pedestrian safety and walkability can enhance economic vitality. Similarly, enhancing economic vitality through innovative funding options such as Business Improvement Districts (BIDs), parking management, and facade</p>	<p>Opportunity</p>	<p>American Canyon does not have a BID, façade improvement program, or Downtown Parking District.</p>	<ul style="list-style-type: none"> <li>Consider establishing Business Improvement Districts that can fund streetscape and pedestrian improvements.</li> <li>Consider implementing a façade improvement program.</li> </ul>

**TABLE 5: AMERICAN CANYON PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

<p>improvement programs can lead to more active pedestrian areas and encourage walking</p>			
<p><b>Coordination with Health Agencies</b>                  Involving non-traditional partners such as public health agencies, pediatricians, etc., in the planning or design of pedestrian facilities may create opportunities to be more proactive with pedestrian safety, identify pedestrian safety challenges and education venues, and secure funding.                  Additionally, under-reporting of pedestrian-vehicle collisions could be a problem that may be partially mitigated by involving the medical community in pedestrian safety planning.<sup>10</sup></p>	<p>Opportunity</p>	<p>Live Healthy Napa County, a coalition of local community stakeholders for improving health in Napa County, recently completed the Napa County Community Health Improvement Plan (CHIP) in February 2014. The document proposes a plan to address health issues through new policies and health promotion strategies, including transportation policies that encourage walking and biking.</p> <p>American Canyon does not coordinate with health agencies or professionals in the planning and design of pedestrian facilities.</p> <p>Live Healthy Napa County is also working to complete the first ever Napa County Community Obesity Prevention Plan, which addresses the need to increase active transportation options Countywide.</p>	<ul style="list-style-type: none"> <li>• Seek opportunities to meet goals in the CHIP related to active transportation, such as improving the built environment by including additional pedestrian infrastructure projects in the City's Capital Improvement Program (CIP).</li> <li>• Involve the emergency response community in pedestrian planning to encourage complete reporting of pedestrian-vehicle collisions</li> <li>• Involve health professionals in the development review process, especially related to active transportation improvements.</li> <li>• Ensure consistency with the CHIP by seeking partnership opportunities between health agencies and Safe Routes to School to expand the reach of education and promotion of walking.</li> </ul>
<p><b>Law Enforcement</b>                  Enforcement of pedestrian right-of-way laws and speed limits is an important complement to engineering treatments and education programs.</p>	<p>Opportunity</p>	<p>The American Canyon Police Department has an active Citizen Volunteer Program, which consists of local citizen volunteers that assist the Department at Elementary Schools and with the Radar Trailer Program. There are also 2 officers assigned to motorcycles for traffic education and enforcement, as well as a community resource officer and an officer assigned to the high school.</p>	<ul style="list-style-type: none"> <li>• Implement sustained pedestrian safety enforcement efforts and involve the media. Coordinate with NCTPA on the media campaign that is being pursued, as an opportunity for education by distributing pedestrian safety pamphlets in-lieu of, or in addition to, citations.</li> <li>• Consider designating traffic safety officers who conduct pedestrian related enforcement activities, such as monitoring school circulation activity.</li> <li>• Coordinate with NCTPA to train officers in</li> </ul>

<sup>10</sup> Sciortino, S., Vassar, M., Radetsky, M. and M. Knudson, "San Francisco Pedestrian Injury Surveillance: Mapping, Underreporting, and Injury Severity in Police and Hospital Records," *Accident Analysis and Prevention*, Volume 37, Issue 6, November 2005, Pages 1102-1113

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			<p>American Canyon on pedestrian safety enforcement principles and education outreach efforts.</p>
<p><b>Coordination with Emergency Response and Transit Providers</b>                  Emergency response vehicles require special roadway design considerations that sometimes conflict with bicycle and pedestrian treatments. For example, while pedestrians benefit from reduced speeds of smaller curb radii, larger vehicles such as fire trucks and buses have more difficulty performing the turn within the smaller space. These conflicts require consensus building between the City and the respective departments.</p>	<p>Opportunity</p>	<p>There is minimal coordination between transit planning and pedestrian planning in American Canyon, and the fire department is not involved in pedestrian projects.</p>	<ul style="list-style-type: none"> <li>• Seek opportunities for technical collaboration and funding with first responders and transit providers.</li> <li>• Consider pilot testing programs for transit and emergency response and a more active involvement in project review for small projects and not just development projects.</li> <li>• Explore ways to implement a Safe Routes to Transit Program that prioritizes bike and pedestrian access to major transit connection points and transit centers.</li> </ul>

**TABLE 6: UNINCORPORATED COUNTY PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS**

Plans, Policies, & Programs	Benchmark	County Response	Recommended Action Items
<p><b>Bicycle Parking Ordinance</b> Bicyclists become pedestrians after parking their bicycles. Safe and convenient bicycle parking is essential for encouraging bicycle travel (especially in-lieu of vehicle travel).</p>	Key Strength	The Napa County municipal code has an ordinance for bicycle parking, which includes the required number of spaces and dimensions. It also requires bicycle parking to be near the entrance to the building if feasible, as well as the provision of covered spaces, which may include bicycle lockers or indoor parking.	<ul style="list-style-type: none"> <li>Expanding the bicycle parking ordinance to include provisions for bicycle parking at transit stops, pedestrian clearances, as well as support facilities where long-term bicycle parking is provided.</li> </ul>
<p><b>Collision Reporting</b> Identifying and responding to collision patterns on a regular basis is an important reactive approach to pedestrian safety (which may be combined with proactive measures).</p>	Key Strength	All collisions are reviewed by staff as they arrive and monitored for recurring patterns.	<ul style="list-style-type: none"> <li>Geo-coding (mapping) and comprehensive monitoring using Crossroads software would allow for more proactive pedestrian safety projects and best practices such as collision typing for countermeasure selection. GIS efforts may be funded through an Office of Traffic Safety grant.</li> <li>Sufficient pedestrian volume data could be used to prioritize collision locations based on collision rates (collisions/daily pedestrian volume). This could lead to a proactive approach to identify treatments and program funding. Volunteers can collect pedestrian volumes and other data at collision locations.</li> </ul>
<p><b>Public Involvement</b> Responding to public concerns through public feedback mechanisms represents a more proactive and inclusive approach to pedestrian safety compared to a conventional approach of reacting to pedestrian collisions. Advisory committees serve as important sounding boards for new policies, programs, and practices. A citizens' pedestrian advisory committee is also a key component of proactive public involvement for identifying pedestrian safety issues and opportunities.</p>	Key Strength	<p>The County has a road safety form on their website which allows the public to send emails reporting roadside hazards, potholes, flooding, or streetlight outages.</p> <p>The Napa County Transportation and Planning Agency has an Active Transportation Advisory Committee that addresses pedestrian and bicycle issues Countywide.</p>	<ul style="list-style-type: none"> <li>Consider adding a page to the County's website dedicated to receiving public input regarding transportation issues and a subsection for pedestrian topics. This category or subcategory may allow residents to file comments or complaints for traffic control devices or dangerous conditions.</li> </ul>
<p><b>Transportation Demand Management</b></p>	Key Strength	Employers of 50 or more full-time workers in the Bay Area	<ul style="list-style-type: none"> <li>Develop a policy that supports the "Car</li> </ul>

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<p>Transportation Demand Management (TDM) programs encourage multi-modal travel by incentivizing non-auto options. As new development occurs, TDM programs can be expanded, formalized, and strengthened.</p>		<p>are required to provide commuter benefits to their employees through The Bay Area Commuter Benefits Program to comply with California SB 1339. The Program includes benefit options like transit passes, employer-provided shuttles, and vanpool subsidies.</p>	<p>Free” tourism program of the Napa Valley Destination Council and NCTPA, which provides information to visitors so they can plan a trip without relying solely on a car. Prioritize improved access to transit in the unincorporated areas as part of this policy.</p>
<p><b>Coordination with Health Agencies</b> Involving non-traditional partners such as public health agencies, pediatricians, etc., in the planning or design of pedestrian facilities may create opportunities to be more proactive with pedestrian safety, identify pedestrian safety challenges and education venues, and secure funding. Additionally, under-reporting of pedestrian-vehicle collisions could be a problem that may be partially mitigated by involving the medical community in pedestrian safety planning.<sup>11</sup></p>	<p>Key Strength</p>	<p>Live Healthy Napa County, a coalition of local community stakeholders for improving health in Napa County, recently completed the Napa County Community Health Improvement Plan (CHIP) in February 2014. The document proposes a plan to address health issues through new policies and health promotion strategies, including transportation policies that encourage walking and biking.</p> <p>Live Healthy Napa County is also working to complete the first ever Napa County Community Obesity Prevention Plan, which addresses the need to increase active transportation options Countywide.</p>	<ul style="list-style-type: none"> <li>• Seek opportunities to include sidewalk projects and other pedestrian improvements in the County’s Capital Improvement Program to align with goals in the CHIP for improving the built environment to encourage active transportation.</li> <li>• Ensure consistency with the CHIP by seeking partnership opportunities between health agencies and SRTS to expand the reach of education and promotion of walking.</li> </ul>
<p><b>Design and Development Standards</b> Design policies and development standards can improve the pedestrian walking experience, encourage walking, enhance economic vitality, and offer funding opportunities for pedestrian improvements.</p>	<p>Enhancement</p>	<p>The Napa County 2011 Road and Street Standards include typical cross-sections for roadways based on development density. Cross-sections for new high-density development include sidewalks on both sides of the street. Although the Standards state that an improved walkway will be provided on both sides of urban arterials and collectors in low density developments, typical cross sections for low density show an asphalt concrete sidewalk on one side of the road.</p> <p>For development on existing bus routes, the Standards require collaborating with the Napa County Transportation and Planning Agency.</p> <p>The Airport Industrial Area Specific Plan includes sidewalks and parkways as part of its typical street sections.</p>	<ul style="list-style-type: none"> <li>• Review the County Road and Street Standards to ensure improved walkways are provided on both sides of urban arterials and collectors for low density development.</li> <li>• Develop a pedestrian typology hierarchy for existing unincorporated roadways and assign appropriate pedestrian cross-sections for each. Include roadways with transit stops as a higher pedestrian priority. Identify baseline safety enhancements for roadways where separate pedestrian facilities will not be provided, potentially due to remote location, narrow right-of-way, high speeds, or a safety concern for pedestrians.</li> </ul>

<sup>11</sup> Sciortino, S., Vassar, M., Radetsky, M. and M. Knudson, “San Francisco Pedestrian Injury Surveillance: Mapping, Underreporting, and Injury Severity in Police and Hospital Records,” *Accident Analysis and Prevention*, Volume 37, Issue 6, November 2005, Pages 1102-1113

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<p><b>Complete Streets Policy</b> Routine Accommodations or Complete Streets Policies accommodate all modes of travel and travelers of all ages and abilities.</p>	<p>Enhancement</p>	<p>The County of Napa has a Complete Streets policy that was adopted in 2013. The policy applies to public works projects only; however, the General Plan does include a policy to evaluate development projects on the extent of integrating pedestrian access to parking lots.</p> <p>As part of policy implementation, all transportation projects in the County must be reviewed by the Active Transportation Advisory Committee (ATAC) of NCTPA early in the planning stages to provide comments and recommendations. Routine data collection is also required to evaluate how well all users are being served by the transportation network.</p> <p>Sidewalks and parkways are the responsibility of each fronting property owner to construct during development, as impact fees are minimal and pay for traffic projects (typically lane expansions) only.</p>	<ul style="list-style-type: none"> <li>• Consider additional opportunities for Complete Streets, specifically pedestrian pathways and/or sidewalks, during restriping, repaving, new roadway construction, and utility installation projects.</li> <li>• Develop a checklist for project review to ensure routine application of the Complete Streets policy.</li> <li>• Consider mapping data collected as part of the policy evaluation in GIS, to include pedestrian volumes collected in this Plan.</li> </ul>
<p><b>ADA Improvements</b> Compliance with the Americans with Disability Act (ADA) guidelines is important not only to enhance community accessibility, but also to improve walking conditions for all pedestrians.</p> <p>An ADA Transition Plan sets forth the process for bringing public facilities into compliance with ADA regulations.</p>	<p>Enhancement</p>	<p>ADA accessibility is a concern in the unincorporated County near transit stops, especially along Solano Avenue.</p>	<ul style="list-style-type: none"> <li>• Consider adopting an ADA Transition Plan to track ADA improvements and create a plan for future priorities and enhancements.</li> <li>• Set aside funding for identified ADA improvements in this Plan.</li> <li>• Conduct detailed ADA field surveys of additional priority corridors listed in this Plan to document potential deficiencies.</li> </ul>
<p><b>Historical Preservation</b> Historic walking routes, such as the famous Freedom Trail in Boston, encourage walking and enhance economic vitality.</p>	<p>Enhancement</p>	<p>The Community Character Element of the General Plan highlights historic and cultural resources in the County and the importance of preserving the history of the native tribes that lived in the Napa region. Multiple historic resources are listed in the Element and include a variety of houses, wineries, resorts, and bridges.</p> <p>Policies in the Community Character Element focus on creating a more comprehensive inventory of historic resources and improving public awareness of cultural preservation through education, public outreach, and</p>	<ul style="list-style-type: none"> <li>• Expand the listed public awareness programs in Community Character Element Policy CC-20 to include development of a map to showcase natural or local sites of interest, with links to key features in the County. Identify feasibility of a walking tour/route map between sites, especially for historic buildings and sites on open space/conservation land.</li> <li>• Maps of the recommended tour route and historic documentation materials could be</li> </ul>

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		partnerships with other stakeholders.	made available online along with way-finding signs and plaques, recommended in the Community Character Element, throughout the County.
<p><b>Pedestrian Safety Education Program</b> Education is a critical element for a complete and balanced approach to improving pedestrian safety. Education campaigns may target pedestrians of all ages.</p>	Enhancement	In accordance with policies in the Napa Bike Plan and the General Plan, NCTPA is planning to pursue grant funding through the California Office of Traffic Safety (OTS) for a media safety campaign for motorists. The campaign will use Pittsburgh’s Drive With Care campaign for inspiration, which characterizes bicyclists and pedestrians as our firefighters, doctors, and neighbors and uses the slogan “someone you care about rides a bike”. The OTS will release a call for projects around November 2015 for their 2017 funding cycle.	<ul style="list-style-type: none"> <li>Coordinate with NCTPA on pursuing a media safety campaign, and consider the following methods to distribute the campaign in the unincorporated County: <ul style="list-style-type: none"> <li>Include advertisements on buses and bus shelters, through SRTS and in-school curriculum, public service announcements, and/or brochures distributed by law enforcement, among many other strategies.</li> </ul> </li> <li>Pedestrian safety brochures should be distributed to the public independent of the media campaign to promote walking to community events.</li> </ul>
<p><b>Safe Routes to Schools</b> Safe-Routes-to-School (SRTS) programs encourage children to safely walk or bicycle to school. The programs are important both for increasing physical activity (and reducing childhood obesity) and for reducing morning traffic associated with school drop-off, as much as 30% of morning peak hour traffic.</p> <p>Educational components of SRTS programs are especially important for school children where safe walking habits may be instilled as lifelong lessons. Funding for programs and/or projects is available at the state and federal levels.</p>	Enhancement	<p>The Napa County Office of Education currently has a three year grant to administer a Safe Routes To School Program through 2016. Program leaders have a goal of reaching every interested school by the end of the grant term, and plan to work with schools in American Canyon, Napa, Howell Mountain, and Calistoga in 2015.</p> <p>Events such as Walk and Roll to School Day have been hosted in Napa, as well as Safe Walking education presentations for students in grades K-3. Brochures are handed out during this program as well as at staff meetings, PTA/parent meetings, community health fairs, and farmers markets. Parent presentations include a review of pedestrian laws and ordinances.</p> <p>Although materials for these programs are available each year for schools across the County, reaching schools on a weekly or yearly basis has not been possible due to understaffing and scarcity of volunteers.</p>	<ul style="list-style-type: none"> <li>Seek partners to form school-specific committees of community agencies, parents, advocates, City staff, community health representatives, and other stakeholders to administer SRTS programs at each school in Napa. Hold regular meetings to maintain stakeholder involvement.</li> <li>Use distances from schools from parent survey results to determine feasibility of rolling out Walking School Bus program for unincorporated schools.</li> <li>Coordinate with NCTPA to seek additional funding for SRTS, to include allocating local sales tax money or starting a transportation tax to emulate local jurisdictions such as Marin and Sonoma.</li> </ul>
<p><b>Open Space Requirements</b> Residents typically rate open space as</p>	Enhancement	Rural urban limit lines prevent development in the unincorporated areas, preserving vast areas of open space.	<ul style="list-style-type: none"> <li>Adopt open space requirements for PCAs to include provisions for pedestrian safety</li> </ul>

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among a jurisdiction’s key assets and needs. Open space may encourage walking, especially for recreational trips.		The County has designated priority opens spaces as part of the Association of Bay Area Governments (ABAG) Priority Conservation Area (PCA) program.	and accessibility.
<b>Inventory of Pedestrian Facilities</b> A GIS-based sidewalk inventory enables project identification and prioritization, as well as project coordination with new development, roadway resurfacing, etc.	Opportunity	The unincorporated County maintains a Countywide GIS database, but it does not include pedestrian facilities.	<ul style="list-style-type: none"> <li>• Maintain the GIS facility database created by this Plan by updating the inventory as facilities are added or changed and to the extent that staff has local knowledge, expand inventory to areas outside of initial 50 miles.</li> <li>• Expand the GIS sidewalk inventory to include informal pathways and potential pedestrian opportunity areas in the County.</li> </ul>
<b>Pedestrian Volumes</b> Pedestrian volume data is important for prioritizing projects, developing collision rates, and determining appropriate pedestrian infrastructure.	Opportunity	The County of Napa does not collect pedestrian volumes as a matter of routine.	<ul style="list-style-type: none"> <li>• Routinely collect pedestrian volumes with all transportation impact studies (TIAs). Consider using volumes for collision monitoring and justification for pedestrian improvements.</li> <li>• Use collected pedestrian volumes from this Plan to identify pedestrian nodes in the next update to the General Plan.</li> </ul>
<b>Identifying Crossing Barriers</b> Crossing barriers such as railroads, freeways, and major arterials may discourage or even prevent pedestrian access. Additionally, crossing barriers are often associated with vehicle-pedestrian collisions. Identifying and removing barriers, as well as preventing new barriers, is essential for improving walkability and pedestrian safety.	Opportunity	<p>Pedestrian facilities are continued along County overcrossings of roadways with existing pedestrian accommodations.</p> <p>General barriers to walking include terrain and topography as well as high speed roadways, which often have narrow shoulders and serve as roadways to carry vehicles through the County. The low rural density of development also limits walking to many destinations in the County.</p>	<ul style="list-style-type: none"> <li>• Identify specific locations where potential crossing barriers exist in this Plan. This could include needs for improved trail crossings, access to transit stops, or tourist areas.</li> </ul>
<b>Street Tree Ordinance</b> Street trees enhance the pedestrian environment by providing shade and a buffer from vehicles. Street trees may also enhance property values, especially in residential neighborhoods. However, street trees, when improperly selected, planted, or	Opportunity	The County does not have a street tree ordinance.	<ul style="list-style-type: none"> <li>• Ensure proper maintenance and pedestrian clearance for any street trees that may be planted in residential areas or near transit stops.</li> </ul>

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<p>maintained, may cause damage to adjacent public utilities.</p>			
<p><b>Pedestrian-Oriented Traffic Warrants / Traffic Control Devices</b>          Providing all-way stop or signal control at an intersection may improve pedestrian safety by reducing speeds and controlling pedestrian-vehicle conflicts. The MUTCD defines warrants for installing signals and stop signs.</p> <p>The 2014 California <i>Manual of Uniform Traffic Control Devices</i> (MUTCD) requires the installation of countdown pedestrian signals for all crosswalks at new or modified signals where the pedestrian interval is more than 7 seconds.</p> <p>Leading Pedestrian Intervals (LPIs) can reduce conflicts between turning vehicles and pedestrians by providing pedestrians with a “head start” signal timing before vehicles on the parallel street are allowed to proceed through an intersection.</p>	<p>Opportunity</p>	<p>The County uses MUTCD warrants for signals and stop signs.</p> <p>The County of Napa has few traffic signals, and relies on the City of Napa for maintenance and operation. Countdown signals have not been installed at any of the County signals.</p>	<ul style="list-style-type: none"> <li>• Consider using pedestrian-friendly signal and stop sign warrants for unincorporated roadways that border incorporated areas or potential pedestrian generators. Best practices for stop-sign warrant application include:             <ul style="list-style-type: none"> <li>○ Requiring a collision history of three instead of five years based on routine underreporting</li> <li>○ Reducing traffic volume thresholds based on latent demand</li> <li>○ Providing consideration for school children, pedestrians and traffic speeds</li> </ul> </li> <li>• Expand the GIS-based inventory to include pedestrian-related markings and traffic signals with pedestrian facilities.</li> </ul>
<p><b>Speed Limits and Speed Surveys</b>          Pedestrian fatality rates increase exponentially with vehicle speed. Thus, reducing vehicle speeds in pedestrian zones may be one of the most important strategies for enhancing pedestrian safety.</p>	<p>Opportunity</p>	<p>In Napa County, speed surveys are conducted every five years, along with an Engineering &amp; Traffic Survey, following MUTCD guidelines.</p> <p>For unincorporated roadways without posted speed limits, the de facto speed limit is 55 mph.</p>	<ul style="list-style-type: none"> <li>• Proactively consider pedestrian volumes when setting speed limits.</li> <li>• Consider employing traffic calming strategies in potential pedestrian locations near incorporated areas or other pedestrian generators where speed surveys suggest traffic speeds are too high for pedestrian areas.</li> <li>• Ensure design standards do not contribute to a routine need for traffic calming in potential pedestrian areas.</li> </ul>
<p><b>Crosswalk Design Guidelines</b></p>	<p>Opportunity</p>	<p>The County uses the MUTCD warrants for decisions on</p>	<ul style="list-style-type: none"> <li>• Consider adopting a crosswalk policy as</li> </ul>

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<p>A formal policy for crosswalk installation, removal, and enhancement provides transparency in decision-making and creates a consistent application of treatments Citywide.</p>		<p>placing crosswalks. Crosswalks are not always placed on all approaches of signalized intersections.</p>	<p>part of this Plan that reflects best practices and recent research to include criteria for appropriate locations to install crosswalk enhancements such as flashing beacons, advanced yield markings, or in-roadway pedestrian signs.</p> <ul style="list-style-type: none"> <li>• Include criteria in the cross walk policy for identifying, installing, and enhancing crossings where strong desire lines exist, especially near transit stops in the County.</li> </ul>
<p><b>Law Enforcement</b> Enforcement of pedestrian right-of-way laws and speed limits is an important complement to engineering treatments and education programs.</p>	<p>Opportunity</p>	<p>Traffic enforcement in the unincorporated area is covered by the California Highway Patrol. While the County has no designated traffic safety officers, traffic safety is incorporated into all officer positions.</p> <p>An officer from the Golden Gate Division of the CHP who partners with the Napa Police Department recently made outreach efforts to educate motorists about pedestrian safety laws at community events and has attended ATAC meetings. NCTPA is working to train CHP officers to work on similar efforts Countywide.</p>	<ul style="list-style-type: none"> <li>• Coordinate with NCTPA to train officers in pedestrian safety enforcement principles and education outreach efforts. Invite officers to ATAC meetings on a quarterly basis.</li> <li>• Seek opportunities for increased enforcement of speeding on unincorporated roadways near incorporated areas and potential pedestrian nodes.</li> <li>• Consider designating traffic safety officers who conduct pedestrian related enforcement activities, such as monitoring school circulation activity at unincorporated schools.</li> <li>• Implement sustained pedestrian safety enforcement efforts and involve the media. Coordinate with NCTPA on the media safety campaign that NCTPA is pursuing, as an opportunity for education by distributing pedestrian safety pamphlets in-lieu of, or in addition to, citations.</li> </ul>
<p><b>Traffic Calming Programs</b> Traffic Calming Programs and policies set forth a systematic and consistent approach for addressing neighborhood requests and approvals, as well as standard treatments and criteria.</p>	<p>Opportunity</p>	<p>The County of Napa does not have a Traffic Calming Program.</p>	<ul style="list-style-type: none"> <li>• Consider adopting a Traffic Calming program for pedestrian concerns that arise from residents who live in or near unincorporated roadways. This could be a hybrid of existing programs in the incorporated areas of the County.</li> </ul>

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<p><b>General Plan</b></p> <p>Planning principles contained in a city's General Plan can provide an important policy context for developing pedestrian-oriented, walkable areas. Transit-oriented development, higher densities, and mixed uses are important planning tools for pedestrian-oriented areas.</p> <p>A city's General Plan is also a key opportunity to establish the framework for pedestrian orientation. The Circulation Element of the Plan typically assigns roadway typologies, which can include a layered network approach with prioritized corridors for transit, pedestrian, bicycle, and auto travel.</p>	<p>Opportunity</p>	<p>Density is very low in the unincorporated area. Pockets of commercial development exist in Rutherford and Oakville and are within walking distance of small residential developments. There are also areas of commercial and residential development on the fringes of incorporated areas, as well as several schools.</p> <p>While the General Plan supports and encourages pedestrian activity, it also has a policy to preserve the rural character of the roadways outside urbanized areas.</p> <p>A Ridge Trail crossing for pedestrians and bicyclists over Jamieson Canyon Road is listed as a supported improvement to be implemented when funding becomes available. The General Plan also includes an objective to decrease the percentage of single-occupant vehicle work trips in the County to 50% by the year 2030.</p>	<ul style="list-style-type: none"> <li>• Use collected pedestrian volumes from this Plan to identify pedestrian nodes in the next update to the General Plan, especially near transit stops in the County.</li> <li>• Develop roadway typologies in this Plan to identify any prioritized corridors for pedestrians.</li> </ul>
<p><b>Coordination with Emergency Response and Transit Providers</b></p> <p>Emergency response vehicles require special roadway design considerations that sometimes conflict with bicycle and pedestrian treatments. For example, while pedestrians benefit from reduced speeds of smaller curb radii, larger vehicles such as fire trucks and buses have more difficulty performing the turn within the smaller space. These conflicts require consensus building between the City and the respective departments.</p>	<p>Opportunity</p>	<p>EMS is involved in some aspects of the general planning process, and recently weighed in on road improvements for the SR 29 channelization.</p>	<ul style="list-style-type: none"> <li>• Seek opportunities for technical collaboration and funding with first responders and transit providers.</li> <li>• In accordance with the General Plan and the Napa Bike Plan, explore ways to implement a Safe Routes to Transit Program that prioritizes bike and pedestrian access to major transit connection points and transit centers.</li> </ul>

Criterion	Yes/No	Weight
Local support / significance		
Improves safety for children or seniors		
Improves access to transit		
Improves accessibility for the disabled		
Improves connectivity for tourists (located within ¼ mile of a hotel or resort)		
Provides a key connection (sidewalk gap, trail connection, etc.)		
Supports goals of an existing Plan (General Plan / Specific Plan / Bike Plan)		
Provides opportunity for coordination with nearby project		
Enables a complete street		
Fundable		
Cost		



June 4, 2015  
TAC Agenda Item 7.3  
Continued From: New  
Action Requested: **APPROVE**

## NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY TAC Agenda Letter

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**TO:** Technical Advisory Committee (TAC)  
**FROM:** Kate Miller, Executive Director  
**REPORT BY:** Diana Meehan, Associate Planner  
(707) 259-8327 / Email: [dmeehan@nctpa.net](mailto:dmeehan@nctpa.net)  
**SUBJECT:** Transportation for Clean Air (TFCA) Fiscal Year End (FYE) 2016  
Project List

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### **RECOMMENDATION**

That the TAC recommend that the NCTPA Board approve the TFCA FYE 2016 project list.

### **EXECUTIVE SUMMARY**

Annually the NCTPA adopts a list of projects for the TFCA Program Manager funds generated under AB 434. The funds come from a four-dollar vehicle license fee imposed by the Bay Area Air Quality Management District (BAAQMD) and are known as Transportation Fund for Clean Air (TFCA). Forty percent of these funds are returned to the NCTPA for distribution to local projects. The remaining sixty percent is allocated by the BAAQMD on an area-wide competitive basis.

### **FISCAL IMPACT**

Is there a Fiscal Impact? Yes. TFCA funds for FYE 2016 - \$264,833  
Is it currently budgeted? Yes

Where is it budgeted? FYE 2016 TFCA funds

Future fiscal impact: No

Consequences if not approved: TFCA FYE 2016 Projects will not be funded

## **BACKGROUND AND DISCUSSION**

The Transportation Fund for Clean Air (TFCA) is a grant program, funded by a \$4 surcharge on motor vehicles registered in the Bay Area. This generates approximately \$22 million per year in revenues. The purpose of the TFCA program is to provide grants to implement the most cost-effective projects in the Bay Area that will decrease motor vehicle emissions, and thereby improve air quality. BAAQMD rules and statutes only allow funds to be retained for two years unless an extension is requested.

Projects must have an air quality benefit and be cost effective. Generally, the TFCA program can fund a wide range of project types, including the construction of new bicycle lanes; shuttle and feeder bus services to train stations; ridesharing programs to encourage carpool and transit use; bicycle facility improvements such as bicycle racks and lockers; and arterial management projects that reduce traffic congestion such as signal interconnect projects.

Annually the NCTPA adopts a list of projects for the TFCA Program Manager funds. Napa County has approximately \$274,835 in Program Manager Funds for FYE 2016. This amount includes \$10,002 set aside for Administration costs for NCTPA in the FYE 2016 Expenditure Plan, leaving \$264,833 for eligible projects.

On February 18, 2015 the NCTPA Board opened a call for projects for the TFCA Program Manager Funds which closed on April 3, 2015. NCTPA received three projects, two from the City of Napa and one from the County of Napa. All projects are eligible and absorb the majority of FYE 2016 funds available.

There is \$7,083 remaining for future programming if the three projects submitted exceed their cost effectiveness ratio. Both City of Napa projects are at maximum cost effectiveness. NCTPA staff is working with the County to understand whether there is additional funding capacity for their project.

The proposed final list of projects for FYE 2015 is shown in Table 1 below. All projects have undergone a cost effective analysis and are eligible to receive funds. Approved projects will be submitted to the BAAQMD.

Table 1: Proposed FYE 2016 TFCA Program Manager Projects

<b>FYE 2016 TFCA Expenditures</b>	<b>Amount</b>
Administration Costs for FYE 2016	\$10,002
City of Napa SR 29 Undercrossing	\$114,250
City of Napa Tulocay Creek Bridge and Trail	\$125,000
County of Napa Hybrid Vehicles (14)	\$ 18,500
<b>TOTAL</b>	<b>\$ 267,752</b>

**SUPPORTING DOCUMENTS**

Attachment(s): (1) TFCA Final Project Applications for FYE 2016

## PROJECT INFORMATION

- A. Project Number: 16NAP01
- B. Project Title: State Route 29 Bicycle and Pedestrian Undercrossing
- C. TFCA Program Manager Funds Allocated: \$114,250
- D. TFCA Regional Funds Awarded (if applicable): \_\_\_\_\_
- E. Total TFCA Funds Allocated (sum of C and D): \$114,250
- F. Total Project Cost: \$595,760
- G. Project Description:  
*Project sponsor will use TFCA funds to complete a Class 1 bicycle and pedestrian undercrossing path under State Route 29. This class 1 path will complete a gap closure linking the Class 2 bike lanes on California Boulevard with the Class 1 path that connects to the Class 2 bike lanes on First Street.*
- H. Final Report Content: Final Report form and final Cost Effectiveness Worksheet  
*The Form for Bicycle Projects will be completed and submitted after project completion.*
- I. Attach a copy of Cost-effectiveness Worksheet and any other information used to evaluate the proposed project.  
*Attached to this project information sheet is the following:*  
*a. Cost-effectiveness Worksheet*
- J. Comments (if any):

**RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS  
FYE 2016 TFCA Program Manager Fund Worksheet**

Version 2016.1, updated 12/22/14

Instructions are available in Appendix G of the County Program Manager Fund Expenditure Plan Guidance Fiscal Year Ending 201  
<http://www.baaqmd.gov/Divisions/Strategic-Incentives/Funding-Sources/TFCA/County-Program-Manager-Fund.aspx>

**RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS  
 FYE 2016 TFCA Progam Manager Fund Worksheet**

Version 2016.1, updated 12/22/14

**General Information Tab:** Complete areas shaded in yellow.

Project Number (16XXYY)	16NAP01
Project Title	State Route 29 Bicycle and Pedestrian Undercrossing
Project Type Code (e.g., 7a)	7a
County (2-3 character abbreviation)	NAP
Worksheet Calculated By	Lorien Clark
Date of Submission	42097
<b>Project Sponsor</b>	
Project Sponsor Organization	City of Napa
Public Agency? (Y or N)	Y
Contact Name	Julie Lucido
Email Address	<a href="mailto:jlucido@cityofnapa.org">jlucido@cityofnapa.org</a>
Phone Number	707-257-9690
Mailing Address	1600 First Street
City	Napa
State	CA
Zip	94559
<b>Project Schedule</b>	
Project Start Date	10/1/2015
Project Completion Date	12/20/2017
Final Report to CMA	5/31/2018

# RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS

FYE 2016 TFCA Program Manager Fund Worksheet

Version 2016.1, updated 12/22/14

Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
# Years Effectiveness:	20
Total Project Cost:	\$595,760
TFCA Cost 40%:	
TFCA Cost 60%:	
Total TFCA Cost:	\$114,250

Regional Fund Proj. #:

## Emission Reduction Calculations

### Step 1 - Emissions for Eliminated Trips

A	B	C	D	E	F	G	H	I
# Trips/Day (1-way)	Days/Yr	Trip Length (1-way)	VMT	ROG Emissions (gr/yr)	NOx Emissions (gr/yr)	Exhaust & Trip End PM10 Emissions (gr/yr) *	Other PM10 Emissions (gr/yr) *	CO2 Emissions (gr/yr)
100	250	16	400,000	59,150	56,050	972	76,765	135,806,658
111	240	3	79,920	21,818	14,705	288	15,338	27134170.18
			0	0	0	0	0	0.00
		Total	79,920	21,818	14,705	288	15,338	27134170.18

### Step 2 - Emissions for New Trips to Access Transit/Ridesharing

A	B	C	D	E	F	G	H	I
# Trips/Day (1-way)	Days/Yr	Trip Length (1-way)	VMT	ROG Emissions (gr/yr)	NOx Emissions (gr/yr)	Exhaust & Trip End PM10 Emissions (gr/yr) *	Other PM10 Emissions (gr/yr) *	CO2 Emissions (gr/yr)
50	250	3	37,500	10,238	6,900	135	7,197	12,731,874
			0	0	0	0	0	0.00
			0	0	0	0	0	0.00
		Total	0	0	0	0	0	0.00

### Step 3A - Emissions for Shuttle/Vanpool Vehicles up to GVW of 14,000 lbs.

A	B	C	D	E	F	G	H	I	J	K	L	M	N
# Vehicles, Model Year	Emission Std.	Vehicle GVW	ROG Factor (gr/mi)	NOx Factor (g/mi)	Exhaust PM10 Factor (g/mi)	Total PM10 Factor (g/mi)	CO2 Factor (g/mi) (See CO2 Table for LD and LHD)	Total Annual VMT (sum all vehicles)	ROG Emissions (gr/yr)	NOx Emissions (gr/yr)	Exhaust PM10 Emissions (gr/yr)	Other PM10 Emissions (gr/yr)	CO2 Emissions (gr/yr)
2, 2005	LEV	10,001-14,000	0.23	0.40	0.12	0.33	860	8000	1,840	3,200	960	1,680	6,880,000
									0	0	0	0	0
									0	0	0	0	0
							Total	0	0	0	0	0	0

### Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N
# Vehicles	Engine Year, Make, & Model	Retrofit Device Name	ROG Factor (gr/mi)	NOx Factor (g/mi)	Exhaust PM10 Factor (g/mi)	Other PM10 Factor (g/mi)	CO2 Factor (g/mi)	Total Annual VMT (sum all vehicles)	ROG Emissions (gr/yr)	NOx Emissions (gr/yr)	Exhaust PM10 Emissions (gr/yr)	Other PM10 Emissions (gr/yr)	CO2 Emissions (gr/yr)
									0	0	0	0	0.00
									0	0	0	0	0.00
							Total	0	0	0	0	0	0.00

## Cost Effectiveness Results

	Annual	Lifetime	
1. VMT Reduced	79,920	1,598,400	Miles
2. Trips Reduced	26,640	532,800	Trips
3. ROG Emissions Reduced	0.02	0.48	Tons
4. NOx Emissions Reduced	0.02	0.32	Tons
5. PM Emissions Reduced	0.02	0.34	Tons
6. PM Weighted Emissions Reduced	0.02	0.46	Tons
7. CO2 Emissions Reduced	29.9	598.2	Tons
8. Emission Reductions (ROG, NOx & PM)	0.06	1.15	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		\$99,377	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). THIS VALUE MUST MEET POLICY REQUIREMENTS.		\$89,948	/Ton

Linda Hui: CO2 values are not updated (12/17/2014)

## Notes & Assumptions

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*Provide all assumptions, rationales, and references for figures used in calculations.*

Emission Reduction Inputs were taken from the Bicycle Project section of the County Program Manager Fund Expenditure Plan Guidance for Fiscal Year

### **BACKGROUND INFO:**

This project is a Class 1 bicycle project

This is a gap closure project, linking two existing Class 2 bike lanes and an existing Class 1 path with a Class 1 path

With this gap closed the length of the facility is >2 miles

### **CALC INPUTS:**

# Years Effectiveness: Not to exceed 20 years for Class 1 projects: **20**

# Trips/Day (1-way) eliminated (depends on length of project segment and ADT on project segment):

For Class 1 projects, use the ADT on the most appropriate parallel road: **First Street ADT is 18,557**

For Class 1 project with ADT > 12,000 and ≤ 24,000 and Length > 2 miles = **0.6% ADT**

**18557 x .006 = 111 trips per day**

Days/Yr: Default assumption is 240 days: **240**

Trip Length (oneway): Default assumption is 3 miles: **3**

Ending 2016 for Transportation Fund for Clean Air.

**RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS**  
**FYE 2016**  
 Version 2016.1, updated 12/22/14

Average Auto Emission Factors							
Yrs Eff	ROG		NOx		PM		PM Commute Trip End
	Trip Fac.	Run Emis.	Trip Fac.	Run Emis.	Exhaust	Tire, Brakes, Road PM	
1	0.755	0.188	0.299	0.213	0.00216	0.19191	0.00648
2	0.764	0.191	0.303	0.217	0.00216	0.19191	0.00648
3	0.764	0.191	0.303	0.217	0.00216	0.19191	0.00648
4	0.764	0.191	0.303	0.217	0.00216	0.19191	0.00648
5	0.764	0.191	0.303	0.217	0.00216	0.19191	0.00648
6	0.614	0.153	0.233	0.172	0.00216	0.19191	0.00432
7	0.614	0.153	0.233	0.172	0.00216	0.19191	0.00432
8	0.614	0.153	0.233	0.172	0.00216	0.19191	0.00432
9	0.614	0.153	0.233	0.172	0.00216	0.19191	0.00432
10	0.614	0.153	0.233	0.172	0.00216	0.19191	0.00432
11	0.521	0.132	0.189	0.146	0.00216	0.19191	0.00432
12	0.521	0.132	0.189	0.146	0.00216	0.19191	0.00432
13	0.521	0.132	0.189	0.146	0.00216	0.19191	0.00432
14	0.521	0.132	0.189	0.146	0.00216	0.19191	0.00432
15	0.521	0.132	0.189	0.146	0.00216	0.19191	0.00432
16	0.462	0.119	0.162	0.130	0.00216	0.19191	0.00432
17	0.462	0.119	0.162	0.130	0.00216	0.19191	0.00432
18	0.462	0.119	0.162	0.130	0.00216	0.19191	0.00432
19	0.462	0.119	0.162	0.130	0.00216	0.19191	0.00432
20	0.462	0.119	0.162	0.130	0.00216	0.19191	0.00432

**Sources:**  
 Methods to Find the Cost-Effectiveness of Funding Air Quality Projects, Tables 3 & 3a, Average Auto Emission Factors  
 California Air Resources Board, Table dated May 2013  
 Using columns covering years of project implementation; methodology per Yvette DiCarlo (ARB), Feb. 2010.  
 PM per Methods to Find the Cost-Effectiveness of Funding Air Quality Projects, Emission Factor Tables, Table 4, March 2010

CO2 Emission Factors		
Gasoline	1	16.4 lbs/gal
Diesel	2	21.3 lbs/gal
CNG (from gasoline)		15.96 lbs/gal
CNG (from diesel)		17.50 lbs/gal
Electric		4.02 lbs/gal
Approx. Fleet Avg		17 lbs/gal

CO2 factors from Amir Fanai (BAAQMD) - updated from EMFAC 2011 Version 1.1

Fuel Consumption		VTM %	Weighted
Lt. Duty Cars & Trucks		21.9 mpg	85.8%
Md. Duty	1	13.9 mpg	13.7%
Diesel Bus	2	4.6 mpg	0.5%
			<b>Weighted Avg 20.7</b>

**ARB Table 2:**

Baseline Vehicle					
Based on LEV II standards with 120,000 mile durability					
Weight (lbs.)	ROG	NOx	PM10		CO <sub>2</sub> <sup>4</sup>
			Exhaust	Total <sup>3</sup>	
Up to 8500	0.09	0.07	0.01	0.21	546
8501-10,000	0.195	0.2	0.12	0.32	735
10,001-14,000	0.23	0.4	0.12	0.32	824

Source: Based on LEV II standards; ARB LEV II Final Regulation Order

Cleaner Vehicles (2004+)					
Ultra low-emission light-duty and medium-duty vehicle (ULEV) emission factors in grams per mile with 120,000 mile durability					
Weight (lbs.)	ROG	NOx	PM10		CO <sub>2</sub>
			Exhaust	Total <sup>3</sup>	
Up to 8500	0.06	0.06	0.010	0.053	546
8501-10,000	0.143	0.2	0.058	0.121	735
10,001-14,000	0.167	0.4	0.058	0.126	824

Super ultra low-emission vehicle (SULEV) factors in grams per mile with 120,000 mile durability					
Weight (lbs.)	ROG	NOx	PM10		CO <sub>2</sub>
			Exhaust	Total <sup>3</sup>	
Up to 8500	0.01	0.02	0.010	0.053	546
8501-10,000	0.1	0.1	0.058	0.121	735
10,001-14,000	0.117	0.2	0.058	0.126	824

Zero-emission light-duty and medium-duty vehicle (ZEV) emission factors in grams per mile					
Weight (lbs.)	ROG	NOx	PM10		CO <sub>2</sub>
			Exhaust	Total <sup>3</sup>	
Up to 8500	0	0	0	0.0432	92
8501-10,000	0	0	0	0.0432	92
10,001-14,000	0	0	0	0.0432	144

Source: California Air Resources Board - Methods to Find the Cost-Effectiveness of Funding Air Quality Projects.  
<sup>1</sup> Gross vehicle weights can be associated with passenger capacity as follows: 5751-8500, roughly 8 passengers.  
<sup>3</sup> Total PM10 factors include exhaust, brake wear, and entrained road dust.

**CO2 Table for Light- and Light Heavy-Duty Shuttles**

CO2 Emission Factors for Shuttle/Vanpool Vehicles up to 14,000 lbs.

GVWR	CO2 (gr/mi)		
	Up to 8500	8501-10,000	10,001-14,000
LEV	546	735	824
ULEV	546	735	824
SULEV*	546	735	824
ZEV	92	92	144

\* Also PZEV and AT-PZEV

**Sources:**  
 CO2 factors from Amir Fanai (BAAQMD) - updated from EMFAC 2011 Version 1.1

**Gasoline Medium-Duty Vehicles (g/mile): 5,751-8,500 lbs**

Model Year	ROG <sup>c</sup>	NOx	Exhaust PM10	Other PM	CO2
1995	0.99	1.74	0.06	0.191	519.0
1996	0.74	1.25	0.05	0.191	514.8
1997	0.59	1.25	0.05	0.191	514.8
1998	0.30	1.05	0.05	0.191	516.0
1999	0.26	0.87	0.05	0.191	517.3
2000	0.23	0.68	0.05	0.191	580.5
2001	0.19	0.52	0.05	0.191	581.4
2002	0.18	0.52	0.05	0.191	582.1
2003	0.16	0.51	0.05	0.191	582.1

Source: EMFAC 2007 Emission Rates for MDV vehicle category for evaluation in calendar year 2014. Avra Goldman 2014.

**ARB Table 5-C:**

Diesel<sup>b</sup> Medium Heavy-Duty Vehicles (g/mile)<sup>a</sup>: 14,001-33,000 lbs

Model Year	ROG <sup>c</sup>	NOx	Exhaust PM2.5	Exhaust PM10	Other PM	CO2 <sup>a</sup>	CO2 Running	CO2 Idle
Pre-1987	0.75	14.52	0.64	0.69	0.244	1308.7	1,305.843	530.332

**Conversion from PM2.5 to PM10, Autos**

	Proportion distribution	PM2.5	conversion factor PM2.5 to PM10	PM10
Exhaust	N/A	0.002	1.08	<b>0.00216</b>
BW + TW	100%	0.015	N/A	N/A
Brake wear (BW)	89%	0.01602	2.33	0.0373
Tire wear (TW)	11%	0.00198	4	0.0079
Road Dust (RD)	N/A	0.022	0.15	0.1467
<b>BW + TW + RD:</b>				<b>0.1919</b>
Commute Trip End 1-5 years		0.006	1.08	0.0065
Commute Trip End 6-20 years		0.004	1.08	0.0043

**Sources:**  
 Proportion distribution of BW and TW - EMFAC 207 Emission Inventory, Calendar Year 2014, LDT1, LTD2, and MYC, PM2.5  
 Conversion factors for Exhaust, BW and TW - ARB document: <http://www.arb.ca.gov/planning/tsaq/eval/pmtables.pdf>.  
 Conversion factor for RD - methodology and factor from Dennis Wade, ARB, confirmed by Amir Fanai, 2014, Conversion = PM2.5/Factor  
 PM2.5 figures from of Methods to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2013), Table 3A

**Additional Resources:**  
 Dennis Wade: ARB - 916-327-2963 (EMFAC)  
 Annie Huang: ARB - 916-323-8475 (emissions inventory)

**Other PM Conversion from PM2.5 to PM10, Diesel Buses**

	PM2.5	conversion factor PM2.5 to PM10	PM10
Brake wear (BW)	0.361	2.33	0.8411
Tire wear (TW)	0.002	4	0.0080
Road Dust (RD)	0.022	0.15	0.1467
<b>BW + TW + RD:</b>			<b>0.9958</b>

**Sources:**  
 Proportion distribution of BW and TW - EMFAC 2007 Emission Inventory, Calendar Year 2014, LDT1, LTD2, and MYC, PM2.5  
 Conversion factors for Exhaust, BW and TW - ARB document: <http://www.arb.ca.gov/planning/tsaq/eval/pmtables.pdf>.  
 Conversion factor for RD - methodology and factor from Dennis Wade, ARB, confirmed by Amir Fanai, 2014, Conversion = PM2.5/Factor  
 PM2.5 figures from of Methods to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2013), Table 1

**Additional Resources:**  
 Dennis Wade: ARB - 916-327-2963 (EMFAC)  
 Annie Huang: ARB - 916-323-8475 (emissions inventory)

**Other PM10, Diesel Fleet**

	PM10	PM10	PM10	PM10
	LIGHT HEAVY DUTY	LIGHT HEAVY DUTY	MEDIUM HEAVY DUTY	HEAVY HEAVY DUTY
8501-10000 lbs		10001-14000 lbs		
Brake wear (BW)	0.07644	0.08918	0.06174	0.13034
Tire wear (TW)	0.01200	0.01200	0.03600	0.01200
Road Dust (RD)	0.14667	0.14667	0.14667	0.14667
<b>BW + TW + RD:</b>	<b>0.2351</b>	<b>0.2478</b>	<b>0.2444</b>	<b>0.2890</b>

Source for BW and TW: EMFAC 2011, Average of statewide diesel fleet, aggregate all model years, aggregate all speeds  
 Source for RD: Methods to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2013), Table 1, PM2.5 converted to PM10

**Other PM10, Gasoline Fleet**

	PM10
<b>MDV, MHDV, HHDV, and Urban Buses</b>	
Brake wear (BW)	0.03675
Tire wear (TW)	0.00800
Road Dust (RD)	0.14667
<b>BW + TW + RD:</b>	<b>0.1914</b>

Source for BW and TW: EMFAC 2011, Average of BAAQMD Gasoline Fleet  
 Source for RD: Methods to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2013), Table 1, PM2.5 converted to PM10

1987-1990	0.59	14.31	0.69	0.75	0.244	1273.1	1,264.837	561.962
1991-1993	0.26	10.7	0.38	0.41	0.244	1216.9	1,217.210	592.639
1994-1997	0.2	10.51	0.21	0.23	0.244	1171.0	1,170.193	634.783
1998-2002	0.2	10.33	0.23	0.25	0.244	1201.0	1,199.909	700.165
2003-2006	0.13	6.84	0.14	0.16	0.244	1185.8	1,183.623	748.879
2007-2009	0.11	4.01	0.02	0.02	0.244	1212.9	1,212.876	745.784
2007-2009 (0.5 g/bhp-hr NOx or Cleaner) <sup>a</sup>	0.1	1.73	0.02	0.02	0.244	1212.9	?	?
2010+	0.09	0.74	0.02	0.02	0.244	1171.0	1,172.351	745.784

Source for ROG, NOx, and PM2.5: Methods to Find the Cost-Effectiveness of Funding Air Quality Projects Table 5-C  
 See "Other PM10, Diesel Fleet" for Other PM calculations  
 Source for PM10: Carl Moyer Guidelines, July 11, 2014, Table D-3  
 Source for CO2 Values calculated by Amir Fanaei (BAAQMD) using EMFAC 2007 V2.3  
 a - EMFAC 2011 Zero-Mile Based Emission Factors.  
 b - Emission factors incorporate the ultra low-sulfur diesel fuel correction factors listed in Table D-26 of the Moyer guidelines.  
 c - ROG = HC \* 1.26639.  
 d - These values are interpolated between 1.2 g/bhp-hr Nox standard for 2007-2009 model years and 0.2 g/bhp-hr Nox standard for 2010+ model years.  
 e - CO2 factors include idle exhaust and run exhaust. From EMFAC 2007 for T6 vehicle category. - Avra Goldman 2014

**ARB Table 5-D:**

Diesel <sup>b</sup> Heavy Heavy-Duty Vehicles (g/mile) <sup>b</sup> : 33,001-60,000 lbs								
Model Year	ROG <sup>c</sup>	NOx	Exhaust PM2.5	Exhaust PM10	Other PM	CO2 <sup>e</sup>	CO2 Running	CO2 Idle
Pre-1987	1.09	21.37	1.15	1.25	0.289	5711.6	1,935.301	#####
1987-1990	0.86	21.07	1.25	1.35	0.289	4977.0	1,880.076	#####
1991-1993	0.56	18.24	0.52	0.56	0.289	5069.5	1,809.539	#####
1994-1997	0.42	17.92	0.34	0.37	0.289	5115.6	1,717.578	#####
1998-2002	0.43	17.61	0.37	0.40	0.289	5682.7	1,787.058	#####
2003-2006	0.27	11.64	0.23	0.25	0.289	7076.0	1,761.373	#####
2007-2009	0.23	6.62	0.03	0.03	0.289	15242.9	1,788.855	#####
2007-2009 (0.5 g/bhp-hr NOx or Cleaner) <sup>a</sup>	0.2	2.88	0.03	0.03	0.289	15242.9	?	?
2010+	0.19	1.27	0.03	0.03	0.289	21170.8	1,730.153	#####

Source for ROG, NOx, and PM2.5: Methods to Find the Cost-Effectiveness of Funding Air Quality Projects Table 5-D  
 See "Other PM10, Diesel Fleet" for Other PM calculations  
 Source for PM10: Carl Moyer Guidelines, July 11, 2014, Table D-4  
 a - EMFAC 2011 Zero-Mile Based Emission Factors.  
 b - Emission factors incorporate the ultra low-sulfur diesel fuel correction factors listed in Table D-26 of the Moyer guidelines.  
 c - ROG = HC \* 1.26639.  
 d - These values are interpolated between 1.2 g/bhp-hr Nox standard for 2007-2009 model years and 0.2 g/bhp-hr Nox standard for 2010+ model years.  
 e - CO2 factors include idle exhaust and run exhaust. From EMFAC 2007 for T7 vehicle category. - Avra Goldman 2014

**ARB Table 5-E:**

Diesel Urban Buses (g/mile) <sup>b</sup> : 33,000+ lbs							
EO Certification Standards (g/bhp-hr)	ROG <sup>a</sup>	NOx	Exhaust PM2.5	Exhaust PM10	Other PM	CO2	
6.0 NOX	0.6 PM10	1.15	22.32	1.59	1.73	0.996	2,987.98
5.0 NOX	0.1 PM10	0.96	18.60	0.26	0.29	0.996	2,716.99
5.0 NOX	0.07 PM10	0.96	18.60	0.19	0.20	0.996	2,524.99
4.0 NOX	0.05 PM10	0.77	14.88	0.13	0.14	0.996	2,416.99
2.5 NOX + NMHC	0.05 PM10	0.46	8.84	0.13	0.14	0.996	2,003.00
1.20 NOX	0.01 PM10	0.23	4.46	0.03	0.03	0.996	2,416.99
0.20 NOX	0.01 PM10	0.04	0.74	0.03	0.03	0.996	2,239.81

Source for ROG, NOx, and PM2.5: Methods to Find the Cost-Effectiveness of Funding Air Quality Projects Table 5-E. Source for PM10: Carl Moyer Guidelines, 7/11/14, Table D-5  
 Source for "Other PM": Methods to Find the Cost-Effectiveness of Funding Air Quality Projects Table 1. Average for Tire Wear, Brake Wear, and Road Dust values. PM2.5 converted to PM10.  
 Source for CO2 Values calculated by Amir Fanaei (BAAQMD) using EMFAC 2007 V2.3  
 a - ROG = HC \* 1.26639  
 b - Mileage based emissions factors were calculated using conversion factors from Table D-28 of the Moyer guidelines.  
 f - No diesel buses have been certified to the 0.5 g/bhp-hr for the 2004-2006 model year emission standard.  
 e - CO2 factors include idle exhaust and run exhaust. From EMFAC 2007 for LUBUS vehicle category. - Avra Goldman 2014

**ARB Table 5-F:**

Natural Gas Urban Buses (g/mile) <sup>b</sup> : 33,000+ lbs							
EO Certification Standards (g/bhp-hr)	ROG <sup>a</sup>	NOx	Exhaust PM2.5	Exhaust PM10	Other PM	CO2	
5.0 NOX	0.10 PM10	6.33	20.00	0.37	0.40	0.996	2,535.04
5.0 NOX	0.07 PM10	6.33	20.00	0.26	0.28	0.996	2,535.04
4.0 NOX	0.05 PM10	5.07	16.00	0.18	0.20	0.996	2,535.04
2.5 NOX + NMHC	0.05 PM10	2.53	8.00	0.18	0.20	0.996	2,535.04
1.8 NOX + NMHC <sup>g</sup>	0.02 PM10	1.82	5.76	0.07	0.08	0.996	2,535.04
1.2 NOX	0.01 PM10	1.52	4.80	0.04	0.04	0.996	2,535.04
0.2 NOX	0.01 PM10	0.25	0.80	0.04	0.04	0.996	2,535.04

Source for ROG, NOx, and PM2.5: Methods to Find the Cost-Effectiveness of Funding Air Quality Projects Table 5-F  
 Source for "Other PM": Methods to Find the Cost-Effectiveness of Funding Air Quality Projects Table 1. Average for Tire Wear, Brake Wear, and Road Dust values. PM2.5 converted to PM10.  
 Source for PM10: Carl Moyer Guidelines, July 11, 2014, Table D-6  
 Source for CO2 values: EMFAC 2007 for Diesel Urban bus, aggregate value for CO2, KUNEX (average HCLF) for all model years. Methodology suggested by Dennis Vraze from ARK.  
 Natural gas vehicles are certified to diesel standards. - Avra Goldman  
 a - ROG = HC \* 1.26639  
 b - Mileage based emissions factors were calculated using conversion factors from Table D-28 of the Moyer guidelines.  
 f - A majority of the natural gas urban buses have been certified to the optional standards. Therefore, these values are based on the optional standards.  
 g - many natural gas urban buses have been certified to optional standards below this level.

Alternative Fuel Medium Heavy-Duty Vehicles (g/mile) <sup>b</sup> : 14,001-33,000 lbs						
Model Year	ROG	NOx	Exhaust PM10	Other PM	CO2	
Pre 1990, 6.0 NOX	3.61	11.40	1.140	0.244	1273.1	
1990, 6.0 NOX	3.42	10.80	0.450	0.244	1273.1	
1991-1993, 5.0 NOX	2.85	9.00	0.180	0.244	1216.9	
1994-1997, 5.0 NOX	2.85	9.00	0.180	0.244	1171.0	
1998-2001, 4.0 NOX	2.28	7.20	0.180	0.244	1201.0	
2002-2006, 2.5 NOX	1.14	3.60	0.020	0.244	1185.8	
2007-2009, 1.8 NOX	0.82	2.59	0.020	0.244	1212.9	
2007-2009, 1.5 NOX	0.68	2.16	0.020	0.244	1212.9	
2007-2009, 1.2 NOX	0.55	1.73	0.020	0.244	1212.9	
2007-2009, 0.84 NOX	0.38	1.21	0.020	0.244	1212.9	
2007-2009, 0.5 NOX	0.29	0.90	0.020	0.244	1212.9	
2010+, 0.2 NOX	0.11	0.36	0.020	0.244	1171.0	

Source for ROG, NOx, Method to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2013), table 5-B. Source for PM10: Carl Moyer Guidelines (July 2014), table D-2  
 See "Other PM10, Diesel Fleet" for Other PM calculations  
 Source for CO2 values: use values for medium heavy-duty diesel vehicles, per Dennis Vraze's suggestion (ARK), as all fuel vehicles are certified to diesel standard and all fuel is not available on EMFAC. - Avra Goldman  
 a - Mileage based emissions factors were calculated using conversion factors from Carl Moyer Guidelines, Table D-28 & D-24

Alternative Fuel Heavy Heavy-Duty Vehicles (g/mile) <sup>b</sup> : 33,001-60,000 lbs						
Model Year	ROG	NOx	Exhaust PM10	Other PM	CO2	
Pre 1990, 6.0 NOX	5.89	18.60	1.860	0.289	4977.0	
1990, 6.0 NOX	5.70	18.00	0.750	0.289	4977.0	
1991-1993, 5.0 NOX	4.75	15.00	0.300	0.289	5069.5	
1994-1997, 5.0 NOX	4.59	14.50	0.290	0.289	5115.6	
1998-2001, 4.0 NOX	3.67	11.60	0.290	0.289	5682.7	
2002-2006, 2.5 NOX	1.84	5.80	0.030	0.289	7076.0	
2007-2009, 1.8 NOX	1.32	4.18	0.030	0.289	15242.9	
2007-2009, 1.5 NOX	1.10	3.48	0.030	0.289	15242.9	
2007-2009, 1.2 NOX	0.88	2.78	0.030	0.289	15242.9	
2007-2009, 0.84 NOX	0.62	1.95	0.030	0.289	15242.9	
2007-2009, 0.5 NOX	0.46	1.45	0.030	0.289	15242.9	
2010+, 0.2 NOX	0.18	0.58	0.030	0.289	21170.8	

Source for ROG, NOx, Method to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2013), table 5-B. Source for PM10: Carl Moyer Guidelines (July 2014), table D-2  
 See "Other PM10, Diesel Fleet" for Other PM calculations  
 Source for CO2 values: use values for heavy heavy-duty diesel vehicles, per Dennis Vraze's (ARK) suggestion, as all fuel vehicles are certified to diesel standard and all fuel is not available on EMFAC. - Avra Goldman  
 a - Mileage based emissions factors were calculated using conversion factors from Carl Moyer Guidelines, Table D-28 & D-24

GASOLINE LIGHT-HEAVY DUTY VEHICLES (8501-10000 lbs)							
Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD <sup>a</sup>	CO2	CO2 Running	CO2 Idle
1988	1.018	0.835	0.0267	0.191	972.110	972.1095	116.3645
1989	1.012	0.856	0.0267	0.191	972.110	972.1095	116.3645
1990	1.006	0.876	0.0267	0.191	972.110	972.1095	116.3645
1991	1.228	4.252	0.0150	0.191	972.109	972.1095	116.3645
1992	1.216	4.219	0.0150	0.191	972.110	972.1095	116.3645
1993	1.192	4.154	0.0150	0.191	972.109	972.1095	116.3644
1994	1.174	4.107	0.0150	0.191	972.109	972.1095	116.3645
1995	0.592	2.295	0.0096	0.191	972.109	972.1095	116.3644
1996	0.033	0.538	0.0043	0.191	972.110	972.1095	116.3645
1997	0.033	0.527	0.0043	0.191	972.110	972.1095	116.3644
1998	0.032	0.512	0.0043	0.191	972.109	972.1095	116.3645
1999	0.032	0.501	0.0043	0.191	972.109	972.1095	116.3645
2000	0.031	0.486	0.0043	0.191	972.109	972.1095	116.3644

2001	0.030	0.469	0.0043	0.191	972.110	972.1095	116.3645
2002	0.029	0.364	0.0043	0.191	972.109	972.1095	116.3644
2003	0.029	0.349	0.0043	0.191	972.110	972.1095	116.3645
2004	0.019	0.285	0.0003	0.191	972.109	972.1095	116.3645
2005	0.019	0.270	0.0003	0.191	972.109	972.1095	116.3645
2006	0.018	0.254	0.0003	0.191	972.109	972.1095	116.3645
2007	0.018	0.238	0.0003	0.191	972.110	972.1095	116.3644
2008	0.014	0.147	0.0003	0.191	972.110	972.1095	116.3645
2009	0.011	0.071	0.0003	0.191	972.109	972.1095	116.3644
2010	0.011	0.070	0.0003	0.191	972.109	972.1095	116.3645
2011	0.011	0.069	0.0003	0.191	972.110	972.1095	116.3645
2012	0.014	0.088	0.0003	0.191	972.109	972.1096	116.3645
2013	0.014	0.085	0.0003	0.191	972.110	972.1095	116.3645

GASOLINE LIGHT-HEAVY DUTY VEHICLES (10001-14000 lbs)							CO2 Running	CO2 Idle
Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD*	CO2			
1988	0.978	0.967	0.0267	0.191	972.109	972.1095	116.3645	
1989	0.974	0.980	0.0267	0.191	972.110	972.1095	116.3645	
1990	0.972	0.989	0.0267	0.191	972.109	972.1095	116.3645	
1991	1.151	4.043	0.0150	0.191	972.109	972.1095	116.3645	
1992	1.144	4.024	0.0150	0.191	972.110	972.1095	116.3645	
1993	1.128	3.985	0.0150	0.191	972.109	972.1095	116.3645	
1994	1.109	3.933	0.0150	0.191	972.109	972.1095	116.3644	
1995	0.560	2.198	0.0096	0.191	972.110	972.1095	116.3645	
1996	0.032	0.513	0.0043	0.191	972.109	972.1095	116.3645	
1997	0.032	0.500	0.0043	0.191	972.110	972.1095	116.3645	
1998	0.031	0.489	0.0043	0.191	972.109	972.1096	116.3645	
1999	0.031	0.476	0.0043	0.191	972.110	972.1095	116.3645	
2000	0.030	0.464	0.0043	0.191	972.109	972.1095	116.3645	
2001	0.029	0.448	0.0043	0.191	972.110	972.1095	116.3645	
2002	0.028	0.346	0.0043	0.191	972.109	972.1095	116.3645	
2003	0.027	0.331	0.0043	0.191	972.110	972.1095	116.3645	
2004	0.019	0.273	0.0003	0.191	972.109	972.1095	116.3645	
2005	0.018	0.260	0.0003	0.191	972.110	972.1095	116.3645	
2006	0.018	0.245	0.0003	0.191	972.110	972.1096	116.3644	
2007	0.017	0.230	0.0003	0.191	972.109	972.1095	116.3645	
2008	0.014	0.143	0.0003	0.191	972.110	972.1095	116.3644	
2009	0.011	0.071	0.0003	0.191	972.110	972.1094	116.3645	
2010	0.011	0.070	0.0003	0.191	972.109	972.1095	116.3645	
2011	0.011	0.068	0.0003	0.191	972.109	972.1095	116.3645	
2012	0.014	0.087	0.0003	0.191	972.110	972.1095	116.3644	
2013	0.014	0.085	0.0003	0.191	972.109	972.1096	116.3645	

GASOLINE MEDIUM-HEAVY DUTY VEHICLES							CO2 Running	CO2 Idle
Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD*	CO2			
1988	0.794	2.226	0.0156	0.191	677.446	677.4460	251.5801	
1989	0.792	2.240	0.0156	0.191	677.446	677.4460	251.5801	
1990	0.789	2.261	0.0156	0.191	677.446	677.4460	251.5801	
1991	0.875	6.176	0.0088	0.191	677.446	677.4460	251.5801	
1992	0.868	6.143	0.0088	0.191	677.446	677.4460	251.5801	
1993	0.851	6.057	0.0088	0.191	677.446	677.4461	251.5801	
1994	0.843	6.018	0.0088	0.191	677.446	677.4460	251.5801	
1995	0.848	6.036	0.0088	0.191	677.446	677.4461	251.5801	
1996	0.826	5.920	0.0088	0.191	677.446	677.4460	251.5801	
1997	0.813	5.857	0.0088	0.191	677.446	677.4460	251.5801	
1998	0.938	6.008	0.0025	0.191	677.446	677.4460	251.5801	
1999	0.902	5.835	0.0025	0.191	677.446	677.4460	251.5801	
2000	0.875	5.700	0.0025	0.191	677.446	677.4460	251.5801	
2001	0.845	5.556	0.0025	0.191	677.446	677.4460	251.5801	
2002	0.806	5.368	0.0025	0.191	677.446	677.4460	251.5801	
2003	0.765	5.163	0.0025	0.191	677.446	677.4460	251.5801	
2004	0.016	0.431	0.0002	0.191	677.446	677.4460	251.5801	
2005	0.010	0.239	0.0002	0.191	677.446	677.4460	251.5801	
2006	0.010	0.229	0.0002	0.191	677.446	677.4460	251.5801	
2007	0.010	0.217	0.0002	0.191	677.446	677.4460	251.5801	
2008	0.010	0.165	0.0002	0.191	677.446	677.4460	251.5801	
2009	0.010	0.121	0.0002	0.191	677.446	677.4460	251.5801	
2010	0.010	0.119	0.0002	0.191	677.446	677.4460	251.5801	
2011	0.010	0.117	0.0002	0.191	677.446	677.4460	251.5801	
2012	0.012	0.150	0.0002	0.191	677.446	677.4460	251.5801	
2013	0.012	0.147	0.0002	0.191	677.446	677.4460	251.5801	

GASOLINE HEAVY-HEAVY DUTY VEHICLES							CO2 Running	CO2 Idle
Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD*	CO2			
1988	3.698	15.926	0.0071	0.191	584.667	584.6674	0.0000	
1989	3.622	15.653	0.0071	0.191	584.667	584.6674	0.0000	
1990	3.774	16.209	0.0071	0.191	584.667	584.6674	0.0000	
1991	3.539	15.473	0.0071	0.191	584.667	584.6674	0.0000	
1992	3.563	15.467	0.0071	0.191	584.667	584.6674	0.0000	
1993	3.528	15.315	0.0071	0.191	584.667	584.6674	0.0000	
1994	3.299	14.364	0.0020	0.191	584.667	584.6674	0.0000	
1995	3.324	14.434	0.0020	0.191	584.667	584.6674	0.0000	
1996	3.451	14.818	0.0020	0.191	584.667	584.6674	0.0000	
1997	3.309	14.399	0.0020	0.191	584.667	584.6674	0.0000	
1998	3.976	15.107	0.0020	0.191	584.667	584.6674	0.0000	
1999	3.538	13.679	0.0020	0.191	584.667	584.6674	0.0000	
2000	3.456	13.423	0.0020	0.191	584.667	584.6674	0.0000	
2001	3.613	13.881	0.0020	0.191	584.667	584.6674	0.0000	
2002	3.453	13.385	0.0020	0.191	584.667	584.6674	0.0000	
2003	3.321	13.002	0.0020	0.191	584.667	584.6674	0.0000	
2004	0.570	5.513	0.0002	0.191	584.667	584.6675	0.0000	
2005	0.516	5.137	0.0002	0.191	584.667	584.6675	0.0000	
2006	0.493	4.967	0.0002	0.191	584.667	584.6674	0.0000	
2007	0.427	4.548	0.0002	0.191	584.667	584.6674	0.0000	
2008	0.424	4.496	0.0002	0.191	584.667	584.6674	0.0000	
2009	0.385	4.218	0.0002	0.191	584.667	584.6674	0.0000	
2010	0.345	3.941	0.0002	0.191	584.667	584.6675	0.0000	
2011	0.294	3.581	0.0002	0.191	584.667	584.6674	0.0000	
2012	0.323	4.221	0.0002	0.191	584.667	584.6674	0.0000	
2013	0.248	3.661	0.0002	0.191	584.667	584.6674	0.0000	

GASOLINE URBAN BUS							CO2 Running	CO2 Idle
Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD*	CO2			
1988	3.810	17.435	0.0107	0.191	744.187	744.1871	0.0000	
1989	3.788	17.291	0.0107	0.191	744.187	744.1871	0.0000	
1990	3.795	17.346	0.0107	0.191	744.187	744.1871	0.0000	
1991	3.852	17.609	0.0107	0.191	744.187	744.1871	0.0000	
1992	3.482	16.131	0.0107	0.191	744.187	744.1871	0.0000	
1993	3.835	17.528	0.0107	0.191	744.187	744.1871	0.0000	
1994	3.864	16.727	0.0030	0.191	744.187	744.1871	0.0000	
1995	3.852	16.750	0.0030	0.191	744.187	744.1871	0.0000	
1996	3.476	15.262	0.0030	0.191	744.187	744.1871	0.0000	
1997	3.430	14.993	0.0030	0.191	744.187	744.1870	0.0000	
1998	0.043	1.288	0.0002	0.191	744.187	744.1871	0.0000	
1999	0.043	1.291	0.0002	0.191	744.187	744.1871	0.0000	
2000	0.041	1.204	0.0002	0.191	744.187	744.1871	0.0000	
2001	0.040	1.147	0.0002	0.191	744.187	744.1871	0.0000	
2002	0.038	1.092	0.0002	0.191	744.187	744.1871	0.0000	
2003	0.038	1.075	0.0002	0.191	744.187	744.1871	0.0000	
2004	0.015	0.482	0.0002	0.191	744.187	744.1871	0.0000	
2005	0.015	0.460	0.0002	0.191	744.187	744.1871	0.0000	

2006	0.015	0.438	0.0002	0.191	744.187	744.1871	0.0000
2007	0.015	0.415	0.0002	0.191	744.187	744.1870	0.0000
2008	0.015	0.360	0.0002	0.191	744.187	744.1871	0.0000
<b>2009**</b>	<b>0.015</b>	<b>0.334</b>	<b>0.0002</b>	<b>0.191</b>	<b>744.187</b>		
2010	0.015	0.308	0.0002	0.191	744.187	744.1871	0.0000
2011	0.015	0.270	0.0002	0.191	744.187	744.1871	0.0000
2012	0.015	0.235	0.0002	0.191	744.187	744.1871	0.0000
2013	0.015	0.201	0.0002	0.191	744.187	744.1871	0.0000

GASOLINE MEDIUM DUTY VEHICLES (5751-8500 lbs)						
Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD*	CO2	
1988	0.376	2.150	0.020	0.191	615.035	
1989	0.392	2.169	0.020	0.191	615.415	
1990	0.363	2.108	0.020	0.191	615.650	
1991	0.367	2.117	0.011	0.191	616.189	
1992	0.357	2.088	0.011	0.191	615.413	
1993	0.344	2.046	0.011	0.191	526.819	
1994	0.339	2.031	0.012	0.191	526.809	
1995	0.270	1.743	0.012	0.191	526.884	
1996	0.166	1.251	0.003	0.191	522.670	
1997	0.166	1.250	0.003	0.191	522.631	
1998	0.142	1.051	0.003	0.191	523.860	
1999	0.120	0.867	0.003	0.191	525.204	
2000	0.098	0.684	0.003	0.191	589.354	
2001	0.077	0.516	0.003	0.191	590.273	
2002	0.075	0.516	0.003	0.191	590.987	
2003	0.067	0.514	0.003	0.191	590.986	
2004	0.018	0.114	0.000	0.191	590.714	
2005	0.017	0.102	0.000	0.191	590.976	
2006	0.015	0.076	0.000	0.191	592.201	
2007	0.013	0.071	0.000	0.191	592.154	
2008	0.012	0.070	0.000	0.191	592.337	
2009	0.011	0.068	0.000	0.191	592.685	
2010	0.010	0.062	0.000	0.191	590.749	
2011	0.009	0.056	0.000	0.191	590.948	
2012	0.008	0.051	0.001	0.191	591.071	
2013	0.007	0.047	0.001	0.191	591.205	

Source for ROG, NOX, PM10 Exhaust, PM10 Tire Wear, PM10 Brake Wear, and CO2 from EMFAC2011, updated by Ken Mak, Aug 2014, Verified by Amir F:  
\*Source for PM10 Road Dust from ARB Methods to Find the Cost Effectiveness of Funding Air Quality Projects, May 2013, Table 1, PM2.5 value  
\*\*No Data for 2009 Gasoline UB in EMFAC2011. Values are an average of 2008 and 2010 figures. -Ken Mak, Aug 2014, Suggested by Amir Fanai

## PROJECT INFORMATION

- A. Project Number: 16NAP02
- B. Project Title: Tulocay Creek Bridge and Trail
- C. TFCA Program Manager Funds Allocated: \$125,000
- D. TFCA Regional Funds Awarded (if applicable): \_\_\_\_\_
- E. Total TFCA Funds Allocated (sum of C and D): \$125,000
- F. Total Project Cost: \$688,125
- G. Project Description:  
*Project sponsor will use TFCA funds to construct a Class 1 multi-use path between the new Tulocay Creek bicycle/pedestrian bridge and the Riverfront Green Park at Soscol Avenue and Third Street. This project will provide a gap closure in the bicycle facilities network linking the Class 1 path that terminates at the bridge to the Class 1 path at the Riverfront Green Park, which connects to the Class 2 bike lanes on Soscol Avenue.*
- H. Final Report Content: Final Report form and final Cost Effectiveness Worksheet  
*The Form for Bicycle Projects will be completed and submitted after project completion.*
- I. Attach a copy of Cost-effectiveness Worksheet and any other information used to evaluate the proposed project.  
*Attached to this project information sheet is the following:*  
*a. Cost-effectiveness Worksheet*
- J. Comments (if any):

**RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS  
FYE 2016 TFCA Program Manager Fund Worksheet**

Version 2016.1, updated 12/22/14

Instructions are available in Appendix G of the County Program Manager Fund Expenditure Plan Guidance Fiscal Year Ending 201  
<http://www.baaqmd.gov/Divisions/Strategic-Incentives/Funding-Sources/TFCA/County-Program-Manager-Fund.aspx>

**RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS  
 FYE 2016 TFCA Progam Manager Fund Worksheet**

Version 2016.1, updated 12/22/14

**General Information Tab:** Complete areas shaded in yellow.

Project Number (16XXYY)	16NAP02
Project Title	Tulocay Creek Bridge and Trail
Project Type Code (e.g., 7a)	7a
County (2-3 character abbreviation)	NAP
Worksheet Calculated By	Lorien Clark
Date of Submission	42097
<b>Project Sponsor</b>	
Project Sponsor Organization	City of Napa
Public Agency? (Y or N)	Y
Contact Name	Julie Lucido
Email Address	<a href="mailto:jlucido@cityofnapa.org">jlucido@cityofnapa.org</a>
Phone Number	707-257-9690
Mailing Address	1600 First Street
City	Napa
State	CA
Zip	94559
<b>Project Schedule</b>	
Project Start Date	11/1/2015
Project Completion Date	1/1/2016
Final Report to CMA	10/31/2016

# RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS

FYE 2016 TFCA Program Manager Fund Worksheet

Version 2016.1, updated 12/22/14

Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
# Years Effectiveness:	20
Total Project Cost:	\$688,125
TFCA Cost 40%:	
TFCA Cost 60%:	
Total TFCA Cost:	\$125,000

Regional Fund Proj. #:

## Emission Reduction Calculations

### Step 1 - Emissions for Eliminated Trips

A	B	C	D	E	F	G	H	I
# Trips/Day (1-way)	Days/Yr	Trip Length (1-way)	VMT	ROG Emissions (gr/yr)	NOx Emissions (gr/yr)	Exhaust & Trip End PM10 Emissions (gr/yr) *	Other PM10 Emissions (gr/yr) *	CO2 Emissions (gr/yr)
100	250	16	400,000	59,150	56,050	972	76,765	135,806,658
130	240	3	93,600	25,553	17,222	337	17,963	31778757.87
			0	0	0	0	0	0.00
		Total	93,600	25,553	17,222	337	17,963	31778757.87

### Step 2 - Emissions for New Trips to Access Transit/Ridesharing

50	250	3	37,500	10,238	6,900	135	7,197	12,731,874
			0	0	0	0	0	0.00
			0	0	0	0	0	0.00
		Total	0	0	0	0	0	0.00

### Step 3A - Emissions for Shuttle/Vanpool Vehicles up to GVW of 14,000 lbs.

A	B	C	D	E	F	G	H	I	J	K	L	M	N
See Emission Factor Tab, ARB Table 2 or 7													
# Vehicles, Model Year	Emission Std.	Vehicle GVW	ROG Factor (gr/mi)	NOx Factor (g/mi)	Exhaust PM10 Factor (g/mi)	Total PM10 Factor (g/mi)	CO2 Factor (g/mi) (See CO2 Table for LD and LHD)	Total Annual VMT (sum all vehicles)	ROG Emissions (gr/yr)	NOx Emissions (gr/yr)	Exhaust PM10 Emissions (gr/yr)	Other PM10 Emissions (gr/yr)	CO2 Emissions (gr/yr)
2, 2005	LEV	10,001-14,000	0.23	0.40	0.12	0.33	860	8000	1,840	3,200	960	1,680	6,880,000
									0	0	0	0	0
									0	0	0	0	0
							Total	0	0	0	0	0	0

### Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N
See Emission Factors Tab, Emissions for Buses Table													
# Vehicles	Engine Year, Make, & Model	Retrofit Device Name	ROG Factor (gr/mi)	NOx Factor (g/mi)	Exhaust PM10 Factor (g/mi)	Other PM10 Factor (g/mi)	CO2 Factor (g/mi)	Total Annual VMT (sum all vehicles)	ROG Emissions (gr/yr)	NOx Emissions (gr/yr)	Exhaust PM10 Emissions (gr/yr)	Other PM10 Emissions (gr/yr)	CO2 Emissions (gr/yr)
									0	0	0	0	0.00
									0	0	0	0	0.00
							Total	0	0	0	0	0	0.00

## Cost Effectiveness Results

	Annual	Lifetime	
1. VMT Reduced	93,600	1,872,000	Miles
2. Trips Reduced	31,200	624,000	Trips
3. ROG Emissions Reduced	0.03	0.56	Tons
4. NOx Emissions Reduced	0.02	0.38	Tons
5. PM Emissions Reduced	0.02	0.40	Tons
6. PM Weighted Emissions Reduced	0.03	0.54	Tons
7. CO2 Emissions Reduced	35.0	700.6	Tons
8. Emission Reductions (ROG, NOx & PM)	0.07	1.35	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		\$92,836	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). THIS VALUE MUST MEET POLICY REQUIREMENTS.		\$84,028	/Ton

Linda Hui: CO2 values are not updated (12/17/2014)

## Notes & Assumptions

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*Provide all assumptions, rationales, and references for figures used in calculations.*

Emission Reduction Inputs were taken from the Bicycle Project section of the County Program Manager Fund Expenditure Plan Guidance for Fiscal Year

### **BACKGROUND INFO:**

This project is a Class 1 bicycle project

This is a gap closure project, linking two existing Class 1 paths and an existing Class 2 bicycle lane with a Class 1 path

With this gap closed the length of the facility is >2 miles

### **CALC INPUTS:**

# Years Effectiveness: Not to exceed 20 years for Class 1 projects: **20**

# Trips/Day (1-way) eliminated (depends on length of project segment and ADT on project segment):

For Class 1 projects, use the ADT on the most appropriate parallel road: **Soscol Avenue (SR121) is 29,000 ADT**

For Class 1 project with ADT > 24,000 and ≤ 30,000 and Length > 2 miles = **0.45% ADT**

**29000 x .0045 = 130 trips per day**

Days/Yr: Default assumption is 240 days: **240**

Trip Length (oneway): Default assumption is 3 miles: **3**

Ending 2016 for Transportation Fund for Clean Air.

**RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS**  
**FYE 2016**  
 Version 2016.1, updated 12/22/14

Yrs Eff	ROG		NOx		PM		PM Commute Trip End
	Trip Fac.	Run Emis.	Trip Fac.	Run Emis.	Exhaust	Tire, Brakes, Road PM	
1	0.755	0.188	0.299	0.213	0.00216	0.19191	0.00648
2	0.764	0.191	0.303	0.217	0.00216	0.19191	0.00648
3	0.764	0.191	0.303	0.217	0.00216	0.19191	0.00648
4	0.764	0.191	0.303	0.217	0.00216	0.19191	0.00648
5	0.764	0.191	0.303	0.217	0.00216	0.19191	0.00648
6	0.614	0.153	0.233	0.172	0.00216	0.19191	0.00432
7	0.614	0.153	0.233	0.172	0.00216	0.19191	0.00432
8	0.614	0.153	0.233	0.172	0.00216	0.19191	0.00432
9	0.614	0.153	0.233	0.172	0.00216	0.19191	0.00432
10	0.614	0.153	0.233	0.172	0.00216	0.19191	0.00432
11	0.521	0.132	0.189	0.146	0.00216	0.19191	0.00432
12	0.521	0.132	0.189	0.146	0.00216	0.19191	0.00432
13	0.521	0.132	0.189	0.146	0.00216	0.19191	0.00432
14	0.521	0.132	0.189	0.146	0.00216	0.19191	0.00432
15	0.521	0.132	0.189	0.146	0.00216	0.19191	0.00432
16	0.462	0.119	0.162	0.130	0.00216	0.19191	0.00432
17	0.462	0.119	0.162	0.130	0.00216	0.19191	0.00432
18	0.462	0.119	0.162	0.130	0.00216	0.19191	0.00432
19	0.462	0.119	0.162	0.130	0.00216	0.19191	0.00432
20	0.462	0.119	0.162	0.130	0.00216	0.19191	0.00432

**Sources:**  
 Methods to Find the Cost-Effectiveness of Funding Air Quality Projects, Tables 3 & 3a, Average Auto Emission Factors  
 California Air Resources Board, Table dated May 2013  
 Using columns covering years of project implementation; methodology per Yvette DiCarlo (ARB), Feb. 2010.  
 PM per Methods to Find the Cost-Effectiveness of Funding Air Quality Projects, Emission Factor Tables, Table 4, March 2010

CO2 Emission Factors		
Gasoline	1	16.4 lbs/gal
Diesel	2	21.3 lbs/gal
CNG (from gasoline)		15.96 lbs/gal
CNG (from diesel)		17.50 lbs/gal
Electric		4.02 lbs/gal
Approx. Fleet Avg		17 lbs/gal

CO2 factors from Amir Fanai (BAAQMD) - updated from EMFAC 2011 Version 1.1

Fuel Consumption	VTM %	Weighted
Lt. Duty Cars & Trucks	21.9 mpg	85.8% 18.8
Md. Duty	13.9 mpg	13.7% 1.9
Diesel Bus	4.6 mpg	0.5% 0.0
Weighted Avg		20.7

**ARB Table 2:**

Baseline Vehicle					
Based on LEV II standards with 120,000 mile durability					
Weight (lbs.)	ROG	NOx	PM10		CO <sub>2</sub> <sup>4</sup>
			Exhaust	Total <sup>3</sup>	
Up to 8500	0.09	0.07	0.01	0.21	546
8501-10,000	0.195	0.2	0.12	0.32	735
10,001-14,000	0.23	0.4	0.12	0.32	824

Source: Based on LEV II standards; ARB LEV II Final Regulation Order

Cleaner Vehicles (2004+)					
Ultra low-emission light-duty and medium-duty vehicle (ULEV) emission factors in grams per mile with 120,000 mile durability					
Weight (lbs.)	ROG	NOx	PM10		CO <sub>2</sub>
			Exhaust	Total <sup>3</sup>	
Up to 8500	0.06	0.06	0.010	0.053	546
8501-10,000	0.143	0.2	0.058	0.121	735
10,001-14,000	0.167	0.4	0.058	0.126	824

Super ultra low-emission vehicle (SULEV) factors in grams per mile with 120,000 mile durability					
Weight (lbs.)	ROG	NOx	PM10		CO <sub>2</sub>
			Exhaust	Total <sup>3</sup>	
Up to 8500	0.01	0.02	0.010	0.053	546
8501-10,000	0.1	0.1	0.058	0.121	735
10,001-14,000	0.117	0.2	0.058	0.126	824

Zero-emission light-duty and medium-duty vehicle (ZEV) emission factors in grams per mile					
Weight (lbs.)	ROG	NOx	PM10		CO <sub>2</sub>
			Exhaust	Total <sup>3</sup>	
Up to 8500	0	0	0	0.0432	92
8501-10,000	0	0	0	0.0432	92
10,001-14,000	0	0	0	0.0432	144

Source: California Air Resources Board - Methods to Find the Cost-Effectiveness of Funding Air Quality Projects.  
<sup>1</sup> Gross vehicle weights can be associated with passenger capacity as follows: 5751-8500, roughly 8 passengers.  
<sup>3</sup> Total PM10 factors include exhaust, brake wear, and entrained road dust.

**CO2 Table for Light- and Light Heavy-Duty Shuttles**

CO2 Emission Factors for Shuttle/Vanpool Vehicles up to 14,000 lbs.

GVWR	CO2 (gr/mi)		
	Up to 8500	8501-10,000	10,001-14,000
LEV	546	735	824
ULEV	546	735	824
SULEV*	546	735	824
ZEV	92	92	144

\* Also PZEV and AT-PZEV

**Sources:**  
 CO2 factors from Amir Fanai (BAAQMD) - updated from EMFAC 2011 Version 1.1

**Gasoline Medium-Duty Vehicles (g/mile): 5,751-8,500 lbs**

Model Year	ROG <sup>c</sup>	NOx	Exhaust PM10	Other PM	CO2
1995	0.99	1.74	0.06	0.191	519.0
1996	0.74	1.25	0.05	0.191	514.8
1997	0.59	1.25	0.05	0.191	514.8
1998	0.30	1.05	0.05	0.191	516.0
1999	0.26	0.87	0.05	0.191	517.3
2000	0.23	0.68	0.05	0.191	580.5
2001	0.19	0.52	0.05	0.191	581.4
2002	0.18	0.52	0.05	0.191	582.1
2003	0.16	0.51	0.05	0.191	582.1

Source: EMFAC 2007 Emission Rates for MDV vehicle category for evaluation in calendar year 2014. Avra Goldman 2014.

**ARB Table 5-C:**

Diesel<sup>b</sup> Medium Heavy-Duty Vehicles (g/mile)<sup>a</sup>: 14,001-33,000 lbs

Model Year	ROG <sup>c</sup>	NOx	Exhaust PM2.5	Exhaust PM10	Other PM	CO2 <sup>a</sup>	CO2 Running	CO2 Idle
Pre-1987	0.75	14.52	0.64	0.69	0.244	1308.7	1,305.843	530.332

**Conversion from PM2.5 to PM10, Autos**

	Proportion distribution	PM2.5	Conversion factor PM2.5 to PM10	PM10
Exhaust	N/A	0.002	1.08	0.00216
BW + TW	100%	0.015	N/A	N/A
Brake wear (BW)	89%	0.01602	2.33	0.0373
Tire wear (TW)	11%	0.00198	4	0.0079
Road Dust (RD)	N/A	0.022	0.15	0.1467
<b>BW + TW + RD:</b>				<b>0.1919</b>
Commute Trip End 1-5 years		0.006	1.08	0.0065
Commute Trip End 6-20 years		0.004	1.08	0.0043

**Sources:**  
 Proportion distribution of BW and TW - EMFAC 207 Emission Inventory, Calendar Year 2014, LDT1, LTD2, and MYC, PM2.5  
 Conversion factors for Exhaust, BW and TW - ARB document: <http://www.arb.ca.gov/planning/tsaq/eval/pmtables.pdf>.  
 Conversion factor for RD - methodology and factor from Dennis Wade, ARB, confirmed by Amir Fanai, 2014, Conversion = PM2.5/Factor  
 PM2.5 figures from Methods to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2013), Table 3A

**Additional Resources:**  
 Dennis Wade: ARB - 916-327-2963 (EMFAC)  
 Annie Huang: ARB - 916-323-8475 (emissions inventory)

**Other PM Conversion from PM2.5 to PM10, Diesel Buses**

	PM2.5	conversion factor PM2.5 to PM10	PM10
Brake wear (BW)	0.361	2.33	0.8411
Tire wear (TW)	0.002	4	0.0080
Road Dust (RD)	0.022	0.15	0.1467
<b>BW + TW + RD:</b>			<b>0.9958</b>

**Sources:**  
 Proportion distribution of BW and TW - EMFAC 2007 Emission Inventory, Calendar Year 2014, LDT1, LTD2, and MYC, PM2.5  
 Conversion factors for Exhaust, BW and TW - ARB document: <http://www.arb.ca.gov/planning/tsaq/eval/pmtables.pdf>.  
 Conversion factor for RD - methodology and factor from Dennis Wade, ARB, confirmed by Amir Fanai, 2014, Conversion = PM2.5/Factor  
 PM2.5 figures from Methods to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2013), Table 1

**Additional Resources:**  
 Dennis Wade: ARB - 916-327-2963 (EMFAC)  
 Annie Huang: ARB - 916-323-8475 (emissions inventory)

**Other PM10, Diesel Fleet**

	PM10	PM10	PM10	PM10
	LIGHT HEAVY DUTY	LIGHT HEAVY DUTY	MEDIUM HEAVY DUTY	HEAVY HEAVY DUTY
8501-10000 lbs				
10001-14000 lbs				
Brake wear (BW)	0.07644	0.08918	0.06174	0.13034
Tire wear (TW)	0.01200	0.01200	0.03600	0.01200
Road Dust (RD)	0.14667	0.14667	0.14667	0.14667
<b>BW + TW + RD:</b>	<b>0.2351</b>	<b>0.2478</b>	<b>0.2444</b>	<b>0.2890</b>

Source for BW and TW: EMFAC 2011, Average of statewide diesel fleet, aggregate all model years, aggregate all speeds  
 Source for RD: Methods to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2013), Table 1, PM2.5 converted to PM10

**Other PM10, Gasoline Fleet**

	PM10
MDV, MHDV, HHDV, and Urban Buses	
Brake wear (BW)	0.03675
Tire wear (TW)	0.00800
Road Dust (RD)	0.14667
<b>BW + TW + RD:</b>	<b>0.1914</b>

Source for BW and TW: EMFAC 2011, Average of BAAQMD Gasoline Fleet  
 Source for RD: Methods to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2013), Table 1, PM2.5 converted to PM10

1987-1990	0.59	14.31	0.69	0.75	0.244	1273.1	1,264.837	561.962
1991-1993	0.26	10.7	0.38	0.41	0.244	1216.9	1,217.210	592.639
1994-1997	0.2	10.51	0.21	0.23	0.244	1171.0	1,170.193	634.783
1998-2002	0.2	10.33	0.23	0.25	0.244	1201.0	1,199.909	700.165
2003-2006	0.13	6.84	0.14	0.16	0.244	1185.8	1,183.623	748.879
2007-2009	0.11	4.01	0.02	0.02	0.244	1212.9	1,212.876	745.784
2007-2009 (0.5 g/bhp-hr NOx or Cleaner) <sup>a</sup>	0.1	1.73	0.02	0.02	0.244	1212.9	?	?
2010+	0.09	0.74	0.02	0.02	0.244	1171.0	1,172.351	745.784

Source for ROG, NOx, and PM2.5: Methods to Find the Cost-Effectiveness of Funding Air Quality Projects Table 5-C  
 See "Other PM10, Diesel Fleet" for Other PM calculations  
 Source for PM10: Carl Moyer Guidelines, July 11, 2014, Table D-3  
 Source for CO2 Values calculated by Amir Fanaei (BAAQMD) using EMFAC 2007 V2.3  
 a - EMFAC 2011 Zero-Mile Based Emission Factors.  
 b - Emission factors incorporate the ultra low-sulfur diesel fuel correction factors listed in Table D-26 of the Moyer guidelines.  
 c - ROG = HC \* 1.26639.  
 d - These values are interpolated between 1.2 g/bhp-hr Nox standard for 2007-2009 model years and 0.2 g/bhp-hr Nox standard for 2010+ model years.  
 e - CO2 factors include idle exhaust and run exhaust. From EMFAC 2007 for T6 vehicle category. - Avra Goldman 2014

**ARB Table 5-D:**

**Diesel<sup>b</sup> Heavy Heavy-Duty Vehicles (g/mile)<sup>b</sup>: 33,001-60,000 lbs**

Model Year	ROG <sup>c</sup>	NOx	Exhaust PM2.5	Exhaust PM10	Other PM	CO2 <sup>e</sup>	CO2 Running	CO2 Idle
Pre-1987	1.09	21.37	1.15	1.25	0.289	5711.6	1,935.301	#####
1987-1990	0.86	21.07	1.25	1.35	0.289	4977.0	1,880.076	#####
1991-1993	0.56	18.24	0.52	0.56	0.289	5069.5	1,809.539	#####
1994-1997	0.42	17.92	0.34	0.37	0.289	5115.6	1,717.578	#####
1998-2002	0.43	17.61	0.37	0.40	0.289	5682.7	1,787.058	#####
2003-2006	0.27	11.64	0.23	0.25	0.289	7076.0	1,761.373	#####
2007-2009	0.23	6.62	0.03	0.03	0.289	15242.9	1,788.855	#####
2007-2009 (0.5 g/bhp-hr NOx or Cleaner) <sup>a</sup>	0.2	2.88	0.03	0.03	0.289	15242.9	?	?
2010+	0.19	1.27	0.03	0.03	0.289	21170.8	1,730.153	#####

Source for ROG, NOx, and PM2.5: Methods to Find the Cost-Effectiveness of Funding Air Quality Projects Table 5-D  
 See "Other PM10, Diesel Fleet" for Other PM calculations  
 Source for PM10: Carl Moyer Guidelines, July 11, 2014, Table D-4  
 a - EMFAC 2011 Zero-Mile Based Emission Factors.  
 b - Emission factors incorporate the ultra low-sulfur diesel fuel correction factors listed in Table D-26 of the Moyer guidelines.  
 c - ROG = HC \* 1.26639.  
 d - These values are interpolated between 1.2 g/bhp-hr Nox standard for 2007-2009 model years and 0.2 g/bhp-hr Nox standard for 2010+ model years.  
 e - CO2 factors include idle exhaust and run exhaust. From EMFAC 2007 for T7 vehicle category. - Avra Goldman 2014

**ARB Table 5-E:**

**Diesel Urban Buses (g/mile)<sup>b</sup>: 33,000+ lbs**

EO Certification Standards <sup>a</sup> (g/bhp-hr)	ROG <sup>a</sup>	NOx	Exhaust PM2.5	Exhaust PM10	Other PM	CO2
6.0 NOX	0.6 PM10	1.15	22.32	1.59	1.73	0.996 2,987.98
5.0 NOX	0.1 PM10	0.96	18.60	0.26	0.29	0.996 2,716.99
5.0 NOX	0.07 PM10	0.96	18.60	0.19	0.20	0.996 2,524.99
4.0 NOX	0.05 PM10	0.77	14.88	0.13	0.14	0.996 2,416.99
2.5 NOX + NMHC	0.05 PM10	0.46	8.84	0.13	0.14	0.996 2,003.00
1.20 NOX	0.01 PM10	0.23	4.46	0.03	0.03	0.996 2,416.99
0.20 NOX	0.01 PM10	0.04	0.74	0.03	0.03	0.996 2,239.81

Source for ROG, NOx, and PM2.5: Methods to Find the Cost-Effectiveness of Funding Air Quality Projects Table 5-E. Source for PM10: Carl Moyer Guidelines, 7/11/14, Table D-5  
 Source for "Other PM": Methods to Find the Cost-Effectiveness of Funding Air Quality Projects Table 1. Average for Tire Wear, Brake Wear, and Road Dust values. PM2.5 converted to PM10.  
 Source for CO2 Values calculated by Amir Fanaei (BAAQMD) using EMFAC 2007 V2.3  
 a - ROG = HC \* 1.26639  
 b - Mileage based emissions factors were calculated using conversion factors from Table D-28 of the Moyer guidelines.  
 c - No diesel buses have been certified to the 0.5 g/bhp-hr for the 2004-2006 model year emission standard.  
 d - CO2 factors include idle exhaust and run exhaust. From EMFAC 2007 for LUBUS vehicle category. - Avra Goldman 2014

**ARB Table 5-F:**

**Natural Gas Urban Buses (g/mile)<sup>b</sup>: 33,000+ lbs**

EO Certification Standards <sup>a</sup> (g/bhp-hr)	ROG <sup>a</sup>	NOx	Exhaust PM2.5	Exhaust PM10	Other PM	CO2
5.0 NOX	0.10 PM10	6.33	20.00	0.37	0.40	0.996 2,535.04
5.0 NOX	0.07 PM10	6.33	20.00	0.26	0.28	0.996 2,535.04
4.0 NOX	0.05 PM10	5.07	16.00	0.18	0.20	0.996 2,535.04
2.5 NOX + NMHC	0.05 PM10	2.53	8.00	0.18	0.20	0.996 2,535.04
1.8 NOX + NMHC <sup>b</sup>	0.02 PM10	1.82	5.76	0.07	0.08	0.996 2,535.04
1.2 NOX	0.01 PM10	1.52	4.80	0.04	0.04	0.996 2,535.04
0.2 NOX	0.01 PM10	0.25	0.80	0.04	0.04	0.996 2,535.04

Source for ROG, NOx, and PM2.5: Methods to Find the Cost-Effectiveness of Funding Air Quality Projects Table 5-F  
 Source for "Other PM": Methods to Find the Cost-Effectiveness of Funding Air Quality Projects Table 1. Average for Tire Wear, Brake Wear, and Road Dust values. PM2.5 converted to PM10.  
 Source for PM10: Carl Moyer Guidelines, July 11, 2014, Table D-6  
 Source for CO2 values: EMFAC 2007 for Diesel Urban bus, aggregate value for CO2, KURNA (average HCLF) for all model years. Methodology suggested by Dennis Vraze from ARS; natural gas vehicles are certified to diesel standards. - Avra Goldman  
 a - ROG = HC \* 1.26639  
 b - Mileage based emissions factors were calculated using conversion factors from Table D-28 of the Moyer guidelines.  
 c - A majority of the natural gas urban buses have been certified to the optional standards. Therefore, these values are based on the optional standards.  
 d - many natural gas urban buses have been certified to optional standards below this level.

**Alternative Fuel Medium Heavy-Duty Vehicles (g/mile)<sup>b</sup>: 14,001-33,000 lbs**

Model Year	ROG	NOx	Exhaust PM10	Other PM	CO2
Pre 1990, 6.0 NOX	3.61	11.40	1.140	0.244	1273.1
1990, 6.0 NOX	3.42	10.80	0.450	0.244	1273.1
1991-1993, 5.0 NOX	2.85	9.00	0.180	0.244	1216.9
1994-1997, 5.0 NOX	2.85	9.00	0.180	0.244	1171.0
1998-2001, 4.0 NOX	2.28	7.20	0.180	0.244	1201.0
2002-2006, 2.5 NOX	1.14	3.60	0.020	0.244	1185.8
2007-2009, 1.8 NOX	0.82	2.59	0.020	0.244	1212.9
2007-2009, 1.5 NOX	0.68	2.16	0.020	0.244	1212.9
2007-2009, 1.2 NOX	0.55	1.73	0.020	0.244	1212.9
2007-2009, 0.84 NOX	0.38	1.21	0.020	0.244	1212.9
2007-2009, 0.5 NOX	0.29	0.90	0.020	0.244	1212.9
2010+, 0.2 NOX	0.11	0.36	0.020	0.244	1171.0

Source for ROG, NOx, Method to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2013), table 5-B. Source for PM10: Carl Moyer Guidelines (July 2014), table D-2  
 See "Other PM10, Diesel Fleet" for Other PM calculations  
 Source for CO2 values: use values for medium heavy-duty diesel vehicles, per Dennis Vraze's suggestion (ARB), as all fuel vehicles are certified to diesel standard and all fuel is not available on EMFAC. - Avra Goldman  
 a - Mileage based emissions factors were calculated using conversion factors from Carl Moyer Guidelines, Table D-28 & D-24

**Alternative Fuel Heavy Heavy-Duty Vehicles (g/mile)<sup>b</sup>: 33,001-60,000 lbs**

Model Year	ROG	NOx	Exhaust PM10	Other PM	CO2
Pre 1990, 6.0 NOX	5.89	18.60	1.860	0.289	4977.0
1990, 6.0 NOX	5.70	18.00	0.750	0.289	4977.0
1991-1993, 5.0 NOX	4.75	15.00	0.300	0.289	5069.5
1994-1997, 5.0 NOX	4.59	14.50	0.290	0.289	5115.6
1998-2001, 4.0 NOX	3.67	11.60	0.290	0.289	5682.7
2002-2006, 2.5 NOX	1.84	5.80	0.030	0.289	7076.0
2007-2009, 1.8 NOX	1.32	4.18	0.030	0.289	15242.9
2007-2009, 1.5 NOX	1.10	3.48	0.030	0.289	15242.9
2007-2009, 1.2 NOX	0.88	2.78	0.030	0.289	15242.9
2007-2009, 0.84 NOX	0.62	1.95	0.030	0.289	15242.9
2007-2009, 0.5 NOX	0.46	1.45	0.030	0.289	15242.9
2010+, 0.2 NOX	0.18	0.58	0.030	0.289	21170.8

Source for ROG, NOx, Method to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2013), table 5-B. Source for PM10: Carl Moyer Guidelines (July 2014), table D-2  
 See "Other PM10, Diesel Fleet" for Other PM calculations  
 Source for CO2 values: use values for heavy heavy-duty diesel vehicles, per Dennis Vraze's (ARB) suggestion, as all fuel vehicles are certified to diesel standard and all fuel is not available on EMFAC. - Avra Goldman  
 a - Mileage based emissions factors were calculated using conversion factors from Carl Moyer Guidelines, Table D-28 & D-24

**GASOLINE LIGHT-HEAVY DUTY VEHICLES (8501-10000 lbs)**

Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD <sup>a</sup>	CO2	CO2 Running	CO2 Idle
1988	1.018	0.835	0.0267	0.191	972.110	972.1095	116.3645
1989	1.012	0.856	0.0267	0.191	972.110	972.1095	116.3645
1990	1.006	0.876	0.0267	0.191	972.110	972.1095	116.3645
1991	1.228	4.252	0.0150	0.191	972.109	972.1095	116.3645
1992	1.216	4.219	0.0150	0.191	972.110	972.1095	116.3645
1993	1.192	4.154	0.0150	0.191	972.109	972.1095	116.3644
1994	1.174	4.107	0.0150	0.191	972.109	972.1095	116.3645
1995	0.592	2.295	0.0096	0.191	972.109	972.1095	116.3644
1996	0.033	0.538	0.0043	0.191	972.110	972.1095	116.3645
1997	0.033	0.527	0.0043	0.191	972.110	972.1095	116.3644
1998	0.032	0.512	0.0043	0.191	972.109	972.1095	116.3645
1999	0.032	0.501	0.0043	0.191	972.109	972.1095	116.3645
2000	0.031	0.486	0.0043	0.191	972.109	972.1095	116.3644

2001	0.030	0.469	0.0043	0.191	972.110	972.1095	116.3645
2002	0.029	0.364	0.0043	0.191	972.109	972.1095	116.3644
2003	0.029	0.349	0.0043	0.191	972.110	972.1095	116.3645
2004	0.019	0.285	0.0003	0.191	972.109	972.1095	116.3645
2005	0.019	0.270	0.0003	0.191	972.109	972.1095	116.3645
2006	0.018	0.254	0.0003	0.191	972.109	972.1095	116.3645
2007	0.018	0.238	0.0003	0.191	972.110	972.1095	116.3644
2008	0.014	0.147	0.0003	0.191	972.110	972.1095	116.3645
2009	0.011	0.071	0.0003	0.191	972.109	972.1095	116.3644
2010	0.011	0.070	0.0003	0.191	972.109	972.1095	116.3645
2011	0.011	0.069	0.0003	0.191	972.110	972.1095	116.3645
2012	0.014	0.088	0.0003	0.191	972.109	972.1096	116.3645
2013	0.014	0.085	0.0003	0.191	972.110	972.1095	116.3645

GASOLINE LIGHT-HEAVY DUTY VEHICLES (10001-14000 lbs)							CO2 Running	CO2 Idle
Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD*	CO2			
1988	0.978	0.967	0.0267	0.191	972.109	972.1095	116.3645	
1989	0.974	0.980	0.0267	0.191	972.110	972.1095	116.3645	
1990	0.972	0.989	0.0267	0.191	972.109	972.1095	116.3645	
1991	1.151	4.043	0.0150	0.191	972.109	972.1095	116.3645	
1992	1.144	4.024	0.0150	0.191	972.110	972.1095	116.3645	
1993	1.128	3.985	0.0150	0.191	972.109	972.1095	116.3645	
1994	1.109	3.933	0.0150	0.191	972.109	972.1095	116.3644	
1995	0.560	2.198	0.0096	0.191	972.110	972.1095	116.3645	
1996	0.032	0.513	0.0043	0.191	972.109	972.1095	116.3645	
1997	0.032	0.500	0.0043	0.191	972.110	972.1095	116.3645	
1998	0.031	0.489	0.0043	0.191	972.109	972.1096	116.3645	
1999	0.031	0.476	0.0043	0.191	972.110	972.1095	116.3645	
2000	0.030	0.464	0.0043	0.191	972.109	972.1095	116.3645	
2001	0.029	0.448	0.0043	0.191	972.110	972.1095	116.3645	
2002	0.028	0.346	0.0043	0.191	972.109	972.1095	116.3645	
2003	0.027	0.331	0.0043	0.191	972.110	972.1095	116.3645	
2004	0.019	0.273	0.0003	0.191	972.109	972.1095	116.3645	
2005	0.018	0.260	0.0003	0.191	972.110	972.1095	116.3645	
2006	0.018	0.245	0.0003	0.191	972.110	972.1096	116.3644	
2007	0.017	0.230	0.0003	0.191	972.109	972.1095	116.3645	
2008	0.014	0.143	0.0003	0.191	972.110	972.1095	116.3644	
2009	0.011	0.071	0.0003	0.191	972.110	972.1094	116.3645	
2010	0.011	0.070	0.0003	0.191	972.109	972.1095	116.3645	
2011	0.011	0.068	0.0003	0.191	972.109	972.1095	116.3645	
2012	0.014	0.087	0.0003	0.191	972.110	972.1095	116.3644	
2013	0.014	0.085	0.0003	0.191	972.109	972.1096	116.3645	

GASOLINE MEDIUM-HEAVY DUTY VEHICLES							CO2 Running	CO2 Idle
Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD*	CO2			
1988	0.794	2.226	0.0156	0.191	677.446	677.4460	251.5801	
1989	0.792	2.240	0.0156	0.191	677.446	677.4460	251.5801	
1990	0.789	2.261	0.0156	0.191	677.446	677.4460	251.5801	
1991	0.875	6.176	0.0088	0.191	677.446	677.4460	251.5801	
1992	0.868	6.143	0.0088	0.191	677.446	677.4460	251.5801	
1993	0.851	6.057	0.0088	0.191	677.446	677.4461	251.5801	
1994	0.843	6.018	0.0088	0.191	677.446	677.4460	251.5801	
1995	0.848	6.036	0.0088	0.191	677.446	677.4461	251.5801	
1996	0.826	5.920	0.0088	0.191	677.446	677.4460	251.5801	
1997	0.813	5.857	0.0088	0.191	677.446	677.4460	251.5801	
1998	0.938	6.008	0.0025	0.191	677.446	677.4460	251.5801	
1999	0.902	5.835	0.0025	0.191	677.446	677.4460	251.5801	
2000	0.875	5.700	0.0025	0.191	677.446	677.4460	251.5801	
2001	0.845	5.556	0.0025	0.191	677.446	677.4460	251.5801	
2002	0.806	5.368	0.0025	0.191	677.446	677.4460	251.5801	
2003	0.765	5.163	0.0025	0.191	677.446	677.4460	251.5801	
2004	0.016	0.431	0.0002	0.191	677.446	677.4460	251.5801	
2005	0.010	0.239	0.0002	0.191	677.446	677.4460	251.5801	
2006	0.010	0.229	0.0002	0.191	677.446	677.4460	251.5801	
2007	0.010	0.217	0.0002	0.191	677.446	677.4460	251.5801	
2008	0.010	0.165	0.0002	0.191	677.446	677.4460	251.5801	
2009	0.010	0.121	0.0002	0.191	677.446	677.4460	251.5801	
2010	0.010	0.119	0.0002	0.191	677.446	677.4460	251.5801	
2011	0.010	0.117	0.0002	0.191	677.446	677.4460	251.5801	
2012	0.012	0.150	0.0002	0.191	677.446	677.4460	251.5801	
2013	0.012	0.147	0.0002	0.191	677.446	677.4460	251.5801	

GASOLINE HEAVY-HEAVY DUTY VEHICLES							CO2 Running	CO2 Idle
Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD*	CO2			
1988	3.698	15.926	0.0071	0.191	584.667	584.6674	0.0000	
1989	3.622	15.653	0.0071	0.191	584.667	584.6674	0.0000	
1990	3.774	16.209	0.0071	0.191	584.667	584.6674	0.0000	
1991	3.539	15.473	0.0071	0.191	584.667	584.6674	0.0000	
1992	3.563	15.467	0.0071	0.191	584.667	584.6674	0.0000	
1993	3.528	15.315	0.0071	0.191	584.667	584.6674	0.0000	
1994	3.299	14.364	0.0020	0.191	584.667	584.6674	0.0000	
1995	3.324	14.434	0.0020	0.191	584.667	584.6674	0.0000	
1996	3.451	14.818	0.0020	0.191	584.667	584.6674	0.0000	
1997	3.309	14.399	0.0020	0.191	584.667	584.6674	0.0000	
1998	3.976	15.107	0.0020	0.191	584.667	584.6674	0.0000	
1999	3.538	13.679	0.0020	0.191	584.667	584.6674	0.0000	
2000	3.456	13.423	0.0020	0.191	584.667	584.6674	0.0000	
2001	3.613	13.881	0.0020	0.191	584.667	584.6674	0.0000	
2002	3.453	13.385	0.0020	0.191	584.667	584.6674	0.0000	
2003	3.321	13.002	0.0020	0.191	584.667	584.6674	0.0000	
2004	0.570	5.513	0.0002	0.191	584.667	584.6675	0.0000	
2005	0.516	5.137	0.0002	0.191	584.667	584.6675	0.0000	
2006	0.493	4.967	0.0002	0.191	584.667	584.6674	0.0000	
2007	0.427	4.548	0.0002	0.191	584.667	584.6674	0.0000	
2008	0.424	4.496	0.0002	0.191	584.667	584.6674	0.0000	
2009	0.385	4.218	0.0002	0.191	584.667	584.6674	0.0000	
2010	0.345	3.941	0.0002	0.191	584.667	584.6675	0.0000	
2011	0.294	3.581	0.0002	0.191	584.667	584.6674	0.0000	
2012	0.323	4.221	0.0002	0.191	584.667	584.6674	0.0000	
2013	0.248	3.661	0.0002	0.191	584.667	584.6674	0.0000	

GASOLINE URBAN BUS							CO2 Running	CO2 Idle
Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD*	CO2			
1988	3.810	17.435	0.0107	0.191	744.187	744.1871	0.0000	
1989	3.788	17.291	0.0107	0.191	744.187	744.1871	0.0000	
1990	3.795	17.346	0.0107	0.191	744.187	744.1871	0.0000	
1991	3.852	17.609	0.0107	0.191	744.187	744.1871	0.0000	
1992	3.482	16.131	0.0107	0.191	744.187	744.1871	0.0000	
1993	3.835	17.528	0.0107	0.191	744.187	744.1871	0.0000	
1994	3.864	16.727	0.0030	0.191	744.187	744.1871	0.0000	
1995	3.852	16.750	0.0030	0.191	744.187	744.1871	0.0000	
1996	3.476	15.262	0.0030	0.191	744.187	744.1871	0.0000	
1997	3.430	14.993	0.0030	0.191	744.187	744.1870	0.0000	
1998	0.043	1.288	0.0002	0.191	744.187	744.1871	0.0000	
1999	0.043	1.291	0.0002	0.191	744.187	744.1871	0.0000	
2000	0.041	1.204	0.0002	0.191	744.187	744.1871	0.0000	
2001	0.040	1.147	0.0002	0.191	744.187	744.1871	0.0000	
2002	0.038	1.092	0.0002	0.191	744.187	744.1871	0.0000	
2003	0.038	1.075	0.0002	0.191	744.187	744.1871	0.0000	
2004	0.015	0.482	0.0002	0.191	744.187	744.1871	0.0000	
2005	0.015	0.460	0.0002	0.191	744.187	744.1871	0.0000	

2006	0.015	0.438	0.0002	0.191	744.187	744.1871	0.0000
2007	0.015	0.415	0.0002	0.191	744.187	744.1870	0.0000
2008	0.015	0.360	0.0002	0.191	744.187	744.1871	0.0000
<b>2009**</b>	<b>0.015</b>	<b>0.334</b>	<b>0.0002</b>	<b>0.191</b>	<b>744.187</b>		
2010	0.015	0.308	0.0002	0.191	744.187	744.1871	0.0000
2011	0.015	0.270	0.0002	0.191	744.187	744.1871	0.0000
2012	0.015	0.235	0.0002	0.191	744.187	744.1871	0.0000
2013	0.015	0.201	0.0002	0.191	744.187	744.1871	0.0000

GASOLINE MEDIUM DUTY VEHICLES (5751-8500 lbs)						
Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD*	CO2	
1988	0.376	2.150	0.020	0.191	615.035	
1989	0.392	2.169	0.020	0.191	615.415	
1990	0.363	2.108	0.020	0.191	615.650	
1991	0.367	2.117	0.011	0.191	616.189	
1992	0.357	2.088	0.011	0.191	615.413	
1993	0.344	2.046	0.011	0.191	526.819	
1994	0.339	2.031	0.012	0.191	526.809	
1995	0.270	1.743	0.012	0.191	526.884	
1996	0.166	1.251	0.003	0.191	522.670	
1997	0.166	1.250	0.003	0.191	522.631	
1998	0.142	1.051	0.003	0.191	523.860	
1999	0.120	0.867	0.003	0.191	525.204	
2000	0.098	0.684	0.003	0.191	589.354	
2001	0.077	0.516	0.003	0.191	590.273	
2002	0.075	0.516	0.003	0.191	590.987	
2003	0.067	0.514	0.003	0.191	590.986	
2004	0.018	0.114	0.000	0.191	590.714	
2005	0.017	0.102	0.000	0.191	590.976	
2006	0.015	0.076	0.000	0.191	592.201	
2007	0.013	0.071	0.000	0.191	592.154	
2008	0.012	0.070	0.000	0.191	592.337	
2009	0.011	0.068	0.000	0.191	592.685	
2010	0.010	0.062	0.000	0.191	590.749	
2011	0.009	0.056	0.000	0.191	590.948	
2012	0.008	0.051	0.001	0.191	591.071	
2013	0.007	0.047	0.001	0.191	591.205	

Source for ROG, NOX, PM10 Exhaust, PM10 Tire Wear, PM10 Brake Wear, and CO2 from EMFAC2011, updated by Ken Mak, Aug 2014, Verified by Amir F:  
\*Source for PM10 Road Dust from ARB Methods to Find the Cost Effectiveness of Funding Air Quality Projects, May 2013, Table 1, PM2.5 value  
\*\*No Data for 2009 Gasoline UB in EMFAC2011. Values are an average of 2008 and 2010 figures. -Ken Mak, Aug 2014, Suggested by Amir Fanai



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Department of Public Works

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Steve Lederer  
Director

April 3, 2015

Attn: Diana Meehan  
Napa County Transportation Planning Agency  
625 Burnell Street  
Napa, CA 94559

Dear Ms. Meehan,

The County of Napa is pleased to submit the enclosed application for funding from the Transportation Fund for Clean Air (TFCA). The nominated project is the *Purchase 14 Hybrid Light-Duty Vehicles*. Purchase of hybrid-electric light-duty vehicles is an allowable use of TFCA funds, and the project meets all requirements as indicated in the Program Guidelines.

With this project, the County of Napa proposes to purchase fourteen light-duty vehicles for use by five county departments. Prior to purchase of these vehicles, the vehicle users have been driving comparable non-hybrid vehicles, which are now of an age to warrant replacement. We anticipate that each vehicle will be driven approximately 5,000 to 10,000 miles per year.

The total cost of the proposed vehicle purchase is estimated at \$372,000. We propose to provide funding for the project as follows:

- TFCA \$18,500
- Local funds \$353,500

The schedule of the project is as follows:

- Vehicle procurement: Eight vehicles in August 2015
- Vehicle procurement: Six vehicles in August 2016

Please contact me at [Rick.Marshall@countyofnapa.org](mailto:Rick.Marshall@countyofnapa.org) or call (707) 259-8381 if you have questions or need additional information.

Regards,

Rick Marshall  
Deputy Director of Public Works  
& County Surveyor

## Appendix A

### PROJECT INFORMATION

A. Project Number: 16NAPXX

B. Project Title: Purchase 14 Hybrid Light-Duty Vehicles

C. TFCA County Program Manager Funds Allocated: \$ \_\_\_\_\_ \$18,500.00

D. TFCA Regional Funds Awarded (if applicable): \$ \_\_\_\_\_ \$0.00

E. Total TFCA Funds Allocated (sum of C and D):\$ \_\_\_\_\_ \$18,500.00

F. Total Project Cost: \$ \_\_\_\_\_ \$372,000.00

*Indicate the TFCA dollars allocated (C, D and E) and total project cost (D). Data from Line E (Total TFCA Funds) should be used to calculate C-E.*

G. Project Description:

Grantee will use TFCA funds to aid the Napa County Public Works Department in the purchase of 11 hybrid and 3 plug-in/hybrid, light-duty vehicles over the next two years in order to replace 14 of the older, higher-emission vehicles in our fleet.

H. Final Report Content: Final Report form and final Cost Effectiveness Worksheet

- Form for Ridesharing, Shuttles, Transit Information, Rail/Bus Integration, Smart Growth, and Traffic Calming Projects (Includes Transit Bus Signal Priority.)*
- Form for Clean Air Vehicle and Infrastructure Projects*
- Form for Bicycle Projects*
- Form for Arterial Management Projects*

I. Attach a completed Cost-effectiveness Worksheet and any other information used to evaluate the proposed project.

J. Comments (if any):

N/A

# **LIGHT-DUTY AND LIGHT HEAVY-DUTY VEHICLE PROJECTS FYE 2016 TFCA County Program Manager Fund Worksheet**

Version 2016.0, updated 12/17/14

Instructions are available in Appendix G of the County Program Manager Fund Expenditure Plan Guidance Fiscal Year Ending 2016  
<http://www.baaqmd.gov/Divisions/Strategic-Incentives/Funding-Sources/TFCA/County-Program-Manager-Fund.aspx>

# LIGHT-DUTY AND LIGHT HEAVY-DUTY VEHICLE PROJECTS FYE 2016 TFCA County Program Manager Fund Worksheet

Version 2016.0, updated 12/17/14

**General Information Tab:** Complete areas shaded in yellow.

Project Number (16XXYY)	16NAPYY
Project Title	Purchase 14 Hybrid Light-Duty Vehicles
Project Type Code (e.g., 7a)	4c
County (2-3 character abbreviation)	NAP
Worksheet Calculated By	Scott Marsh
Date of Submission	4/3/2015
<b>Project Sponsor</b>	
Project Sponsor Organization	Napa County Public Works Department
Public Agency? (Y or N)	Y
Contact Name	Rick Marshall
Email Address	<a href="mailto:rick.marshall@countyofnapa.org">rick.marshall@countyofnapa.org</a>
Phone Number	707-259-8381
Mailing Address	1195 3rd St. Ste 101
City	Napa
State	CA
Zip	94559
<b>Project Schedule</b>	
Project Start Date	8/1/2015
Project Completion Date	12/31/2016
Final Report to CMA	2/1/2017

# LIGHT-DUTY AND LIGHT HEAVY-DUTY VEHICLE PROJECTS

## FYE 2016 TFCA County Program Manager Fund Worksheet

Version 2016.0, updated 12/17/14

Calculations Tab: Complete areas shaded in yellow only.

Cost Effectiveness Inputs			
# Years Effectiveness:	5		
Total Project Cost:	\$372,000		
TFCA Cost 40%:	\$18,500		
TFCA Cost 60%:	\$0	TFCA Regional Fund Proj. #:	N/A (If applicable)
*Total TFCA Cost:	\$18,500	*Should equal Total Amount Requested column (in table below)	

Emission Reduction Calculations																					
Purchase/Lease of New Vehicles																					
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
Vehicle	Unit #/ID	Incremental Cost	Amount Requested	Current Standard	New Vehicle Std.	Gross Veh. Weight (lbs.)	Avg Annual Miles	Current Year Emissions Standard (LEV)-- See Emission Factors Table (gr/mi)				Proposed Vehicle Emission Std. - See Emission Factors Table (gr/mi)				Emission Reductions (gr/yr)				Cost-Effectiveness (\$ / weighted ton)	
Vehicle								NOx	ROG	PM	CO2	NOx	ROG	PM	CO2	NOx	ROG	PM	CO2		
<b>SAMPLE</b>	Hybrid #13	\$4,000	\$500	LEV	SULEV	Up to 8500	10,000	0.06	0.08	0.01	415	0.02	0.01	0.01	415	400	700	0	0	\$82,473	
1	0034	\$9,500	\$2,500	LEV	PZEV	Up to 8500	6,000	0.07	0.09	0.01	415	0.02	0.01	0.01	415	300	480	2	0	\$557,522	
2	0036	\$9,500	\$2,500	LEV	PZEV	Up to 8500	5,500	0.07	0.09	0.01	415	0.02	0.01	0.01	415	275	440	2	0	\$608,206	
3	0059	\$4,500	\$1,000	LEV	PZEV	Up to 8500	7,000	0.07	0.09	0.01	415	0.02	0.01	0.01	415	350	560	2	0	\$191,150	
4	0060	\$4,500	\$1,000	LEV	PZEV	Up to 8500	7,500	0.07	0.09	0.01	415	0.02	0.01	0.01	415	375	600	2	0	\$178,407	
5	0069	\$4,500	\$1,000	LEV	PZEV	Up to 8500	6,000	0.07	0.09	0.01	415	0.02	0.01	0.01	415	300	480	2	0	\$223,009	
6	0090	\$4,500	\$1,000	LEV	PZEV	Up to 8500	6,000	0.07	0.09	0.01	415	0.02	0.01	0.01	415	300	480	2	0	\$223,009	
7	0094	\$4,000	\$1,000	LEV	PZEV	Up to 8500	6,500	0.07	0.09	0.01	415	0.02	0.01	0.01	415	325	520	2	0	\$205,854	
8	0472	\$4,000	\$1,000	LEV	PZEV	Up to 8500	6,000	0.07	0.09	0.01	415	0.02	0.01	0.01	415	300	480	2	0	\$223,009	
9	0029	\$4,000	\$1,000	LEV	PZEV	Up to 8500	5,000	0.07	0.09	0.01	415	0.02	0.01	0.01	415	250	400	1	0	\$267,611	
10	0037	\$4,000	\$1,000	LEV	PZEV	Up to 8500	5,500	0.07	0.09	0.01	415	0.02	0.01	0.01	415	275	440	2	0	\$243,282	
11	0047	\$12,500	\$2,500	LEV	PZEV	Up to 8500	6,000	0.07	0.09	0.01	415	0.02	0.01	0.01	415	300	480	2	0	\$557,522	
12	0048	\$6,500	\$1,000	LEV	PZEV	Up to 8500	4,500	0.07	0.09	0.01	415	0.02	0.01	0.01	415	225	360	1	0	\$297,345	
13	0098	\$4,000	\$1,000	LEV	PZEV	Up to 8500	6,500	0.07	0.09	0.01	415	0.02	0.01	0.01	415	325	520	2	0	\$205,854	
14	0432	\$4,000	\$1,000	LEV	PZEV	Up to 8500	5,500	0.07	0.09	0.01	415	0.02	0.01	0.01	415	275	440	2	0	\$243,282	
* Total Amount Requested			\$18,500													Totals	4,175	6,680	23	0	

Cost-Effectiveness Results for Entire Project			
		Annual	Lifetime
1	ROG Emissions Reduced	0.007	0.037 Tons
2	NOx Emissions Reduced	0.005	0.023 Tons
3	PM Emissions Reduced	0.000	0.000 Tons
4	Weighted PM Emissions Reduced	0.001	0.003 Tons
5	CO2 Emissions Reduced	0.00	0.00 Tons
6	Unweighted Emission Reductions (ROG, NOx & PM)	0.01	0.06 Tons
7	Unweighted TFCA Cost Effectiveness (ROG, NOx & PM)		\$308,561 /Ton
8	TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM)		\$296,455 /Ton

## Notes & Assumptions

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*Provide all assumptions, rationales, and references for figures used in calculations.*

- All Vehicle Standards information comes from DriveClean.ca.gov
- The following are the vehicles being replaced and what they are being replaced with

	Replaced Vehicle	Replaced With	Non-Hybrid Cost <sup>1</sup>	Hybrid Cost <sup>2</sup>	Incremental Cost	Purchase Year
1)	2000 Chevy Malibu	Prius Plug-in Hybrid	\$20,581.00	\$29,990.00	\$9,409.00	FY16
2)	2000 Chevy Malibu	Prius Plug-in Hybrid	\$20,581.00	\$29,990.00	\$9,409.00	FY16
3)	2003 Chevy Cavalier	Prius Hybrid	\$19,851.00	\$24,200.00	\$4,349.00	FY16
4)	2003 Chevy Cavalier	Prius Hybrid	\$19,851.00	\$24,200.00	\$4,349.00	FY16
5)	2001 Chevy Cavalier	Prius Hybrid	\$19,851.00	\$24,200.00	\$4,349.00	FY16
6)	2002 Chevy Cavalier	Prius Hybrid	\$19,851.00	\$24,200.00	\$4,349.00	FY16
7)	2002 Chevy Malibu	Camry Hybrid	\$22,970.00	\$26,790.00	\$3,820.00	FY16
8)	2001 Buick Century	Camry Hybrid	\$22,970.00	\$26,790.00	\$3,820.00	FY16
9)	1998 Chevy Lumina	Camry Hybrid	\$22,970.00	\$26,790.00	\$3,820.00	FY17
10)	2000 Chevy Malibu	Camry Hybrid	\$22,970.00	\$26,790.00	\$3,820.00	FY17
11)	2005 Ford Focus	Prius Plug-in Hybrid	\$17,700.00	\$29,990.00	\$12,290.00	FY17
12)	2005 Ford Focus	Prius Hybrid	\$17,700.00	\$24,200.00	\$6,500.00	FY17
13)	2003 Ford Taurus	Camry Hybrid	\$22,970.00	\$26,790.00	\$3,820.00	FY17
14)	2005 Ford Taurus	Camry Hybrid	\$22,970.00	\$26,790.00	\$3,820.00	FY17

1 Prices from local Toyota dealer unless replaced with Prius (no non-hybrid available), then prices from www.edmunds.com for same/similar m

2 Prices from local Toyota dealer

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# LIGHT-DUTY AND LIGHT HEAVY-DUTY VEHICLE PROJECTS

## FYE 2016 TFCA County Program Manager Fund Worksheet

Version 2016.0, updated 12/17/14

List for Weight Class Pull-Down:

Up to 8500
8501-10,000
10,001-14,000

List for New Vehicle Std. Pull-Down:

ULEV
SULEV
PZEV
ZEV

List for Current Std

LEV
SULEV

Linda Hui: CO2 values are not updated (12/17/2014)

Emission Factors												
GVWR	NOx (gr/mi)			ROG (gr/mi)			PM 10(gr/mi)			CO2 (gr/mi)		
	Up to 8500 1	8501-10,000 2	10,001-14,000 3									
LEV	0.070	0.200	0.400	0.09	0.20	0.23	0.010	0.120	0.120	415	830	860
ULEV	0.070	0.200	0.400	0.06	0.14	0.17	0.010	0.058	0.058	415	830	860
SULEV	0.020	0.100	0.200	0.01	0.10	0.12	0.010	0.058	0.058	415	830	860
PZEV	0.020	0.100	0.200	0.01	0.10	0.12	0.010	0.058	0.058	415	830	860
ZEV	0	0	0	0	0	0	0	0	0	92	92	144

Sources:

NOx and ROG factors: LEV II, Final Regulations Order

California Air Resources Board, as amended: March 22, 2012

CO2 factors from Amir Fanai (BAAQMD) - updated from EMFAC 2011 Version 1.1



June 4, 2015  
NCTPA Agenda Item 7.4  
Continued From: New  
Action Requested: **APPROVE**

## NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY TAC Agenda Letter

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**TO:** Technical Advisory Committee  
**FROM:** Kate Miller, Executive Director  
**REPORT BY:** Diana Meehan, Associate Planner  
(707) 259-8327 / Email: [dmeehan@nctpa.net](mailto:dmeehan@nctpa.net)  
**SUBJECT:** Additional Funding for the Safe Routes to School Program

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### **RECOMMENDATION**

That the Technical Advisory Committee (TAC) recommend the Napa County Transportation and Planning Agency (NCTPA) Board approve one (1) additional year of funding for the Napa County Office of Education (NCOE) Safe Routes to School (SRTS) Program.

### **COMMITTEE RECOMMENDATION**

None

### **EXECUTIVE SUMMARY**

As part of the last cycle of Federal transportation funding (One Bay Area Grant Program – “OBAG 1”), The Metropolitan Transportation Commission (MTC) apportioned \$420,000 for Napa County Safe Routes to School (SRTS) programs, which NCTPA programmed to the Napa County Office of Education (NCOE) for its Bike and Pedestrian Safety program.

The original OBAG 1 program was a four-year program terminating in FY 2015-16. Funding shortfalls prompted MTC to extend the four year program to five years to ensure that projects prioritized in OBAG 1 would have sufficient funding to move forward. This additional year (FY 2016-17) of funding included \$56,000 for Napa County’s Safe Routes to School Program. Given that the new funding is a relatively small amount, staff is recommending that the additional revenues be programmed to the NCOE SRTS program rather than complete an additional call for projects.

Staff requested that the TAC approve the staff recommendation at its May meeting. Subsequent to that meeting, a TAC member requested that staff pull this item for further discussion. Also subsequent to the May TAC meeting, NCTPA staff learned that the funds must be used on existing SRTS projects or programs or be rolled over into a future funding cycle.

### **PROCEDURAL REQUIREMENTS**

1. Staff Report
2. Public Comments
3. Motion, Second, Discussion and Vote

### **FISCAL IMPACT**

Is there a Fiscal Impact? Yes

Is it currently budgeted? Yes

Where is it budgeted? STP/CMAQ

Future fiscal impact: \$56,000 additional funding through FY 2016-17

Consequences if not approved: SRTS will not receive additional year of funding

### **CEQA REQUIREMENTS**

**ENVIRONMENTAL DETERMINATION:** The proposed action is not a project as defined by 14 California Code of Regulations 15378 (California Environmental Quality Act (CEQA) Guidelines) and therefore CEQA is not applicable.

### **BACKGROUND AND DISCUSSION**

The NCOE SRTS program is funded with Surface Transportation Program (STP) Congestion Management Air Quality (CMAQ) funds as part of the OBAG 1 program. NCTPA programmed \$420,000 to the NCOE SRTS program through FY 2015-16.

As result of inadequate federal funding for the OBAG 1 program and to guarantee existing OBAG project/program commitments, MTC adopted an additional year (FY 2016-17) of funding. The remaining balance is sufficient to continue funding for critical ongoing programs at diminished annual funding levels.

Additional revenues from the fifth year were also identified for the Safe Routes to School Programs. Napa's additional apportionment is \$56,000. Given the amount, Staff is recommending that the NCTPA board program these additional revenues to the

NCOE to continue its existing SRTS program through FY 2016-17 rather than holding a separate call for projects. The additional apportionment can be held over for programming in OBAG Cycle 2 for Safe Routes to School projects.

### **SUPPORTING DOCUMENTS**

Attachment: (1) Exhibit "A" NCTPA SRTS Funding 2013-2016 Program: Napa County Office of Education SRTS Continuation Program

EXHIBIT "A"

Project Proposal to: NCTPA SRTS Funding 2013-2016  
Program: Napa County Office of Education SRTS Continuation Program

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Napa County Office of Education is the county's provider of Safe Routes to Schools (SRTS) programming, and has received continuous funding for direct "non-Infrastructure" services from CalTrans and NCTPA since 2007. This proposal is to request the available \$420,000 of Napa County SRTS funding to continue the service and expand into all schools in the county over the next three fiscal years (July 2013 – June 2016). As detailed below, NCOE is a capable provider with ample experience and momentum to maintain the strong program of educational services for biking and walking to school.

Agency Overview

Napa County Office of Education's School & Community Partnership Projects Division (SCPP) operates more than 15 federal, state and local grants that "engage the community, various funding sources, and schools to promote safe and healthy environments in which Napa County students can learn, develop and thrive." Projects include a Drug Free Communities Support program, Emergency Response and Crisis Management project, Foster Youth and Homeless Support, Counseling Services, Pregnancy Prevention, Gang and Violence Prevention, School Safety Committees, After School Programs and much more. Together, these \$4 million+ of independently funded projects fall under the School and Community Partnership Project Division, to work collaboratively in the County of Napa. The focus of the School and Community Partnership Project Division is to work together to improve student engagement, health and academic success.

Existing Program Overview

Napa County Office of Education received Safe Routes to School Program funding in 2007. The Napa County Office of Education's Safe Routes to School (SRTS) Program has operated continuously since that time, expanding to include additional funding resources (Napa County Transportation & Planning Agency Congestion Mitigation and Air Quality Improvement funds (CMAQ) and local contributions), and has conducted activities at 16 elementary, middle and high schools in Napa County. The program, staffed by employees of Napa County Office of Education has gone into the partner schools to provide services. The program has created strong partnerships with Napa County Transportation Planning Agency and local police departments. Additionally, the program is highly supported by the Bicycle Coalition, Safe Kids Committee and local hospitals and has strong collaborative relationships with the National Safe Routes to School Partnership and other regional SRTS programs.

The NCOE SRTS program is prepared to leverage NCTPA funding with existing and new resources. The program has a fleet of bicycles for use in classroom lessons with students for safe riding classes. Credentialed instructors are already trained to provide in-class and after school lessons and activities for students. The program has been heavily focused on improving air quality around schools by reducing motor vehicle traffic. Presentation materials and awareness materials regarding bike trails (Vine Trail), walking paths, family fun activities and more, are already designed and available to be distributed into the schools. Activities of the SRTS program in Napa County in the past few years have included:

- Bike rodeos for all students in grades K-6 at 12 elementary schools
- Distribution of safety equipment including reflectors and helmets at 12 elementary schools
- 10 hours (two weeks) of safe bicycle riding lessons in 4<sup>th</sup> and 5<sup>th</sup> grade classrooms at Napa County elementary schools
- Parent presentations about safe walking and riding at elementary schools
- Safe Walking presentations in 2<sup>nd</sup>-3<sup>rd</sup> grade classrooms at elementary schools
- Integration of NCOE, Napa County Transportation and Planning Agency, law enforcement and hospital programs to support youth safety
- Bicycle and walking groups and clubs in middle and high schools

### Program Proposal

The SRTS Bike and Pedestrian Safety program will reach students in every school in Napa County. The program will provide multiple components based on student grade level, offering age appropriate instruction. Brochures with tips for safe walking and riding, reflectors and brightly colored vests will be offered to all participants.

In elementary school, students will be provided a two week long intensive class designed to teach riding and walking to and from school. The 10 lesson program moves from school to school and leaves students excited about biking and walking. Trained instructors use a curriculum that aligns with content standards for physical education and health.

In middle school, youth will continue to be engaged during their after school program and through clubs. Students will learn to ride bikes safely, repair flat tires and how to maintain a bike. The program is supported in part by the after school program providers in a sustainable collaborative relationship.

High school students will be engaged in bicycling and walking through advocacy campaigns and clubs. Students will be invited to attend the well-established Eagle Cycling Club and Napa County Active Transportation Advisory Committee to give a youth perspective to the conditions of biking all over Napa County. This will build a sense of ownership from the students on the biking clubs and motivates them to participate in more coordinated student bike rides. High school students will be trained as volunteers to assist with riding programs for younger students, promoting cycling at all ages.

In addition to instruction and groups, staff will also work within the community to raise awareness and educate the public about the value of biking and walking. Staff coordinates parent informational meetings about pedestrian and biking safety, Walk and Roll days, Bike Rodeos, Walking School Buses and outreach at community events. Continuing education and training will be provided for staff to keep current with the safest and most effective instruction. In 2012, Walk to School Day was held at multiple elementary schools across the county, with leaders such as Mayor Jill Techel, Supervisors Dillon and Caldwell, and Superintendent Barbara Nemko welcoming walkers to school.

District wide Bike Rodeos will continue to be held twice per year at elementary schools who would like the service. The Bike Rodeos are a partnership with the Napa Police Department, Safe Kids Napa Valley and Napa County Office of Education where students from all grade levels are taught bike safety laws from a police officer and are offered a free helmet.

The program will also continue to conduct Bike to School Day each May & Walk to School Day each October. The Program Coordinator and safety instructors will work with school staff to organize booths to be set up at each participating school site to welcome students that walk or ride to school. Raffle tickets will be given to students for prizes that will be donated by community businesses. Publicity for the events will feature student art work from contests conducted at each school. Walking school buses and bike trains will be organized by safety instructors who will work with school staff to select a meeting spot within 1 mile of the school and a safe route to follow to the school with a group. Local media will be notified of the events to cover.

The program will also be evaluated and data will be reviewed regularly for continuous program improvement efforts. In 2011, NCOE added questions to the "California Healthy Kids Survey", conducted biannually for all 5, 7, 9 and 11<sup>th</sup> graders, to find out more about youth biking and walking habits. Data will be used to help identify areas of need in the community. Within the SRTS program, pre and post surveys will be administered to students and parents at each participating school site at the beginning and end of each program to measure program impact. Raffle tickets will be given to students when they turn in parent surveys and prizes that are donated by local businesses will be given to the raffle winners.

**Napa County Office of Education**

**Safe Routes to School Expansion Program Proposal- Budget**

Description	2013-2014	2014-2015	2015-2016	3-Year Total
<u>Salaries</u>				
.65 FTE Program Coordinator @ \$68000	\$ 44,200.00	\$ 44,200.00	\$ 44,200.00	\$ 132,600.00
Lead Instructor 40 weeks, 30 hours/week, \$25/hr	\$ 30,000.00	\$ 30,000.00	\$ 30,000.00	\$ 90,000.00
.75 FTE Contract Assistant	\$ 31,800.00	\$ 31,800.00	\$ 31,800.00	\$ 95,400.00
<u>Benefits</u>				
Calculated at NCOE rate for mandatory benefits plus health for salary staff	\$ 26,500.00	\$ 26,500.00	\$ 26,500.00	\$ 79,500.00
<u>Supplies</u>				
Instructional supplies, office supplies, helmets, vests, riding gear	\$ 6,000.00	\$ 6,000.00	\$ 4,500.00	\$ 16,500.00
<u>Travel</u>				
Annual bicycle conferences for 2 staff- Pro Walk/Pro Bike Conference and National Bike Summit	\$ 3,000.00			\$ 3,000.00
mileage @ 55.5cents/mile or current Federal rate x45 miles/month	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 3,000.00
<u>Indirect- Federal rate: 10.43% (ineligible for reimbursement from SRTS/CalTrans)</u>				
<u>TOTAL</u>	\$ 142,500.00	\$ 139,500.00	\$ 138,000.00	\$ 420,000.00



June 4, 2015  
TAC/CAC Agenda Item 4.  
Continued From: May 7, 2015  
**Action Requested: Approve**

## NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY TAC Agenda Letter

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**TO:** Technical Advisory Committee (TAC)  
**FROM:** Kate Miller, Executive Director  
**REPORT BY:** Alberto Esqueda, Associate Planner  
(707) 259-5976 / Email: [aesqueda@nctpa.net](mailto:aesqueda@nctpa.net)  
**SUBJECT:** Update on Napa Countywide Transportation Plan: Vision 2040  
*Moving Napa Forward*

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### **RECOMMENDATION**

TAC review Countywide Transportation Plan (CTP) Investment Plan and approve revised CTP Project Lists.

### **EXECUTIVE SUMMARY**

As part of NCTPA's responsibilities under the interagency agreement with the Metropolitan Transportation Commission (MTC), the agency is tasked with developing long-range countywide transportation priorities to support regional planning and programming efforts. This effort informs MTC's Regional Transportation Plan (RTP) and the Sustainable Communities Strategy (SCS) which is updated every four years. NCTPA last updated the countywide transportation plan in 2009.

All elements of the plan are now completed in draft form. The purpose for today's meeting is to receive feedback on the draft Investment Plan which has been included as Attachment 6.

### **FISCAL IMPACT**

Is there a Fiscal Impact? No

## **BACKGROUND AND DISCUSSION**

NCTPA staff and its consulting team are in the midst of plan development with anticipated adoption of summer 2015. Important milestones that have been accomplished to date are as follows:

### **Public Outreach**

- Three public workshops in April 2015 for Project Review
- Citizen Advisory Committee Meetings - held in April, September, December 2014 and March 2015
- 16 Community Based Transportation Plan (CBTP) stakeholder outreach meetings
- Additional presentations as invited
- Public outreach efforts via KVON/KBBF and the NCTPA interactive web map
- Kick-off public workshops held in spring 2014

### **Projects and Revenues**

- Conducted a “call for projects” for a visionary 25-year list of projects and programs to be included in the Plan
- Round-Robin meetings with TAC to review project and program lists (March and October)
- Formation of a TAC ad-hoc revenue committee to review project and program list and come up with a constrained list of projects as well as discuss future revenue generating options for Napa County
- Compiled preliminary Revenue Projections
- Screened projects using Goals and Objectives – see Constrained Project List.
- At their May 7, 2015 meeting TAC approved the CTP Project and Program Lists.

### **White Papers**

- Created a series of White (issue and opportunity) Papers that define challenges and propose solutions for transportation in Napa over the 25 year period of the countywide plan including:
  - Mode shift and Travel Demand Management (TDM)
  - Travel Behavior
  - Transportation, Land Use and Development
  - Communities of Concern
  - Transportation Funding and New Revenue Sources
  - Prospects of Rail Transportation
  - Transportation and the Napa Economy Part 1: Jobs and Housing

- Transportation and the Napa Economy Part 2: Good Movement
- Traffic Operations and Corridor Management
- Transportation and Environmental Concerns
- Transportation and Health
- Emerging Technologies

### **Modeling Results**

- Modeling results have been completed and are in the process of being converted into a clear graphic representation.

At the January 15, 2014 Board retreat, the Board reaffirmed Goals and Objectives for the Napa Countywide Transportation Plan: Vision 2040 Moving Napa Forward. To be consistent with the regional process, a new countywide transportation plan (CTP) should be completed every four years. The last NCTPA 25-year Countywide Transportation Plan was adopted in 2009 and used to inform the One Bay Area Plan, the Metropolitan Transportation Commission's long range plan adopted in 2013. The 2015 plan will be completed in time to inform the next regional plan which is scheduled for adoption in 2017.

After the initial compilation of projects submitted by the jurisdictions in summer 2014, NCTPA staff conducted second round-robin meetings with each jurisdiction in early October to refine their project and program lists. Unlike the RTP, the CTP can be used as a visionary planning document and include financially unconstrained project and program lists.

The TAC approved the refined Project and Program lists at its May meeting. Staff is requesting that the TAC review and approve revisions to the list. NCTPA staff subsequently submitted a zero emission bus demonstration project in response to the California Air Resources Board (ARB) proposed amendments to the Transit Fleet Rule that would require transit agencies to have a zero emission bus fleet by 2040. The proposed Zero Emission Bus Demonstration project will allow NCTPA to investigate potential technologies for meeting the ARB rule. Funding for the project would come from one of the following sources: Transit Revenues, Transportation for Clean Air Funds, or Discretionary Revenues.

NCTPA has included a final draft priority project list that reflects the financially constrained projects and programs and a visionary list that will provide an unconstrained list of projects and programs for the next 25 years as part of the Draft Investment Plan which will be the subject of discussion at the June 4<sup>th</sup> joint TAC and Citizen's Advisory Committee meeting.

Based on preliminary fund projections, there will be a significant shortfall in funding available for CTP projects and programs. At their November meeting the TAC formed an ad-hoc revenue committee to review potential revenue sources that could alleviate

this shortfall. The end result, once approved by the TAC and the Board, will form a blue print expenditure plan for future sales tax or other locally generated revenues. The CTP consultant team will work with the ad-hoc committee to come up with a revenue blueprint to better outline future funding opportunities as well as identify priority projects for the constrained project list. The ad-hoc revenue group had their first meeting on January 7, 2015 and has continued to meet and work collaboratively. A draft constrained list of projects was prepared and will serve as a framework to develop the expenditure blueprint for the plan.

A draft of the “white papers” which will be used to frame the chapters in the plan, has been distributed to the TAC for review and comments. Comments received were reviewed and changes were incorporated into the paper. Final draft white papers have been distributed to the TAC and the CAC via an online link.

### **PUBLIC OUTREACH**

Most of the public outreach meetings have been completed, including an update at the Board’s May 20<sup>th</sup> meeting. A public hearing is scheduled for the June 17<sup>th</sup> Board meeting when the plan is expected to be in final draft form and adoption is scheduled for the July 15<sup>th</sup> Board Meeting. Additional meetings will be held with the Active Transportation Advisory Committee on June 22<sup>nd</sup> at 5:00 PM, the Paratransit Coordinating Committee, the Technical Advisory Committee and the VINE Consumer Advisory Committee on July 9<sup>th</sup> at 10:00 AM, 2:00 PM and 6:00 PM, respectively.

### **NEXT STEPS**

Staff has completed the draft White Papers and is currently refining the introduction to of the draft and the modeling results plots, based on the TAC’s comments. An investment plan has been completed and will be discussed at the June 4<sup>th</sup>, 2015 meeting. The final draft of the document will released to the public prior to the June 17<sup>th</sup> Board meeting.

### **SUPPORTING DOCUMENTS**

Attachments:

- (1) **Revised** Countywide Transportation Plan Project List
- (2) **Revised** Countywide Transportation Plan Constrained Project List
- (3) **Revised** Countywide Transportation Plan Program List
- (4) **Revised** Countywide Transportation Plan Totals Summary Table
- (5) **Revised** Countywide Transportation Plan Revenue Projection 2015-2040
- (6) Countywide Transportation Plan Draft Investment Plan (*to be forwarded*)
- (7) Countywide Transportation Plan Timeline of Upcoming Events

No.	Jurisdiction	Project Title	Project Description	Project Location			Mode	Project Phase	Total Cost	Total Committed	Types of funds Committed	Total Need	Start Year	End Year	Included in Plan Bay Area
				Location	Start Point	End Point									
1	AC	South Napa Junction Road	New Major Collector from SR 29 to extension of Newell Drive	Newell Drive	SR 29	Newell Drive	Vehicle		\$8,909,227	\$0		\$8,909,227	2016		
2	AC	Highway 29 Signal ATS	Install Advance Traffic Signal	SR 29			Vehicle		\$500,000	\$220,000	TFCA	\$280,000	2015		
3	AC	Eucalyptus Drive/Theresa Avenue intersection, Complete Streets	Extend Eucalyptus 450' to the east, connecting at SR 29, Install roundabout.	Eucalyptus Drive	Theresa Avenue	SR 29	Vehicle		\$3,700,000	\$1,154,000	STIP	\$2,546,000	2017		
4	AC	Main Street	New Minor Collector from Eucalyptus to South Napa Junction	Main Street	Eucalyptus Drive	So Napa Junction	Vehicle		\$2,021,629	\$0		\$2,021,629	2025		
5	AC	Devlin Road Segment H	New Industrial Collector from railroad overcrossing to Green Island Rd.	Devlin Road	Railroad overcrossing	Green Island Rd	Vehicle		\$7,795,573	\$1,962,000	STIP	\$5,833,573	2017		
6	AC	Eucalyptus Drive	Widen to 2-lane collector from Theresa to Wetlands Edge Rd.,	Eucalyptus Drive	Theresa Avenue	Wetlands Edge Rd	Vehicle		\$6,393,240	\$0		\$6,393,240	2020		
7	AC	American Canyon Multimodal Transit Center	Construct transit center	TBD			Bike/Bus/pas senger vehicle/pedestrian/rail		\$12,000,000	\$0	-	\$12,000,000	2025		No
8	AC	Highway 29 Pedestrian Safety Overcrossings	Construct three pedestrian crossings over Highway 29	TBD			Bike/Ped		\$9,000,000	\$0	-	\$9,000,000	2020		Yes
9	AC	Commerce Boulevard Extension	New Industrial Collector from southern terminus to Eucalyptus Drive	Commerce Boulevard	Eucalyptus Drive	Commerce Boulevard	Vehicle		\$8,073,987	\$0		\$8,073,987	2025		
10	AC	Eucalyptus Dr/Commerce Blvd. Intersection	Add excl. NBL & SBL, Add exclusive EBL and WBL, Add new sign	Eucalyptus Dr/Commerce Blvd. Intersection			Vehicle		\$840,240	\$0		\$840,240	2025		
11	AC	Newell Drive/So. Napa Junction Intersection	Add excl. NBL & SBR, Add exclusive EBL and EBR, New traffic signal	Newell Drive/So. Napa Junction Intersection			Vehicle		\$1,202,288	\$0		\$1,202,288	2016		
12	AC	Newell Drive	New 4-lane arterial from Donaldson Way to South Napa Junction Rd, Newell Drive Overcross Structure, New 2-lane arterial from South Napa Junction Rd to SR 29	Newell Drive	Donaldson Way	Napa Junction Road	Vehicle		\$37,398,160	\$0		\$37,398,160	2016	2020	
13	AC	Paoli Loop Road Widening	Widen road from Green Island to Newell Extension Industrial Collector standards	Paoli Loop Road	Green Island Road	Newell Extension	Vehicle		\$8,770,020	\$0		\$8,770,020	2025		
14	AC	Green Island Road Widening*	Widen road from SR 29 to Commerce Blvd. to Industrial Collector standards Widen railroad crossing to three lanes	Green Island Road	SR 29	Commerce Boulevard	Vehicle		\$3,516,599	\$2,550,000	EDA/Local funds	\$966,599	2016		
15	AC	29 South Kelly Road intersection*	Improve intersection safety and operations at South Kelly Road	SR 29	Napa Junction Road	South Kelly Road	Vehicle	CON	\$4,900,000	\$0	-	\$4,900,000	2020	2035	Yes
16	AC	SR 29 6-Lane* Parkway	6-lane Parkway from Napa Junction Road to South Kelly Road, including overpass structure	SR 29	South Kelly Road	American	Vehicle		\$29,000,000	\$0	PE-CON	\$29,000,000	2018	2021	
17	AC	SR 29 Gateway*	Highway 29 improvements, 6-lane modified boulevard, including pedestrian, transit and Vine Trail infrastructure.	SR 29	American Canyon Road	Napa Junction Road	Vehicle	CON	\$26,000,000	\$0	-	\$26,000,000	2016	2030	Yes
18	AC	Napa Junction Road Intersection	Phase 1 Improvements, Add 2nd excl. WBL and excl. WBR, Add 2nd excl. EBL and excl. EBR, Traffic signal relocation	Napa Junction Road	SR 29	SR 29	Vehicle		\$2,938,400	\$0	-	\$2,938,400	2018		
19	Calistoga	LSR Rehab	Lake Street Reconstruction and Complete Street Enhancements	Lake Street	Washington Ave	Grant St.	Vehicle	PSE/CON	\$1,950,000	\$0	-	\$1,950,000	2015	2016	No
20	Calistoga	Intersection Improvements at SR 29/128 & Lincoln Ave	Signalization of Intersection at SR 29/128 & Lincoln Ave	SR 29/128 & Lincoln Ave.	SR 29	SR 128	Vehicle	PID/PSE/CON	\$1,900,000	\$0	-	\$1,900,000	2017	2019	No
21	Calistoga	Pedestrian Safety Improvements SR 29 & Cedar Street	In Pavement Lighting	SR 29 and Cedar Street	SR 29	Cedar St	Pedestrian	PSR/PSE	\$100,000	\$0	-	\$100,000	2017	2018	No
22	Calistoga	Pedestrian Safety Improvements SR 29 & Brannan Street	In Pavement Lighting	SR 29 and Brannan Street	SR 29	Brannan St	Pedestrian	PSR/PSE	\$100,000	\$0	-	\$100,000	2017	2018	No
23	Calistoga	Safe Routes to School	Construct foot bridge over the Napa River at Pioneer Park	Pioneer Park and Napa River	Calistoga Community Center	Pioneer Park	Pedestrian	PSR/PSE	\$850,000	\$0	-	\$850,000	2017	2018	No
24	Calistoga	Washington Street Reconstruction	Complete Streets Enhancements along Washington Street	Washington Street	Lincoln	Oak	Vehicle	PSE/CON	\$1,200,000	\$0	-	\$1,200,000	2017	2018	No
25	Calistoga	Intersection Improvements at SR 128 & Berry Street	Widen SR 128 and install left turn lane onto Berry Street	SR 128 & Pet Forest Road	On SR 128 300' south of Berry St.	On SR 128 300' north of Berry St.	Vehicle	PID/PSE/CON	\$650,000	\$0	-	\$650,000	2018	2019	No
26	Calistoga	Intersection Improvements at SR 29 & Washington Ave	Convert Signal to protected left turn phasing at Intersection of SR 29 & Washington Ave	SR 29 & Washington Ave.	SR 29	Washington	Vehicle	CON	\$500,000	\$0	-	\$500,000	2020	2022	No
27	Calistoga	Intersection Improvements at SR 29 & Fair Way	Signalization of intersection at SR 29 & Fair Way	SR 29 and Fair Way	SR 29	Fair Way	Vehicle	CON	\$950,000	\$0	-	\$950,000	2021	2022	No
28	Calistoga	Intersection Improvements at SR 29 & Silverado Trail	Signalization of intersection at SR 29 & Silverado Trail	SR 29 and Silverado Trail	SR 29	Silverado Trail	Vehicle	CON	\$853,000	\$0	-	\$853,000	2027	2028	No

No.	Jurisdiction	Project Title	Project Description	Project Location			Mode	Project Phase	Total Cost	Total Committed	Types of funds Committed	Total Need	Start Year	End Year	Included in Plan Bay Area
				Location	Start Point	End Point									
29	Calistoga	Intersection Improvements at SR 128 & Petrified Forest	Signalization of Intersection at SR 128 & Petrified Forest	SR 128 & Pet Forest Road	SR 128	SR 128	Vehicle	CON	\$650,000	\$550,000	STIP/LM	\$100,000	2015	2017	Yes
30	Calistoga	SR-29 Bypass	Calistoga SR-29 Bypass Dunaweal Ln/Tubbs Ln	Dunaweal	SR 29	Silverado Trail	Vehicle		\$7,000,000	\$0	-	\$7,000,000	2030		No
31	Calistoga	Lincoln Corridor Safety Enhancements	Signal modification, bicycle and pedestrian enhancements	Lincoln Avenue	SR 128	Silverado Trail	Vehicle		\$3,500,000	\$0	-	\$3,500,000	2020		No
32	City of Napa	Trower Avenue Extension	Extend Trower Avenue east to connect with Big Ranch Road	Trower Avenue	Eastern terminus of Trower Ave	Big Ranch Road	Bike/Ped/Vehicle	Planning	\$10,500,000	\$0	-	\$10,500,000	2020	2020-2040	No
33	City of Napa	Linda Vista Bridge and Extension	New bridge at Redwood Creek and extension of Linda Vista Avenue to Robinson Lane over new Linda Vista Bridge	Linda Vista Avenue	Southern terminus of Linda Vista	Robinson lane	Bike/Ped/Vehicle	Planning	\$3,500,000	\$0	-	\$3,500,000	2020	2020-2040	No
34	City of Napa	South Terrace Bridge and Extension	New bridge at Cayetano Creek and extension of Terrace Drive from the southern terminus of Terrace Drive to the northerly terminus of South Terrace Drive	Terrace Drive	Southern terminus of Terrace Dr	Northern terminus of S Terrace Dr	Bike/Ped/Vehicle	Planning	\$3,500,000	\$0	-	\$3,500,000	2020	2020-2040	No
35	City of Napa	Solano Bridge and Extension	New bridge at Napa Creek and extension of Solano Avenue south to connect with First Street	Solano Avenue	Southern terminus of Solano Ave	First Street	Bike/Ped/Vehicle	Planning	\$7,000,000	\$0	-	\$7,000,000	2020	2020-2040	No
36	City of Napa	Lincoln Avenue at California Blvd & SR29 Off-Ramp	Reconfigure northbound SR 29 off-ramp at Lincoln Avenue and modify Lincoln/California intersection	Lincoln Avenue	SR29 Off-Ramp	California Avenue	Bike/Ped/Vehicle	Planning	\$5,500,000	\$0	-	\$5,500,000	2020	2020-2040	Yes
37	City of Napa	Salvador Avenue Widening	Widen Salvador Avenue from SR29 to Jefferson Street	Salvador Avenue	SR29	Jefferson Street	Bike/Ped/Vehicle	Planning	\$2,500,000	\$0	-	\$2,500,000	2020	2020-2040	No
38	City of Napa	Imola Corridor Sidewalk Improvements*	Construct sidewalks along Imola Avenue where none exist or gaps are present from Foster Road to eastern City Limits	Imola Avenue	Foster Road	Eastern City Limits	Bike/Ped	Planning	\$6,500,000	\$20,000	NCTPA	\$6,480,000	2014	2020-2040	No
39	City of Napa	SR29 under Pueblo Avenue	Pueblo Avenue Overpass connecting Pueblo Avenue to West Pueblo Avenue	Pueblo Avenue	Pueblo Avenue	West Pueblo Avenue	Vehicle	Planning	\$30,000,000	\$0	-	\$30,000,000	2020	2020-2040	No
40	City of Napa	SR29 over Trower	Trower Avenue Underpass	Trower Avenue/ SR29 Intersection	-	-	Bike/Ped/Vehicle	Planning	\$30,000,000	\$0	-	\$30,000,000	2020	2020-2040	No
41	City of Napa	Jefferson/Laurel Signal	New signal at Jefferson Street/Laurel Street Intersection	Jefferson/ Laurel Intersection	-	-	Bike/Ped/Vehicle	Planning	\$500,000	\$0	-	\$500,000	2020	2020-2040	No
42	City of Napa	Jefferson/Old Sonoma Signal	New signal at Jefferson Street/Old Sonoma Road Intersection	Jefferson/ Old Sonoma Intersection	-	-	Bike/Ped/Vehicle	Planning	\$500,000	\$0	-	\$500,000	2020	2020-2040	No
43	City of Napa	Jefferson/Imola Intersection Widening	Jefferson/Imola intersection modification	Jefferson/ Imola Intersection	-	-	Bike/Ped/Vehicle	Planning	\$3,000,000	\$0	-	\$3,000,000	2020	2020-2040	No
44	City of Napa	Solano/Redwood Intersection Widening	Widening and restriping modifications to the Solano Avenue/ Redwood Road Intersection	Solano/ Redwood Intersection	-	-	Bike/Ped/Vehicle	Planning	\$750,000	\$0	-	\$750,000	2020	2020-2040	No
45	City of Napa	SR29 Bike & Pedestrian Undercrossing	Construct a bicycle and pedestrian undercrossing along the north bank of Napa Creek under SR29 at approximately post mile 11.67	North bank Napa Creek	-	-	Bike/Ped	Design	\$850,000	\$97,000	BTA; TDA-3	\$753,000	2013	2017	Yes
46	City of Napa	Soscol Avenue Widening *	Widen Soscol Avenue-SR221-SR121 to six lanes from Magnolia Drive to Silverado Trail including median widening	Soscol Avenue	Magnolia Drive	Silverado Trail	Vehicle	Planning	\$22,000,000	\$0	-	\$22,000,000	2020	2020-2040	No
47	City of Napa	Lincoln/Jefferson Right Turn Lane(s)	Modify Lincoln/Jefferson intersection with right turn lanes	Jefferson/ Lincoln Intersection	-	-	Bike/Ped/Vehicle	Planning	\$750,000	\$0	-	\$750,000	2020	2020-2040	No
48	City of Napa	Lincoln/Soscol Right Turn Lane(s)	Modify Lincoln/Soscol intersection with right turn lanes	Lincoln/Soscol intersection	-	-	Bike/Ped/Vehicle	Planning	\$750,000	\$0	-	\$750,000	2020	2020-2040	No
49	City of Napa	First Street Roundabouts (west side)	Construct roundabouts on First Street at Freeway Drive and SR29 Southbound ramps	1st/Freeway SR29 Ramp	-	-	Bike/Ped/Vehicle	Design	\$8,500,000	\$0	-	\$8,500,000	2020	2020-2040	Yes
50	City of Napa	Soscol/Silverado Trail Modification	Soscol/Silverado intersection modification with Southbound dual left turn lanes on Silverado Trail	Soscol/ Silverado Trail Intersection	-	-	Bike/Ped/Vehicle	Planning	\$750,000	\$0	-	\$750,000	2020	2020-2040	No
51	City of Napa	Jefferson/Sierra Signal	New signal at Jefferson Street/ Sierra Avenue Intersection	Jefferson/ Sierra Intersection	-	-	Bike/Ped/Vehicle	Planning	\$500,000	\$0	-	\$500,000	2020	2020-2040	No
52	City of Napa	Browns Valley Road Widening	Widen Browns Valley Road from Westview Drive to McCormick Lane	Browns Valley Road	Westview Drive	McCormick Lane	Bike/Ped/Vehicle	Planning	\$3,500,000	\$0	-	\$3,500,000	2020	2020-2040	No
53	City of Napa	Salvador Creek Bike Trail	Construct a Class I multiuse path along Salvador Creek	adjacent to Salvador Creek	Maher Street	Big Ranch Road	Bike/Ped	Planning	\$800,000	\$0	-	\$800,000	2020	2020-2040	YES*
54	City of Napa	5-way Intersection Modification	Construct intersection improvements at Silverado Trail/Third Street/Coombsville Road/East Avenue	Silverado/ Coombsville/ 3rd/ East Ave Intersection	-	-	Bike/Ped/Vehicle	Design	\$8,500,000	\$3,500,000	Caltrans	\$5,000,000	2014	2019	Yes
55	City of Napa	Oxbow Preserve Pedestrian Bridge	Construct a pedestrian bridge from the Oxbow Preserve over the Napa River to the River Trail	Napa River	Oxbow Preserve	River Trail	Bike/Ped	Planning	\$1,250,000	\$0	-	\$1,250,000	2020	2020-2040	YES*
56	City of Napa	Oxbow District Pedestrian Bridge	Construct a pedestrian bridge from the River Trail over the Napa River to Third Street	Napa River	River Trail	Third Street	Bike/Ped	Planning	\$1,250,000	\$0	-	\$1,250,000	2020	2020-2040	YES*
57	City of Napa	Laurel Street Sidewalk	Construct sidewalks along Laurel Street from Laurel Park to Laurel Manor	Laurel Street	Laurel park	Laurel Manor	Pedestrian	Planning	\$2,500,000	\$0	-	\$2,500,000	2020	2020-2040	No
58	City of Napa	Traffic Operations Center	Citywide signal coordination	-	-	-	Bike/Ped/Vehicle	Planning	\$2,000,000	\$0	-	\$2,000,000	2020	2020-2040	YES**
59	City of Napa	Sierra Avenue Sidewalks	Construct sidewalks along Sierra Avenue from Jefferson Street to SR29	Sierra Avenue	Jefferson Street	SR29	Pedestrian	Planning	\$800,000	\$0	-	\$800,000	2020	2020-2040	No
60	City of Napa	Foster Road Sidewalk	Construct sidewalks along Foster Road adjacent to Irene M. Snow Elementary School	Foster Road adjacent to Snow School	-	-	Pedestrian	Planning	\$750,000	\$0	-	\$750,000	2020	2020-2040	No
61	City of Napa	Terrace Drive Sidewalks	Construct Sidewalks along Terrace Drive where gaps are present	Terrace Drive	Coombsville Road	Southern terminus of Terrace Drive	Pedestrian	Planning	\$1,500,000	\$0	-	\$1,500,000	2020	2020-2040	No

No.	Jurisdiction	Project Title	Project Description	Project Location			Mode	Project Phase	Total Cost	Total Committed	Types of funds Committed	Total Need	Start Year	End Year	Included in Plan Bay Area
				Location	Start Point	End Point									
62	City of Napa	Main Street Sidewalk Widening	Widening the sidewalk on Main Street from First Street to Third Street	Main Street	First Street	Third Street	Pedestrian	Planning	\$2,000,000	\$30,000	Local	\$1,970,000	2016	2020	No
63	City of Napa	Railroad Crossing Upgrades	Upgrade all railroad crossings Citywide to concrete panels with flangeway fillers	-	-	-	Bike/Ped/Vehicle/Rail	Planning	\$2,500,000	\$0	-	\$2,500,000	2020	2020-2040	No
64	City of Napa	SR29 Corridor Improvements (Urban Highway)*	Landscape enhancements to Urban Highway from Carneros Intersection to Trancas. SR29 at Imola Avenue, 1st Street, Lincoln Avenue, Trancas Street	SR29	Carneros Intersection	Trancas Street	Vehicle	Planning	250,000	\$0	-	\$250,000	2020	2020-2040	Yes
65	Napa County	Devlin Rd Extension*	Complete construction of collector road as parallel facility for SR 29 corridor	Airport Industrial Area	Soscol Ferry Rd	Green Island Rd	Vehicle	CON	\$5,500,000	\$1,300,000	TMF	\$4,200,000	2015	2020	Yes
66	Napa County	Silverado Trail intersections	Improve intersection safety and operations Oak Knoll Avenue, Yountville Crossroad, Oakville Crossroad, Deer Park Rd, Dunaweal Ln	Silverado Trail, various	Napa	Calistoga	Vehicle	CON	\$2,500,000	\$0	-	\$2,500,000	2020	2040	No
67	Napa County	Solano Ave flood improvement	Construct improvements to reduce flooding in corridor	Solano Ave	Yountville	Dry Creek	Vehicle	CON	\$300,000	\$0	-	\$300,000	2020	2025	Yes
68	Napa County	29 North County intersections*	Improve intersection safety and operations Oakville Grade Rd, Oakville Crossroad, Rutherford Rd (SR 128), Deer Park Rd, Dunaweal Ln	SR 29	Napa	Calistoga	Vehicle	CON	\$2,500,000	\$0	-	\$2,500,000	2025	2040	No
69	Napa County	Route 221*	Improve corridor operations	SR 221 Napa Vallejo Highway	SR 29	SR 121	Vehicle	CON	\$5,200,000	\$0	-	\$5,200,000	2030	2040	No
70	Napa County	Carneros Intersection*	SR 29/SR12/SR 121 (Carneros intersection) Improvements	SR29/SR12/SR121			Vehicle		\$500,000	\$0	-	\$500,000	2020	2030	Yes
71	Napa County	SR 29-Unincorporated Napa County/Carneros*	4-Lane Rural Highway, from unincorporated Napa County to Carneros intersections.	SR 29	Jameson	Napa City Limits	Vehicle		\$8,000,000	\$0	PE-CON	\$8,000,000	2020	2022	Yes
72	Napa County	SR-29 Unincorporated Napa/ AC*	4-Lane Rural Highway in unincorporated Napa County from South Kelly Road to Jameson Canyon	SR 29	South Kelly Road	Jameson Canyon Road	Vehicle		\$50,000,000	\$0	PE-CON	\$50,000,000	2020	2023	Yes
73	NCTPA	Vine Trail Fair Way Extension*	Construct Vine Trail	Fairway	Fair Way	Washington St.	Bicycle	CON	\$1,200,000	\$0	-	\$1,200,000	2015	2016	No
74	NCTPA	Vine Trail (Redwood Rd Crossing)*	Construct a grade separated crossing across Redwood Road connecting the adjacent sections of the Vine Trail	Redwood Road	-	-	Bike/Ped/Vehicle	Planning	\$4,500,000	\$0	-	\$4,500,000	2020	2020-2040	YES*
75	NCTPA	Napa Valley Vine Trail - Calistoga*	Construct Class I mixed use path	SR 29	Silverado Trail	Bothe State Park	Bike/Ped	CON	\$6,000,000	\$200,000	Local Donation	\$5,800,000	2016	2018	Yes
76	NCTPA	Vine Trail (3rd-Vallejo)*	Construct Class I multiuse path between 3rd Street and Vallejo Street	adjacent to Soscol	Vallejo	Third Street	Bike/Ped	Planning	3,500,000	100,000	TDA-3; NVVT Coalition	\$3,400,000	2016	2020	Yes
77	NCTPA	Vine Trail*	Class I bike trails, including portions of American Canyon, St. Helena, and unincorporated Napa County.	Napa County	Bothe Park	South end of American Canyon	Bicycle	PE-CON	\$19,799,360	\$0	-	\$19,799,360	2015	2023	Yes
78	NCTPA	Soscol Junction*	Construct SB 221 to SB 29/12 flyover structure	SR 29/12/221			Vehicle	PE-CON	\$50,000,000	\$0	-	\$50,000,000	2015	2035	Yes
79	NCTPA	Airport Junction*	Construct grade separated interchange	SR 29/12/Airport			Vehicle	CON	\$73,000,000	\$0	-	\$73,000,000	2020	2040	Yes
80	NCTPA	Park and Ride Lots, (Construction and O&M)	Park and Ride lots throughout Napa County	Napa County	-	-	Bus	PE-CON	\$ 2,025,000	\$0	-	\$ 2,025,000	2015	2040	No
81	St Helena	Downtown Pedestrian Improvements	Install traffic calming devices (e.g., bulb outs), upgrade sidewalk, pedestrian lighting, pedestrian furniture, landscaping	Main Street (SR29)	Spring Street	Adams Street	Pedestrian	PE-CON	\$400,000	\$21,278	Local	\$378,722	2011	2018	No
82	St Helena	Sulphur Creek Class I Bikeway	Construct Class I Bikeway	Sulphur Creek	Sulphur Springs Avenue	Napa River	Bicycle		\$5,800,000	\$0	-	\$5,800,000	2020	2030	No
83	St Helena	Spring Mountain Road Class I Bikeway	Construct Class I Bikeway	Spring Mountain Road	Lower Reservoir	Spring Mountain Court	Bicycle		\$1,700,000	\$0	-	\$1,700,000	2020	2030	No
84	St Helena	Oak Avenue Extension	Extend Oak Avenue	Oak Avenue	Charter Oak Avenue	Grayson Avenue	Vehicle		\$1,800,000	\$0	-	\$1,800,000	2020	2025	No
85	St Helena	Starr Avenue Extension	Extend Starr Avenue	Starr Avenue	Hunt Avenue	Adams Street	Vehicle		\$617,000	\$0	-	\$617,000	2025	2030	No
86	St Helena	Adams Street Extension	Extend Adams Street	Adams Street	end	Starr Avenue	Vehicle		\$851,000	\$0	-	\$851,000	2025	2030	No
87	St Helena	New North-South Collector	Extend College Avenue, or Starr Avenue, or Allison Avenue	New	Mills Lane	Pope Street	Vehicle		\$1,900,000	\$0	-	\$1,900,000	2025	2030	No
88	St Helena	Mills Lane Safety Improvements	Improve Mills Lane to two lanes with bike/ped access	Mills Lane	Main Street (SR29)	End	Vehicle		\$3,500,000	\$0	-	\$3,500,000	2025	2030	No
89	St Helena	Napa River Class I Bikeway	Construct Class I Bikeway (River Trail)	Napa River	South City Limit	North City Limit	Bicycle		\$9,800,000	\$0	-	\$9,800,000	2030	2040	No
90	St Helena	New East-West Collector	Extend Adams Street or Mills Lane	New	End	Silverado Trail	Vehicle		\$2,900,000	\$0	-	\$2,900,000	2035	2040	No
91	St Helena	Fulton Lane Safety Improvements	Improve Fulton Lane to two lanes with bike/ped access	Fulton Lane	Railroad Ave	End	Vehicle		\$2,200,000	\$0	-	\$2,200,000	2035	2040	No
92	VINE	Bus/Agency Signage	New NCTPA Image, including Bus Stop Signage	Napa County			Bus	None	\$550,000	\$0	-	\$550,000	2015	2018	No
93	VINE	VINE Maintenance Facility (Construction O&M)	Acquisition and construction of new maintenance facility	TBD	-	-	Bus	CON	\$38,300,000	\$0	-	\$38,300,000	2017	2018	No

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				Location	Start Point	End Point									
94	VINE	Fueling Station (Construction and O&M)	Construction of new fueling station	TBD	-	-	Bus	CON	\$3,792,000	\$0	-	\$3,792,000	2017	2018	No
95	VINE	Rapid Bus Project	13.5 miles of bus rapid corridor enhancements	SR 29	Vallejo Ferry Terminal	Napa Valley College	Bus	PE-CON	\$25,000,000	\$0	-	\$25,000,000	2020	2025	No
96	VINE	Rapid Bus Buses	Acquisition of 14 articulated buses for Rapid Bus from Vallejo Ferry Terminal to NVC	N/A	-	-	Bus	None	\$14,000,000	\$0	-	\$14,000,000	2025	2027	
97	VINE	Rapid Bus Project	4.7 miles of bus Rapid Corridor Enhancement	SR 29	Napa Valley College	Redwood P&R	Bus	PE-CON	\$25,000,000	\$0	-	\$25,000,000	2022	2025	No
98	VINE	Rapid Bus Buses	Acquisition of 6 articulated buses for Rapid Bus from NVC to Redwood Avenue Park and Ride	N/A	-	-	Bus	None	\$6,000,000	\$0	-	\$6,000,000	2022	2024	
99	VINE	State of Good Repair/ PM	(Replacement of Rapid Bus buses) 6 low-floor articulated buses, 14 articulated buses	N/A	-	-	Bus	None	\$ 20,750,000	\$0	-	\$ 20,750,000	2037	2040	
100	VINE	Local routes (1-8) - expanded service hours	Expand service hours from 4am-12am, add Sunday service	N/A	-	-	Bus	None	\$ 10,281,880	\$0	-	\$ 10,281,880	2018	2040	
101	VINE	Regional routes (10/11) - expanded service hours	Expand service hours from 4am-12am, add Sunday service	N/A	-	-	Bus	None	\$ 10,346,000	\$0	-	\$ 10,346,000	2018	2040	
102	VINE	Regional routes (10/11) - Enhanced frequency	Increase frequency from 30 peak, 60 midday and weekends to 15 peak and 30 midday and weekends.	N/A	-	-	Bus	None	\$ 33,122,216	\$0	-	\$ 33,122,216	2018	2040	
103	VINE	New Transit Vehicles (EXPANSION)	Acquisition of new paratransit vehicles, community shuttle buses and VINE buses for service expansion	N/A	-	-	Bus	None	\$ 27,510,000	\$0	-	\$ 27,510,000	2017	2040	
104	VINE	Transit System Growth (Operating Costs)	Operation costs for the expansion of the transit system	N/A	-	-	Bus	None	\$ 2,800,000	\$0	-	\$ 2,800,000	2018	2040	No
105	VINE	New Shelters and Stop Amenities (EXPANSION)	Improved bus stops throughout Napa County	N/A	-	-	Bus	None	\$ 4,850,000	\$0	-	\$ 4,850,000	2020	2040	No
106	VINE	IT Equipment Upgrades & Replacement Program	Wi-Fi for all buses, Camera System & Real Time signage, Asset Management Database, sales office equipment, taxi scrip automated readers	N/A	-	-	Bus	None	\$ 480,000	\$0	-	\$ 480,000	2015	2019	No
107	VINE	ZE Bus Project	Acquisition of 2 zero emission buses for a zero emission pilot bus project	N/A			Bus	None	\$3,728,125	\$0	-	\$3,728,125	2018	2040	No
108	Yountville	Oak Circle Parking Improvement	Parking improvements to existing infrastructure	Future Oak Circle Park, near Oak Circle and Vintner Ct	N/A	N/A	Vehicle	Planning, Design, Construction	\$75,000	\$0	-	\$75,000	2015	2018	No
109	Yountville	South Veteran's Park Parking Improvements	Parking improvements to existing infrastructure	At Veteran's Park, Washington St. South of California Dr	N/A	N/A	Vehicle	Planning, Design, Construction	\$175,000	\$0	-	\$175,000	2020	2021	No
110	Yountville	Washington Park Sidewalk Project	Adding sidewalk to the Washington Park Subdivision	Washington Park	East of Washington, North of Forrester Ln	East of Washington, South of Yountville Cross Rd	Pedestrian	Planning, Design, Construction	\$850,000	\$0	-	\$850,000	2022	2023	No
111	Yountville	Yountville Crossroads Bicycle Path & Sidewalk	A full lane bicycle path along Yountville Crossroads	Length of Yountville Crossroads	Yountville Cross Roads and Yount St	Yountville Cross Roads and Stags View Ln	Bicycle	Planning, Design, Construction	\$1,500,000	\$0	-	\$1,500,000	2030	2031	No
112	Yountville	Future Parking Garage Facility	New parking facility	To be determined	N/A	N/A	Vehicle	Planning, Design, Construction	\$5,500,000	\$0	-	\$5,500,000	2030	2031	No
113	Yountville	Transportation Infrastructure	Extend Yount Mill Road and Yountville Cross Rd, connecting the new development to the Town.	Northeast of Washington and Yountville Cross Rd	Entire Site	Entire Site	Bike/Ped/Vehicle	Planning, Design, Construction	\$2,500,000	\$0	-	\$2,500,000	2030	2035	No
114	Yountville	SR-29 Interchange Project	Construct Interchange at Madison and SR-29	Madison & SR-29	N/A	N/A	Vehicle	Planning, Design, Construction	\$20,000,000	\$0	-	\$20,000,000	2030	2031	No

No.	Jurisdiction	Project Title	Project Description	Project Location			Mode	Project Phase	Total Cost	Total Committed	Types of funds Committed	Total Need	Start Year	End Year	Included in Plan Bay Area	Avg Objectives Met
				Location	Start Point	End Point										
1	AC	Highway 29 Signal ATS	Install Advance Traffic Signal	SR 29				\$500,000	\$220,000	TFCA	\$280,000	2015			7	
2	AC	Eucalyptus Drive/ Theresa Avenue intersection, Complete Streets	Extend Eucalyptus 450' to the east, connecting at SR 29, Install roundabout.	Eucalyptus Drive	Theresa Avenue	SR 29	Vehicle	\$3,700,000	\$1,154,000	STIP	\$2,546,000	2017			12	
3	AC	Devlin Road Segment H	New Industrial Collector from railroad overcrossing to Green Island Rd.	Devlin Road	Railroad overcrossing	Green Island Rd	Vehicle	\$7,795,573	\$1,962,000	STIP	\$5,833,573	2017			12	
4	AC	Green Island Road Widening	Widen road from SR 29 to Commerce Blvd. to Industrial Collector standards Widen railroad crossing to three lanes	Green Island Road	SR 29	Commerce Boulevard	Vehicle	\$3,516,599	\$2,550,000	EDA/Local funds	\$966,599	2016			9	
5	AC	Napa Junction Road Intersection	Phase 1 Improvements, Add 2nd excl. WBL and excl. WBR, Add 2nd excl. EBL and excl. EBR, Traffic signal relocation	Napa Junction Road	SR 29	SR 29	Vehicle	\$2,938,400	\$0	-	\$2,938,400	2018			8	
6	AC	SR 29 6-Lane* Parkway	6-lane Parkway from Napa Junction Road to South Kelly Road, including overpass structure	SR 29	South Kelly Road	American	Vehicle	\$29,000,000	\$0		\$29,000,000				17	
7	AC	SR 29 Gateway*	Highway 29 improvements, 6-lane modified boulevard, including pedestrian, transit and Vine Trail infrastructure.	SR 29	American Canyon Road	Napa Junction Road	Vehicle	\$26,000,000	\$0	-	\$26,000,000	2016	2030	Yes	17	
8	Calistoga	Pedestrian Safety Improvements SR 29 & Cedar Street	In Pavement Lighting	SR 29 and Cedar Street	SR 29	Cedar St	Pedestrian	\$100,000	\$0	-	\$100,000	2017	2018	No	13	
9	Calistoga	Pedestrian Safety Improvements SR 29 & Brannan Street	In Pavement Lighting	SR 29 and Brannan Street	SR 29	Brannan St	Pedestrian	\$100,000	\$0	-	\$100,000	2017	2018	No	13	
10	Calistoga	Washington Street Reconstruction	Complete Streets Enhancements along Washington Street	Washington Street	Lincoln	Oak	Vehicle	\$1,200,000	\$0	-	\$1,200,000	2017	2018	No	10	
11	City of Napa	Lincoln Avenue at California Blvd & SR29 Off-Ramp	Reconfigure northbound SR 29 off-ramp at Lincoln Avenue and modify Lincoln/California intersection	Lincoln Avenue	SR29 Off-Ramp	California Avenue	Vehicle/ Ped/Bike	\$5,500,000	\$0	-	\$5,500,000	2020	2020-2040	Yes	9	
12	City of Napa	Imola Corridor Sidewalk Improvements	Construct sidewalks along Imola Avenue where none exist or gaps are present from Foster Road to eastern City Limits	Imola Avenue	Foster Road	Eastern City Limits	Ped/Bike	\$6,500,000	\$20,000	NCTPA	\$6,480,000	2014	2020-2040	No	14	
13	City of Napa	Jefferson/Imola Intersection Widening	Jefferson/Imola intersection modification	Jefferson/ Imola Intersection	-	-	Vehicle/ Ped/Bike	\$3,000,000	\$0	-	\$3,000,000	2020	2020-2040	No	9	
14	City of Napa	SR29 Bike & Pedestrian Undercrossing	Construct a bicycle and pedestrian undercrossing along the north bank of Napa Creek under SR29 at approximately post mile 11.67	North bank Napa Creek	-	-	Ped/Bike	\$850,000	\$97,000	BTA; TDA-3	\$753,000	2013	2017	Yes	13	
15	City of Napa	Soscol Avenue Widening	Widen Soscol Avenue-SR221-SR121 to six lanes from Magnolia Drive to Silverado Trail including median widening	Soscol Avenue	Magnolia Drive	Silverado Trail	Vehicle	\$22,000,000	\$0	-	\$22,000,000	2020	2020-2040	No	11	
16	City of Napa	First Street Roundabouts (west side)	Construct roundabouts on First Street at Freeway Drive and SR29 Southbound ramps	1st/Freeway SR29 Ramp	-	-	Vehicle/ Ped/Bike	\$8,500,000	\$0	-	\$8,500,000	2020	2020-2040	Yes	12	
17	City of Napa	Browns Valley Road Widening	Widen Browns Valley Road from Westview Drive to McCormick Lane	Browns Valley Road	Westview Drive	McCormick Lane	Vehicle/ Ped/Bike	\$3,500,000	\$0	-	\$3,500,000	2020	2020-2040	No	10	
18	City of Napa	5-way Intersection Modification	Construct intersection improvements at Silverado Trail/Third Street/Coombsville Road/East Avenue	Silverado/ Coombsville/ 3rd/ East Ave Intersection	-	-	Vehicle/ Ped/Bike	\$8,500,000	\$3,500,000	Caltrans	\$5,000,000	2014	2019	Yes	12	
19	City of Napa	Traffic Operations Center	Citywide signal coordination	-	-	-	Vehicle/ Ped/Bike	\$2,000,000	\$0	-	\$2,000,000	2020	2020-2040	YES**	9	
20	City of Napa	Main Street Sidewalk Widening	Widening the sidewalk on Main Street from First Street to Third Street	Main Street	First Street	Third Street	Pedestrian	\$2,000,000	\$30,000	Local	\$1,970,000	2016	2020	No	6	
21	City of Napa	Linda Vista Bridge and Extension	New bridge at Redwood Creek and extension of Linda Vista Avenue to Robinson Lane over new Linda Vista Bridge	Linda Vista Avenue	Southern terminus of Linda Vista	Robinson lane	Vehicle/ Ped/Bike	\$3,500,000	\$0	-	\$3,500,000	2020	2020-2040	No	11	
22	City of Napa	Solano/Redwood Intersection Widening	Widening and restriping modifications to the Solano Avenue/ Redwood Road Intersection	Solano/ Redwood Intersection	-	-	Vehicle/ Ped/Bike	\$750,000	\$0	-	\$750,000	2020	2020-2040	No	10	
23	City of Napa	Jefferson/Sierra Signal	New signal at Jefferson Street/ Sierra Avenue Intersection	Jefferson/ Sierra Intersection	-	-	Vehicle/ Ped/Bike	\$500,000	\$0	-	\$500,000	2020	2020-2040	No	9	

No.	Jurisdiction	Project Title	Project Description	Project Location			Mode	Project Phase	Total Cost	Total Committed	Types of funds Committed	Total Need	Start Year	End Year	Included in Plan Bay Area	Avg Objectives Met
				Location	Start Point	End Point										
24	City of Napa	Railroad Crossing Upgrades	Upgrade all railroad crossings Citywide to concrete panels with flangeway fillers	-	-	-	Bike/Ped/ Vehicle/ Rail	Planning	\$2,500,000	\$0	-	\$2,500,000	2020	2020-2040	No	5
25	Napa County	Devlin Rd Extension*	Complete construction of collector road as parallel facility for SR 29 corridor	Airport Industrial Area	Soscol Ferry Rd	Green Island Rd	Vehicle	CON	\$5,500,000	\$1,300,000	TMF	\$4,200,000	2015	2020	Yes	14
26	Napa County	29 North County intersections*	Improve intersection safety and operations Oakville Grade Rd, Oakville Crossroad, Rutherford Rd (SR 128), Deer Park Rd, Dunaweal Ln	SR 29	Napa	Calistoga	Vehicle	CON	\$2,500,000	\$0	-	\$2,500,000	2025	2040	No	8
27	Napa County	Route 221*	Improve corridor operations	SR 221 Napa Vallejo Highway	SR 29	SR 121	Vehicle	CON	\$5,200,000	\$0	-	\$5,200,000	2030	2040	No	13
28	Napa County	SR 29-Unincorporated Napa County/Carneros*	4-Lane Rural Highway, from unincorporated Napa County to Carneros intersections.	SR 29	Jameson	Napa City Limits	Vehicle		\$8,000,000	\$0	PE-CON	\$8,000,000	2020	2022	Yes	
29	Napa County	SR-29 Unincorporated Napa/ AC*	4-Lane Rural Highway in unincorporated Napa County from South Kelly Road to Jameson Canyon	SR 29	South Kelly Road	Jameson Canyon Road	Vehicle		\$50,000,000	\$0	PE-CON	\$50,000,000	2020	2023	Yes	
30	NCTPA	Park and Ride Lots, (Construction and O&M)	Park and Ride lots throughout Napa County	Napa County	-	-	Bus	PE-CON	\$ 2,025,000	\$0	-	\$ 2,025,000	2015	2040	No	
31	NCTPA	Vine Trail Fair Way Extension*	Construct Vine Trail	Fairway	Fair Way	Washington St.	Bike	CON	\$1,200,000	\$0	-	\$1,200,000	2015	2016	No	9
32	NCTPA	Napa Valley Vine Trail - Calistoga*	Construct Class I mixed use path	SR 29	Silverado Trail	Bothe State Park	Bike/Ped	CON	\$6,000,000	\$200,000	Local Donation	\$5,800,000	2016	2018	Yes	13
33	NCTPA	Vine Trail (3rd-Vallejo)*	Construct Class I multiuse path between 3rd Street and Vallejo Street	adjacent to Soscol	Vallejo	Third Street	Ped/Bike	Planning	3,500,000	100,000	TDA-3; NVVT Coalition	\$3,400,000	2016	2020	Yes	13
34	NCTPA	Soscol Junction*	Construct SB 221 to SB 29/12 flyover structure	SR 29/12/221			Vehicle	PE-CON	\$50,000,000	\$0	-	\$50,000,000	2015	2035	Yes	6
35	St Helena	Downtown Pedestrian Improvements	Install traffic calming devices (e.g., bulb outs), upgrade sidewalk, pedestrian lighting, pedestrian furniture, landscaping	Main Street (SR29)	Spring Street	Adams Street	Pedestrian	PE-CON	\$400,000	\$21,278	Local	\$378,722	2011	2018	No	12
36	St Helena	Sulphur Creek Class I Bikeway	Construct Class I Bikeway	Sulphur Creek	Sulphur Springs Avenue	Napa River	Bicycle		\$5,800,000	\$0	-	\$5,800,000	2020	2030	No	12
37	St Helena	Napa River Class I Bikeway	Construct Class I Bikeway (River Trail)	Napa River	South City Limit	North City Limit	Bicycle		\$9,800,000	\$0	-	\$9,800,000	2030	2040	No	10
38	VINE	VINE Maintenance Facility (Construction O&M)	Acquisition and construction of new maintenance facility	TBD	-	-	Bus	CON	\$38,300,000	\$0	-	\$38,300,000	2017	2018	No	16
39	VINE	Fueling Station (Construction and O&M)	Construction of new fueling station	TBD	-	-	Bus	CON	\$3,792,000	\$0	-	\$3,792,000	2017	2018	No	17
40	VINE	Rapid Bus Project	13.5 miles of bus rapid corridor enhancements	Vallejo to Napa	Vallejo Ferry Terminal	Napa Valley College	Bus	PE-CON	\$25,000,000	\$0	-	\$25,000,000	2020	2040	No	11
41	VINE	Rapid Bus Buses	Acquisition of 14 articulated buses for Rapid Bus from Vallejo Ferry Terminal to NVC	N/A	-	-	Bus	None	\$14,000,000	\$0	-	\$14,000,000	2025	2027	No	11
42	VINE	Bus/Agency Signage	New NCTPA Image, Including Bus Stop Signage	Napa County			Bus	None	\$550,000	\$0	-	\$550,000	2015	2018	No	5
43	VINE	ZE Bus Project	Acquisition of 2 zero emission buses for a zero emission pilot bus project	Napa County			Bus	CON	\$3,720,000	\$0	-	\$3,720,000	2018	2040	No	
44	VINE	Local routes (1-8) - expanded service hours	Expand service hours from 4am-12am, add Sunday service	N/A	-	-	Bus	None	\$ 10,281,880	\$0	-	\$ 10,281,880	2018	2040	No	
45	VINE	Regional routes (10/11)- expanded service hours	Expand service hours from 4am-12am, add Sunday service	N/A	-	-	Bus	None	\$ 10,346,000	\$0	-	\$ 10,346,000	2018	2040	No	
46	VINE	Regional routes (10/11)- Enhanced frequency	Increase frequency from 30 peak, 60 midday and weekends to 15 peak and 30 midday and weekends.	N/A	-	-	Bus	None	\$ 33,122,216	\$0	-	\$ 33,122,216	2018	2040	No	
47	VINE	New Transit Vehicles (EXPANSION)	Acquisition of new paratransit vehicles, community shuttle buses and VINE buses for service expansion	N/A	-	-	Bus	None	\$ 27,510,000	\$0	-	\$ 27,510,000	2017	2040	No	
48	VINE	Transit System Growth (Operating Costs)	Operation costs for the expansion of the transit system	N/A	-	-	Bus	None	\$ 2,800,000	\$0	-	\$ 2,800,000	2018	2040	No	
49	VINE	New Shelters and Stop Amenities (EXPANSION)	Improved bus stops throughout Napa County	N/A	-	-	Bus	None	\$ 4,850,000	\$0	-	\$ 4,850,000	2020	2040	No	

No.	Jurisdiction	Project Title	Project Description	Project Location			Mode	Project Phase	Total Cost	Total Committed	Types of funds Committed	Total Need	Start Year	End Year	Included in Plan Bay Area	Avg Objectives Met
				Location	Start Point	End Point										
50	VINE	IT Equipment Upgrades & Replacement Program	Wi-Fi for all buses, Camera System & Real Time signage, Asset Management Database, sales office equipment, taxi scrip automated readers	N/A	-	-	Bus	None	\$ 480,000	\$0	-	\$ 480,000	2015	2019	No	
51	Yountville	Oak Circle Parking Improvement	Parking improvements to existing infrastructure	Future Oak Circle Park, near Oak Circle and Vintner Ct	N/A	N/A	Vehicle	Planning, Design, Construction	\$75,000	\$0	-	\$75,000	2015	2018	No	4
52	Yountville	South Veteran's Park Parking Improvements	Parking improvements to existing infrastructure	At Veteran's Park, Washington St. South of California Dr	N/A	N/A	Vehicle	Planning, Design, Construction	\$175,000	\$0	-	\$175,000	2020	2021	No	4
53	Yountville	Washington Park Sidewalk Project	Adding sidewalk to the Washington Park Subdivision	Washington Park	East of Washington, North of Forrester Ln	East of Washington, South of Yountville Cross Rd	Pedestrian	Planning, Design, Construction	\$850,000	\$0	-	\$850,000	2022	2023	No	10
54	Yountville	Yountville Crossroads Bicycle Path & Sidewalk	A full lane bicycle path along Yountville Crossroads	Length of Yountville Crossroads	Yountville Cross Roads and Yount St	Cross Roads and Stags View Ln	Bike	Planning, Design, Construction	\$1,500,000	\$0	-	\$1,500,000	2030	2031	No	13
55	Yountville	Future Parking Garage Facility	New parking facility	To be determined	N/A	N/A	Vehicle	Planning, Design, Construction	\$5,500,000	\$0	-	\$5,500,000	2030	2031	No	3
<b>TOTAL CONSTRAINED LIST FUNDING SHORTFALL</b>												<b>\$466,073,390</b>				

No.	Sponsor	Program Category	Program Description	Mode	Total Cost	Total Committed	Types of funds Committed	Total Need	Start Year	End Year	Included in Plan Bay Area
1	AC	Pedestrian Network (Maintenance, rehab & expansion)	Sidewalk improvement, expand the pedestrian network	Pedestrian	\$ 1,468,000	\$ -	-	\$ 1,468,000	2015	2040	
2	AC	Bicycle Network (Expansion)	Expansion of Class I bicycle facilities	Bicycle	\$ 8,672,000	\$ -	-	\$ 8,672,000	2015	2040	Yes
3	AC	Bicycle Network (Maintenance & Rehab)	Maintenance and rehabilitation of Class I bicycle facilities	Bicycle	\$ 12,000,000	\$ -	-	\$ 12,000,000	2015	2040	
4	AC	Local Streets & Roads (Maintenance & Rehab)	Rehabilitate, restore, and preserve pavement for local streets and roads	Vehicle	\$ 25,000,000	\$ -	-	\$ 25,000,000	2015	2040	
5	AC	Bridge / Culvert (Maintenance, rehab & replacement)	Rehabilitate, restore, preserve and rejuvenate local bridge and culvert pavement, replace or widen existing structures	Vehicle	\$ 17,000,000	\$ -	-	\$ 17,000,000	2015	2040	No
6	AC	ITS	Intersection synchronization enhancements, traffic signal upgrade, electronic traffic management	Vehicle	\$ 1,000,000	\$ -	-	\$ 1,000,000	2015	2040	No
7	Calistoga	Bridge / Culvert (Maintenance, rehab & replacement)	Rehabilitate, restore, preserve and rejuvenate local bridge and culvert pavement, replace or widen existing structures	Vehicle	\$ 4,375,000	\$ -	-	\$ 4,375,000	2015	2040	No
8	Calistoga	Bicycle Network (Expansion)	Expansion of Class I bicycle facilities	Bicycle	\$ 8,000,000	\$ -	-	\$ 8,000,000	2015	2040	Yes
9	Calistoga	Bicycle Network (Maintenance & Rehab)	Maintenance and rehabilitation of Class I bicycle facilities	Bicycle	\$ 1,250,000	\$ -	-	\$ 1,250,000	2015	2040	Yes
10	Calistoga	Pedestrian Network (Maintenance, rehab & expansion)	Sidewalk improvement, expand the pedestrian network	Pedestrian	\$ 5,580,000	\$ -	-	\$ 5,580,000	2015	2040	No
11	Calistoga	Local Streets & Roads (Maintenance & Rehab)	Rehabilitate, restore, and preserve pavement for local streets and roads	Vehicle	\$ 10,650,000	\$ -	-	\$ 10,650,000	2015	2040	Yes
12	Calistoga	Local Streets & Roads (Enhancements)	Road expansion, new road connections, dedicated turn lanes, safety improvements, complete streets elements	Vehicle	\$ 250,000	\$ -	-	\$ 250,000	2015	2040	Yes
13	City of Napa	Local Streets & Roads (Maintenance & Rehab)	Rehabilitate, restore, and preserve pavement for local streets and roads	Vehicle	\$ 175,000,000	\$3,000,000 FY14/15*	Local; Gas Tax	\$ 172,000,000	2015	2040	Yes
14	City of Napa	Bridge / Culvert (Maintenance, rehab & replacement)	Rehabilitate, restore, preserve and rejuvenate local bridge and culvert pavement, replace or widen existing structures	Vehicle	\$ 40,000,000	-	-	\$ 40,000,000	2015	2040	No
15	City of Napa	ITS	Intersection synchronization enhancements, traffic signal upgrade, electronic traffic management	Vehicle	\$ 4,500,000	-	-	\$ 4,500,000	2015	2040	Yes
16	City of Napa	Bicycle Network (Expansion)	Expansion of Class I, II, and III bicycle facilities	Bicycle	\$ 3,000,000	-	-	\$ 3,000,000	2015	2040	Yes
17	City of Napa	Bicycle Network (Maintenance & Rehab)	Maintenance and rehabilitation of Class I bicycle facilities	Bicycle	\$ 10,000,000	-	-	\$ 10,000,000	2015	2040	No
18	City of Napa	Pedestrian Network (Maintenance, rehab & expansion)	Sidewalk improvement, expand the pedestrian network	Pedestrian	\$ 156,000,000	\$1,500,000 FY14/15*	Local; Gas Tax; CDBG	\$ 154,500,000	2015	2040	Yes
19	Napa County	Local Streets & Roads (Maintenance & Rehab)	Rehabilitate, restore, and preserve pavement for local streets and roads	Vehicle	\$ 228,750,000	7,840,000	General Fund	\$ 220,910,000	2015	2040	Yes

No.	Sponsor	Program Category	Program Description	Mode	Total Cost	Total Committed	Types of funds Committed	Total Need	Start Year	End Year	Included in Plan Bay Area
20	Napa County	Bridge / Culvert (Maintenance, rehab & replacement)	Rehabilitate, restore, preserve and rejuvenate local bridge and culvert pavement, replace or widen existing structures	Vehicle	\$ 40,000,000	-	N/A	\$ 40,000,000	2015	2040	Yes
21	Napa County	Bicycle Network (Expansion)	Expansion of Class I bicycle facilities	Bicycle	\$ 25,000,000	-	N/A	\$ 25,000,000	2015	2040	No
22	Napa County	Bicycle Network (Maintenance & Rehab)	Maintenance and rehabilitation of existing Class I bicycle facilities	Bicycle	\$ 2,500,000	-	N/A	\$ 2,500,000	2015	2040	Yes
23	Napa County	Pedestrian Network (Maintenance, rehab & expansion)	Sidewalk improvement, expand the pedestrian network	Pedestrian	\$ 1,250,000	-	N/A	1,250,000	2015	2040	Yes
24	VINE	New Transit Vehicles (REPLACEMENT)	Acquisition of new paratransit vehicles, community shuttle buses and VINE buses for state of good repair. Shop truck w/ hoist & push bar for road calls, Support Vehicle for Supervisors.	Bus	\$ 62,625,000	\$ -	-	\$ 62,625,000	2015	2040	
25	VINE	Bus Shelter Program (REPLACEMENT)	Replacement of existing bus shelters throughout the county	Bus	\$ 3,000,000	\$ -	-	\$ 3,000,000	2015	2040	
26	VINE	VINE Transit PM	Preventative Maintenance for the buses. Routine maintenance on vehicles.	Bus	\$ 7,402,700	\$ -	-	\$ 7,402,700	2015	2040	
27	VINE	VINE Transit Operations	General	Bus	\$ 194,910,700	\$ -	-	\$ 194,910,700	2015	2040	
28	St Helena	Local Streets & Roads (Maintenance & Rehab)	Rehabilitate, restore, and preserve pavement for local streets and roads	Vehicle	\$ 18,855,473	\$ -	-	\$ 18,855,473	2015	2040	No
29	St Helena	Pedestrian Network (Maintenance, rehab & expansion)	Sidewalk improvement, expand the pedestrian network	Pedestrian	\$ 3,000,000	\$ -	-	\$ 3,000,000			
30	St Helena	Bridge / Culvert (Maintenance, rehab & replacement)	Rehabilitate, restore, preserve and rejuvenate local bridge and culvert pavement, replace or widen existing structures	Vehicle	\$ 2,100,000	\$ -	-	\$ 2,100,000			No
31	St Helena	Bicycle Network (Expansion)	Expansion of Class I bicycle facilities	Bicycle	\$ 3,000,000	\$ -	-	\$ 3,000,000			No
32	Yountville	Pedestrian Network (Maintenance, rehab & expansion)	Sidewalk improvement, expand the pedestrian network	Pedestrian	\$ 2,740,000	\$ 335,000	Gas Tax; Capital Projects Fund	\$ 2,405,000			No
33	Yountville	Local Streets & Roads (Maintenance & Rehab)	Rehabilitate, restore, and preserve pavement for local streets and roads	Vehicle	\$ 8,500,000	\$ 2,525,000	Gas Tax; Capital Projects Fund	\$ 5,975,000			Yes

Jurisdiction	Constrained Project List Total	Unconstrained Project List Total	Program Total	Total Request
American Canyon	\$ 67,564,572	\$ 99,508,791	\$ 65,140,000	\$ 232,213,363
Calistoga	\$ 1,400,000	\$ 18,253,000	\$ 30,105,000	\$ 49,758,000
City of Napa	\$ 65,953,000	\$ 95,850,000	\$ 384,000,000	\$ 545,803,000
Napa County	\$ 11,900,000	\$ 61,300,000	\$ 289,660,000	\$ 362,860,000
St. Helena	\$ 15,978,722	\$ 15,468,000	\$ 26,955,473	\$ 58,402,195
Yountville	\$ 8,100,000	\$ 22,500,000	\$ 8,380,000	\$ 38,980,000
NCTPA	\$ 62,425,000	\$ 97,299,360	\$ -	\$ 159,724,360
VINE	\$ 174,752,096	\$ 51,758,125	\$ 267,938,400	\$ 494,448,621
<b>TOTAL</b>	<b>\$ 408,073,390</b>	<b>\$ 461,937,276</b>	<b>\$ 1,072,178,873</b>	<b>\$ 1,942,189,539</b>

Countywide Plan  
Revenue Projections 2015-2040



Source	TRANSPORTATION REVENUE	Amount (\$'000)
Federal		
	STP/CMAQ (Jurisdictions)	47,512
State		
	TDA Article 3 Bike/Pedestrian (TDA 3)	4,121
	Regional Improvement Program (RTIP)	75,405
	Gas Tax Subvention	90,662
	AB105 (Gas Tax Swap) Streets and Roads Funding	115,175
Local		
	Measure T (FY2018-19 to FY2039-40)	349,172
	Transportation for Clean Air (TFCA)	4,862
	General Fund Fees	100,438

<b>Transportation Total</b>	<b>\$787,347</b>
Total Costs - Highway and Roads	\$1,433,716
Total Shortfall - Highway and Roads	-\$646,369

Source	TRANSIT REVENUE	Amount (\$'000)
Federal		
	FTA Transit Funds Operating	\$54,043
	FTA Transit Funds Capital	\$4,914
State		
	State Transit Assistance (STA Transit Funds)	28,264
	Transportation Development Act- Transit (NCTPA)	159,912
	Low Carbon Transit Operating Program	3,279
Local		
	Farebox	36,079
<b>Transit Total</b>	<b>\$286,491.48</b>	
Total Costs - Transit	\$508,474	
Total Shortfall - Transit	-\$221,982	

<b>TOTAL FUNDING SHORTFALL</b>	<b>-\$868,351</b>
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\*All figures are for planning purposes and subject to updates/revisions.

**ATTACHMENT 7  
TAC/CAC AGENDA ITEM 4.  
JUNE 4, 2015**

\*Dates/Times are subject to change

<b>Date/Time</b>	<b>Meeting</b>	<b>Subject</b>	<b>Location</b>
<b>June 4, 2015 at 2:00 PM</b>	TAC Meeting	Review Draft Investment Plan	NCTPA
<b>June 17, 2015 at 1:30 PM</b>	NCTPA Board Meeting	Draft Plan to NCTPA Board	NCTPA
<b>June 22, 2015 at 5:00 PM</b>	ATAC Meeting	Review CTP Lists	NCTPA
<b>July 9, 2015 at 10:00AM</b>	PCC Meeting	Final Draft CTP/CBTP	NCTPA
<b>July 9, 2015 at 2:00 PM</b>	TAC Meeting	Final Draft CTP/CBTP	NCTPA
<b>July 9, 2015 at 6:00 PM</b>	VCAC Meeting	Final Draft CTP/CBTP	NCTPA
<b>July 15, 2015 at 1:30 PM</b>	NCTPA Board Meeting	Final Plan to NCTPA Board	NCTPA
<b>September 2015</b>		<b>RTP Projects due to MTC</b>	