

Napa Valley Transportation Authority

625 Burnell Street
Napa, CA 94559



Agenda - Final

Thursday, May 3, 2018
2:00 PM

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 4:30 p.m., except for NVTA 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 <http://www.nvta.ca.gov/events> or <https://nctpa.legistar.com/Calendar.aspx>, click on the Technical Advisory Committee meeting date you wish to review.

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

STANDING AGENDA ITEMS

- 5.1 Congestion Management Agency (CMA) Report (Danielle Schmitz)
- 5.2 Project Monitoring Funding Programs* (Alberto Esqueda)
- 5.3 Caltrans' Report* (Ahmad Rahimi)
- 5.4 Vine Trail Update (Erica Ahmann Smithies)
- 5.5 Transit Update (Matthew Wilcox)

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.

6. CONSENT AGENDA

- 6.1 **Meeting Minutes of April 5, 2018 Technical Advisory Committee Meeting (Kathy Alexander) (Pages 7-14)**

Recommendation: Approval

Estimated Time: 2:10 p.m.

Attachments: [Draft Minutes.pdf](#)

7. REGULAR AGENDA ITEMS

7.1 Transportation Fund for Clean Air (TFCA) Fiscal Year End (FYE) 2019-2021 Program of Projects (Diana Meehan) (Pages 15-43)

Body: Staff is requesting that the TAC recommend the Napa Valley Transportation Authority (NVTa) Board approve the Transportation Fund for Clean Air (TFCA) Program Manager Three-Year Projects List for Fiscal Years Ending (FYE) in 2019 through 2021 allocating \$594,227.

Recommendation: Action.

Estimated Time: 2:20 p.m.

Attachments: [Staff Report.pdf](#)

7.2 Community Based Transportation Plan (CBTP) Process Timeline (Shaveta Sharma) (Pages 44-56)

Body: Staff will review the CBTP process timeline.

Recommendation: Information only.

Estimated Time: 2:30 p.m.

Attachments: [Staff Report.pdf](#)

7.3 Comprehensive Operational Analysis (COA) Identified Needs (Matthew Wilcox) (Pages 57-63)

Body: Staff will provide an informational summary on the identified needs in the Vine's Comprehensive Operational Analysis (COA) and invite feedback from the TAC.

Recommendation: Information/Discussion

Estimated Time: 2:40 p.m.

Attachments: [Staff Report.pdf](#)

7.4 Legislative Update* (Kate Miller)

Body: Staff will review the state and federal legislative updates.

Recommendation: Information only.

Estimated Time: 2:45 p.m.

7.5 May 16, 2018 NVTa Board Meeting Draft Agenda* (Kate Miller)

Body: Staff will review the May 16, 2018 NVTa Board meeting draft agenda.

Recommendation: Information only.

Estimated Time: 2:50 p.m.

8. FUTURE AGENDA ITEMS

9. ADJOURNMENT

9.1 Approval of Next Regular Meeting Date of June 7, 2018 and Adjournment.

I, Kathy Alexander, hereby certify that the agenda for the above stated meeting was posted at a location freely accessible to members of the public at the NVTa offices, 625 Burnell Street, Napa, CA by 5:00 p.m., on Thursday, April 26, 2018.

Kathy Alexander (e-sign)

Kathy Alexander, Deputy Board Secretary

*Information will be available at the meeting

Glossary of Acronyms

AB 32	Global Warming Solutions Act	HIP	Housing Incentive Program
ABAG	Association of Bay Area Governments	HOT	High Occupancy Toll
ADA	American with Disabilities Act	HOV	High Occupancy Vehicle
ATAC	Active Transportation Advisory Committee	HR3	High Risk Rural Roads
ATP	Active Transportation Program	HSIP	Highway Safety Improvement Program
BAAQMD	Bay Area Air Quality Management District	HTF	Highway Trust Fund
BART	Bay Area Rapid Transit District	IFB	Invitation for Bid
BATA	Bay Area Toll Authority	ITIP	State Interregional Transportation Improvement Program
BRT	Bus Rapid Transit	IS/MND	Initial Study/Mitigated Negative Declaration
CAC	Citizen Advisory Committee	JARC	Job Access and Reverse Commute
CAP	Climate Action Plan	LIFT	Low-Income Flexible Transportation
Caltrans	California Department of Transportation	LOS	Level of Service
CEQA	California Environmental Quality Act	LS&R	Local Streets & Roads
CIP	Capital Investment Program	MAP 21	Moving Ahead for Progress in the 21 st Century Act
CMA	Congestion Management Agency	MPO	Metropolitan Planning Organization
CMAQ	Congestion Mitigation and Air Quality Improvement Program	MTC	Metropolitan Transportation Commission
CMP	Congestion Management Program	MTS	Metropolitan Transportation System
CTP	Countywide Transportation Plan	ND	Negative Declaration
COC	Communities of Concern	NEPA	National Environmental Policy Act
CTC	California Transportation Commission	NOAH	Natural Occurring Affordable Housing
DAA	Design Alternative Analyst	NOC	Notice of Completion
DBB	Design-Bid-Build	NOD	Notice of Determination
DBF	Design-Build-Finance	NOP	Notice of Preparation
DBFOM	Design-Build-Finance-Operate-Maintain	NVTA	Napa Valley Transportation Authority
DED	Draft Environmental Document	NVTA-TA	Napa Valley Transportation Authority-Tax Agency
EIR	Environmental Impact Report	OBAG	One Bay Area Grant
EJ	Environmental Justice	PA&ED	Project Approval Environmental Document
FAS	Federal Aid Secondary	P3 or PPP	Public-Private Partnership
FAST	Fixing America's Surface Transportation Act	PCC	Paratransit Coordination Council
FHWA	Federal Highway Administration	PCI	Pavement Condition Index
FTA	Federal Transit Administration	PCA	Priority Conservation Area
FY	Fiscal Year	PDA	Priority Development Areas
GHG	Greenhouse Gas	PID	Project Initiation Document
GTFS	General Transit Feed Specification	PMS	Pavement Management System
HBP	Highway Bridge Program		
HBRR	Highway Bridge Replacement and Rehabilitation Program		

Glossary of Acronyms

Prop. 42	Statewide Initiative that requires a portion of gasoline sales tax revenues be designated to transportation purposes		
PSE	Plans, Specifications and Estimates	TE	Transportation Demand Model
PSR	Project Study Report	TEA	Transportation Enhancement
PTA	Public Transportation Account	TEA 21	Transportation Enhancement Activities
RACC	Regional Agency Coordinating Committee	TEA 21	Transportation Equity Act for the 21 st Century
RFP	Request for Proposal	TFCA	Transportation Fund for Clean Air
RFQ	Request for Qualifications	TIGER	Transportation Investments Generation Economic Recovery
RHNA	Regional Housing Needs Allocation	TIP	Transportation Improvement Program
RM2	Regional Measure 2 (Bridge Toll)	TLC	Transportation for Livable Communities
ROW	Right of Way	TLU	Transportation and Land Use
RTEP	Regional Transit Expansion Program	TMP	Traffic Management Plan
RTIP	Regional Transportation Improvement Program	TMS	Transportation Management System
RTP	Regional Transportation Plan	TNC	Transportation Network Companies
SAFE	Service Authority for Freeways and Expressways	TOAH	Transit Oriented Affordable Housing
SAFETEA-LU	Safe, Accountable, Flexible, and Efficient Transportation Equity Act-A Legacy for Users	TOD	Transit-Oriented Development
SB 375	Sustainable Communities and Climate Protection Act 2008	TOS	Transportation Operations Systems
SB 1	Road Repair and Accountability Act of 2017	TPA	Transit Priority Area
SCS	Sustainable Community Strategy	TPI	Transit Performance Initiative
SHOPP	State Highway Operation and Protection Program	TPP	Transit Priority Project Areas
SNCI	Solano Napa Commuter Information	VHD	Vehicle Hours of Delay
SNTDM	Solano Napa Travel Demand Model	VMT	Vehicle Miles Traveled
SR	State Route		
SRTS	Safe Routes to School		
SOV	Single-Occupant Vehicle		
STA	State Transit Assistance		
STIC	Small Transit Intensive Cities		
STIP	State Transportation Improvement Program		
STP	Surface Transportation Program		
TAC	Technical Advisory Committee		
TCM	Transportation Control Measure		
TCRP	Traffic Congestion Relief Program		
TDA	Transportation Development Act		
TDM	Transportation Demand Management		

Napa Valley Transportation Authority

625 Burnell Street
Napa, CA 94559

Meeting Minutes

Technical Advisory Committee

NVTA Conference Room

Thursday, April 5, 2018

2:00 PM

1. Call To Order

The meeting was called to order at 2:07 p.m.

Member Whan was appointed Pro Tem Chair until Vice Chair Ahmann Smithies arrived.

Present: 7 - Mike Kirn
Member Eric Whan
Dana Ayers
Lorien Clark
Juan Arias
Erica Ahmann Smithies
Ron Ranada

Absent: 6 - Chairperson Nathan Steele
Brent Cooper
Joe Tagliaboschi
Doug Weir
Ahmad Rahimi

2. Introductions

There were no introductions as there were no public present.

3. Public Comment

No public comment received.

4. Committee Member and Staff Comments

Eric Whan, City of Napa - The California Boulevard roundabout project plans are at 100% design.

Anticipates submitting the authorization and allocation to California Transportation Commission (CTC) in June. Once authorized, project will be advertised mid-late summer, with the project starting in April 2019.

[Vice Chair Ahmann Smithies joined the meeting at 2:08 p.m.]

Alberto Esqueda, NVTa - The SB 1 local street and road projects for FY 18-19 are due to the CTC by May 1st.

- Metropolitan Transportation Commission (MTC) circulating new performance measures required by the Federal Highway Administration for funds allocated through MAP 21. Comments are due by April 17th. Mr. Esqueda will email information to the TAC members.

Mike Kirn, City of Calistoga - Completed a 3/8 mile paving project on Lake Street from Grant to Fairway.

- Completed a comfort station facility on the Vine Trail by the Little League field.
- Berry Street Bridge is completed.

Herb Fredricksen, NVTa - Design plans are at 60% for the Vine maintenance facility on Sheehy Court. Construction may start in Spring 2019.

- Discussed issues with the Caltrans encroachment permit process at the Caltrans/Congestion Management Agency (CMA) Project Delivery meeting. Caltrans authorizes their consultants to forego the encroachment permit process for activities with minimal ground disturbance (i.e., traffic studies). Caltrans staff will explore the possibility of providing local agencies similar authority.

Mr. Fredricksen invited TAC members to forward any project issues with Caltrans to him, and he will discuss them with Caltrans at the CMA Project Delivery meetings.

Danielle Schmitz added that NVTa staff are starting to hold bi-monthly Napa Integrated Team (Napa I-Team) meetings with Caltrans staff; TAC members are encouraged to forward Caltrans issues to staff to bring up at these meetings.

Ron Ranada, City of American Canyon - Working on the signal interconnect portion of the traffic control system from Napa Junction to the north down to America Canyon Road to the south and over to Silver Oak Trail/Broadway. The city just received the permit from Caltrans. They will advertise for bids in April, and award the contract in May.

American Canyon has also submitted Devlin Road, Segment H (IKEA warehouse to Green Island Road).

Lorien Clark, City of Napa - City of Napa, Caltrans and NVTa will meet later this month regarding the Soscol Junction project.

Juan Arias, County of Napa - Next week the County will award a tree removal contract for trees damaged on various county roads in the October 2017 wildfires. They are also

requesting funding authorization for the design phase of SB1 projects at next week's Board of Supervisors meeting.

Diana Meehan, NVTa - Handed out a flyer for a joint workshop addressing SB 1 Accountability Guidelines and 2019 Active Transportation Program (ATP) (Cycle 4) in Sacramento on Tuesday, April 17th, noting that phone participation is available.

- The FHWA's patent issue with the Rectangular Rapid Flashing Beacons (RRFBs) has been resolved - Caltrans is working on a blanket approval, in the meantime, jurisdictions must request approval for using an RRFB.

Erica Ahmann Smithies, City of St. Helena - The SB1 Fiscal Year 2018-2019 project list is being presented to council for approval next Tuesday.

- An overlay project will be released for bid in April.
- Still trying to get repairs done on the hazardous pedestrian ramp that was installed a few months ago.

4.1 Independent Taxpayer Oversight Committee (ITOC) Debrief

Danielle Schmitz provided the following update:

- There was a question about the Town of Yountville's Maintenance of Effort (MOE) regarding a dump truck purchase - Ms. Schmitz will follow up with staff.

- City of American Canyon needs to provide a spreadsheet providing further documentation on its MOE.

- The jurisdictions' MOEs (information item) and five-year project lists (action item) will be presented to the Napa Valley Transportation Authority - Tax Agency (NVTa-TA) Board at its April 18th meeting. Staff will provide a consolidated presentation on the jurisdictions' MOEs and project lists at the meeting.

- The ITOC requested the jurisdictions include the total number of road/lane segment miles included in the five-year Measure T project list as well as the correlating percentage of total city (or town/county) roads to be addressed.

- Jurisdictions that have not already done so should provide a project map that includes the number of road/lane miles and the percentage.

Information is due to staff by Tuesday, April 10, 2018 so that it can be included in the presentation to the NVTa-TA Board.

Member Whan stated that a majority of the City of Napa's Measure T projects are concrete work addressing curb, gutter and sidewalk improvements and asked how to report the additional improvements that are addressed under the city's 10 mile program.

Several members and staff suggested reporting the curb, gutter and sidewalk improvements as pedestrian miles.

The TAC was in consensus that reporting should be center lane miles.

5. STANDING AGENDA ITEMS

5.1 Congestion Management Agency (CMA) Report (Danielle Schmitz)

Report by Danielle Schmitz.

- The CMA executive directors met March 30th.
- Fiscal Year 2018/2019 Local Streets and Roads applications for SB1 funding must be submitted by May 1, 2018.
- There will be some stipulations regarding housing for ATP funds under Cycle 4. It will be very similar to OBAG 2 requirements including certified housing element and adopted Complete Streets Policy requirements.
- Under ATP there will be additional points or a provision for transit coordination - jurisdictions need to provide documentation demonstrating that they have discussed the project with their local transit provider.
- Also, under the Regional ATP there will be up to seven points for consistency with Regional Transportation Plan priorities; three points for environmental document completion; up to ten points related to Disadvantaged Communities - two points if the project is in the Community Based Transportation Plan, two points for having an adopted city/town-wide bicycle and pedestrian policy.
- Metropolitan Transportation Commission (MTC) has changed the name of its guidance campaign for the next Regional Transportation Plan from "Futures" to "Horizons".
- California Transportation Commission adopted the 2018 State Highway Operation and Protection Program (SHOPP) and the Caltrans Asset Management Program - which will fund 155 projects totaling \$2.8 billion in the Bay Area. Staff will forward the revised SHOPP list upon receipt from Caltrans.
- Caltrans adopted the District 4 Bicycle Plan.

5.2 Project Monitoring Funding Programs* (Alberto Esqueda)

Alberto Esqueda reviewed the changes to the project monitoring spreadsheets.

5.3 Caltrans' Report* (Ahmad Rahimi)

No report - Ahmad Rahimi was not at the meeting.

5.4 Napa Valley Vine Trail Update (Erica Ahmann Smithies)

Vice Chair Ahmann Smithies invited Juan Arias to provide an update from the engineering meeting.

Juan Arias reported that the NVVTC is continuing to work on easements for the St. Helena to Calistoga segment.

Vice Chair Ahmann Smithies noted there are several volunteer opportunities for upcoming NVVTC fundraising events, including the Pedal Party this Sunday. She encouraged the TAC to check the website for sign up sheets for events.

Danielle Schmitz reported the NVVTC Board approved the purchase of a street sweeper for the Vine Trail, however, Ms. Schmitz encouraged them to discuss it with the County of Napa,

City of Napa and Town of Yountville prior to purchasing a street sweeper as there are areas of the trail that will not accommodate a street sweeper, especially pedestrian bridges. Additionally, there are gaps in the Vine Trail that would require the street sweeper to be moved by truck from one segment to the next, however the NVVTC has indicated they would not transport the sweeper from section to section.

5.5 Transit Update (Matthew Wilcox)

Report by Shaveta Sharma.

There is approximately \$100,000 Federal Transit Administration (FTA) funds available that can be used for Americans with Disabilities Act (ADA) improvements with their bus stops. Contact Ms. Sharma if interested.

6. CONSENT AGENDA

6.1 Meeting Minutes of March 1, 2018 TAC Meeting (Kathy Alexander) (Pages 7-12)

MOTION by AYERS, SECOND by WHAN to APPROVE the March 1, 2018 Minutes as presented. Motion passed unanimously.

7. REGULAR AGENDA ITEMS

7.1 Lifeline Transportation Program Cycle 5 Call for Projects (Shaveta Sharma) (Pages 13-44)

Report by Shaveta Sharma.

The Lifeline Transportation program is a competitive grant program that funds projects identified in the adopted Community Based Transportation Plan or other local planning efforts that address transportation gaps or barriers for low-income residents, including projects that:

1) Are developed through a collaborative and inclusive planning process; 2) improve transportation choices; 3) address transportation gaps identified in the Community Based Transportation Program (CBTP) or other local planning efforts; and 4) focus on transportation needs specific to elderly and disabled residents of low income communities. There is approximately \$453,811 available.

Eligible Projects in the Napa County 2015 CBTP include:

- Napa County expansion of Class I Bicycle facilities
- Install traffic calming devices, upgrade sidewalk, lighting, and landscaping in downtown St. Helena
- Widen sidewalks on Main Street from First Street to Third Street
- New bus shelters and bus stop amenities

Applications are due to NVTa no later than April 20, 2018 by 5:00 p.m.

7.2 Transportation Development Act Article 3 (TDA-3) Call for Projects (Diana Meehan) (Pages 45-55)

Report by Diana Meehan.

The TDA-3 program is a grant program funded by approximately 2% of the ¼ cent Statewide Sales Tax. This generates approximately \$160,000 per year in revenues for Napa jurisdictions. Unused funds are accumulated and rolled over for programming in future cycles. The current TDA-3 fund estimate is \$136,979 FY 2018-19 which includes approximately \$121,000 in unused funds from FY 2017-18. The FY 2018-19 projected allocation is \$184,779 bringing the estimated total funds available for allocation in FY 2018-19 to \$321,758. Estimated funds for FY 2019-20 and 2020-21 are an additional \$320,000 bringing the total fund estimate for the three-year program to \$641,758. The purpose of the TDA-3 program is to provide grants for local bicycle and pedestrian projects.

At the March TAC meeting, staff proposed a three-year program cycle, similar to the State Transportation Improvement Program (STIP) in order to aid local planning processes and address multi-year bike and pedestrian priorities. The TAC was in agreement provided there would be an annual review of the program if the funds were not fully programmed.

A request to open the Call for Projects and a three-year program cycle will be presented to the NVT Board at its April 18, 2018 meeting.

Projects must have a local letter of support, and jurisdictions that have a bicycle advisory committee must obtain approval of that committee.

All projects will be reviewed by NVT's Active Transportation Advisory Committee.

Ms. Meehan reviewed the TDA-3 process timeline.

Member Whan asked if the issue of using funds for trail maintenance had been addressed.

Ms. Meehan directed him to the section of the guidelines (page 53 of the packet) that states funding priority is given to capital projects.

Member Whan stressed that the smaller jurisdictions should have priority for TDA-3 funding as the bigger jurisdictions have projects that utilize One Bay Area Grant (OBAG) funding whereas the smaller jurisdictions' projects are not feasible for OBAG funding.

[Member Arias left the meeting at 3:05 p.m.]

Motion by WHAN, SECOND by KIRN to recommend the NVT Board open the Call for Projects TDA-3 funds for Fiscal Years 2018-2019 through 2020-2021, a three-year program cycle, and the program guidance with an annual review if the funds are not fully programmed. Motion was unanimously approved.

7.3 Measure T Project Management Database and Website (Alberto Esqueda) (Pages 56-58)

Report by Alberto Esqueda.

NVTA is in the process of researching a project management tool to monitor, track and present Measure T projects to the public and for internal use. In addition to tracking the projects internally, NVTA would like the capability of presenting a simplified version of that project as a geocoded project on a map for the public to view. Additionally NVTA and the jurisdictions would have the capability to edit, modify, update and archive projects. The goal of this tool is to provide a uniform and coordinated data flow effort that will reduce reporting redundancies, and "feed" the data to the NVTA website as well as jurisdiction-specific data to each jurisdiction's website.

The TAC discussed the need and potential ways of utilizing the project management tool to provide information to the public via each jurisdiction's website.

Member Whan noted the City of Napa has a sign shop that has been creating Measure T signs and invited the jurisdictions to contact the sign shop for signs.

Mr. Esqueda asked the TAC to form a small working group comprised of public works representatives, IT representatives, and finance representatives from each jurisdiction to discuss the collective use of a project database for Measure T projects to better coordinate project updates and data dissemination.

7.4 Federal and State Legislative Updates and State Bill Matrix* (Kate Miller)

Danielle Schmitz reviewed the Federal and State Legislative updates.

Vice Chair Ahmann Smithies added that the passage of SB 96 resulted in changes to prevailing wages and reporting requirements that went into effect last July. She urged all jurisdictions to make sure their contract specs were in compliance with the new requirements. Any type of work that involves the payment of prevailing wages must be reported to the Department of Industrial Relations (DIR). The contracting agency, contractor and subcontractors are now subject to penalties if they do not meet the reporting requirement.

Vice Chair Smithies also noted that there are new contract clause requirements in the specifications section under AB 66. The California League of Governments has the exact language available on its website.

7.5 April 18, 2018 Napa Valley Transportation Authority (NVTA) Board of Directors Meeting Draft Agenda (Kate Miller) (Pages xx-xx)

Danielle Schmitz reviewed the April 18, 2018 NVTA Board meeting agenda.

Additionally, she reminded the TAC to provide their Measure T information to Mr. Esqueda by Tuesday, April 10th.

8. FUTURE AGENDA ITEMS

- Transportation Fund for Clean Air (TFCA)
- Community Based Transportation Plan Scope of Work and Timeline
- SB 743 guidelines and policies discussion

9. ADJOURNMENT

9.1 Approval of Next Regular Meeting of Date of May 3, 2018 at 2:00 p.m. and Adjournment

The meeting adjourned at 3:42 p.m.



NAPA VALLEY TRANSPORTATION AUTHORITY TAC Agenda Letter

TO: Technical Advisory Committee
FROM: Kate Miller, Executive Director
REPORT BY: Diana Meehan, Senior Planner
(707) 259-8327 / Email: dmeehan@nvta.ca.gov
SUBJECT: Transportation Fund for Clean Air (TFCA) Program Manager Projects
List for Fiscal Years Ending (FYE) in 2019 through 2021 (Three-Year
Program)

RECOMMENDATION

That the TAC Recommend the Napa Valley Transportation Authority (NVTA) Board approve the Transportation Fund for Clean Air (TFCA) Program Manager Three-Year Projects List for Fiscal Years Ending (FYE) in 2019 through 2021 allocating \$594,227.

EXECUTIVE SUMMARY

On February 21, 2018 the NVTA Board approved the expenditure plan and opened a call for projects for the TFCA Program Manager Funds which closed on March 23, 2018. Two projects were submitted by NVTA, no projects were received from other jurisdictions. The proposed final list of projects for FYE 2019 through FYE 2021 is shown in Table 1 below. All projects have undergone a cost effectiveness analysis and are eligible to receive funds. Approved projects must be submitted to the BAAQMD by November 2, 2018 to meet the programming deadline.

Table 1: Proposed Three-Year Cycle FYE 2019-2021 TFCA Program Manager Projects

FYE 2019-2021 TFCA Expenditures	Amount
Administration Costs for FYE 2019	\$12,931
Imola Park and Ride Express Bus Improvements (FYE 2019 & 2020)	\$381,296
Napa Valley Vine Trail Calistoga to St. Helena (FYE 2021)	\$200,000
TOTAL	\$ 594,227

*FYE 2020 and 2021 Estimates are \$380,000 and will be updated when annual fund estimate is received

FISCAL IMPACT

Is there a Fiscal Impact? Yes, TFCA eligible projects totaling \$594,227 (including administrative costs) will be funded with FYE 2019 through FYE 2021 revenues.

Is it currently budgeted? Yes.

Where is it budgeted? TFCA funds.

Future fiscal impact? No.

Consequences if not approved? TFCA FYE 2019 through FYE 2021 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. Forty percent of the DMV funds generated in Napa are returned to the NVRTA for distribution to local projects. The remaining sixty percent is allocated by the BAAQMD under the Regional Program. Projects must have an air quality benefit and be cost effective. Air District rules and statutes only allow funds to be retained for two years unless an extension is requested. Bicycle projects are not allowed an extension and funds programmed to bicycle projects must be expended in 2 years.

NVRTA adopts a list of projects annually to be funded by the TFCA Program Manager funds. Historically, the call for projects has been extended and program funds have been rolled over due to lack of eligible project submissions from jurisdictions. Unused TFCA program manager funds can be allocated to other counties, although this has not yet occurred. At the February TAC meeting, staff proposed programming TFCA funds for a three-year cycle similar to the State Transportation Improvement Program (STIP) in order to aid in local planning processes.

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; electric vehicles and electric vehicle infrastructure; and arterial management projects that reduce traffic congestion such as signal interconnect projects.

Napa County has approximately \$594,227 in Program Manager Funds for FYE 2019 through FYE 2021. This amount includes \$12,931 set aside for Administration costs for NVTa in the FYE 2019 Expenditure Plan, plus an additional estimated \$380,000 for FYE 2020 and 2021.

SUPPORTING DOCUMENTS

Attachment: (1) FYE 2019-2021 TFCA Applications

PROJECT INFORMATION

A. Project Number: 19NAP01

B. Project Title: Imola Park & Ride-Phase 1 Express Bus Platform Improvements
Bicycle and Pedestrian access improvements

C. TFCA County Program Manager Funds Allocated: \$ 359,296

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

E. Total TFCA Funds Allocated (sum of C and D):\$ 359,296

F. Total Project Cost: \$2,700,000

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 relocate existing bus stop to Imola Avenue and improve the Imola Park and Ride facility. Two new bus stop platforms will be constructed on the northbound and southbound SR29 ramps. The project includes construction of sidewalk, curb and gutter on the south side of Imola Ave. from the Imola Park & Ride lot to the southbound bus platform . Additional pedestrian crossing improvements will be made for access to the northbound platform. (Attachment A)Long term bicycle parking in the Park and Ride lot will be included to encourage first/last mile connections by bicycle.

These improvements are designed to improve frequency and reduce running time and improve accessibility for the Route 29 Express to the Vallejo Ferry Terminal and El Cerrito Del Norte BART station. Currently, the Route departs from the Soscol Gateway Transit Center in the center of Napa off of the SR29 Corridor. Relocating the stop to the Imola Avenue ramps will significantly reduce running time for the route.

Based on the NVTA Express Bus Study, it is anticipated that increased frequency and reduced running times will result in a 10-15% increase in ridership on the Route 29. This equates to approximately 160 one-way trips per day, up from 144 currently at the Soscol Gateway Transit Center.

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

A Final Report Form 1 for Smart Growth Projects/Transit Information will be provided upon completion of the project

I. Completed Cost Effectiveness Worksheet attached

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS **FYE 2019 TFCA Program Manager Fund Worksheet**

Version 2019.1, updated 1/23/2018

General Information Tab: Complete areas shaded in yellow.

Project Number (19XXYY)	19NAP01
Project Title	Imola Park and Ride Facility & Transit Improvements
Project Type Code (e.g., 7a)	8c
County (2-3 character abbreviation)	NAP
Worksheet Calculated By	Diana Meehan
Date of Submission	
Project Sponsor	
Project Sponsor Organization	Napa Valley Transportation Authority
Public Agency? (Y or N)	Y
Contact Name	Diana Meehan
Email Address	dmeehan@nvta.ca.gov
Phone Number	707-259-8327
Mailing Address	625 Burnell Street
City	Napa
State	CA
Zip	94559
Project Schedule	
Project Start Date	9/1/2019
Project Completion Date	12/30/2021
Final Report to CMA	

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS

FYE 2019 TFCA Program Manager Fund Worksheet

Version 2019.1, Updated 1/23/2018

Regional Fund Proj. #:	N/A
Route Name:	

Cost Effectiveness Inputs	
# Years Effectiveness:	3
Total Cost for route:	\$2,700,000
TFCA Cost for route 40%:	\$359,296
TFCA Cost for route 60%:	N/A
Total TFCA Cost for route:	\$359,296

Program Manager Proj. #	
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Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

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	71,900	62,950	989	98,798	154,024,624
160	240	33.1	1,271,040	207,621	193,217	2,937	313,941	433,805,952
			0	0	0	0	0	0
Total			1,271,040	207,621	193,217	2,937	313,941	433,805,952

Step 2 - Emissions for New Trips to Access Transit/Ridesharing								
50	250	3	37,500	11,900	7,588	144	9,262	14,439,808
			0	0	0	0	0	0
			0	0	0	0	0	0
Total			0	0	0	0	0	0

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	0.32	860	8000	1,840	3,200	960	1,600	6,880,000
									0	0	0	0	0
									0	0	0	0	0
Total									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
									0	0	0	0	0
Total									0	0	0	0	0

Cost Effectiveness Results

	Annual	Lifetime	
1. VMT Reduced	1,271,040	3,813,120	Miles
2. Trips Reduced	38,400	115,200	Trips
3. ROG Emissions Reduced	0.23	0.69	Tons
4. NOx Emissions Reduced	0.21	0.64	Tons
5. PM Emissions Reduced	0.35	1.05	Tons
6. PM Weighted Emissions Reduced	0.41	1.23	Tons
7. CO2 Emissions Reduced	478.2	1434.5	Tons
8. Emission Reductions (ROG, NOx & PM)	0.79	2.37	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		\$151,384	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). THIS VALUE MUST MEET POLICY REQUIREMENTS.		\$140,462	/Ton

Notes & Assumptions

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

Project sponsor will use TFCA funds to construct new express bus platforms and update the Imola Park and Ride facility including Bicycle and Pedestrian infrastructure improvements. These improvements are identified in the NVTa 2017 Express Bus Study.

6 month average on/off for Route 29 Express Bus Service to El Cerrito Del Norte BART Station at Soscil Gateway Transit Center were 144/day
Based on the NVTa Express Bus Study (2017) NVTa anticipates that increased frequency and reduced running times will result in a 10-15% increase in ridership on Rt. 29
This equates to 158-165 one-way trips per day, up from 144 trips once the stop is relocated to the Imola Park and Ride

Trip distance (one-way) to El Cerrito Del Norte BART from Imola P & R	33 miles
Projected trips per day per NVTa Travel Behavior Study with Imola P&R improvements	160 avg.
Days/Year based on 20 days/mo. Weekday commute trips	240

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2019 Worksheet, Version 2019.1, updated 1/23/2018

Average Auto Emission Factors							
Yrs Eff	Trip Fac.	Run Emis. (VMT)	Trip Fac.	Run Emis. (VMT)	Exhaust	Tire, Brakes, Road PM	PM Commute Trip End
1	0.508	0.148	0.166	0.147	0.00216	0.24700	0.00500
2	0.508	0.148	0.166	0.147	0.00216	0.24700	0.00500
3	0.508	0.148	0.166	0.147	0.00216	0.24700	0.00500
4	0.508	0.148	0.166	0.147	0.00216	0.24700	0.00500
5	0.508	0.148	0.166	0.147	0.00216	0.24700	0.00500
6	0.397	0.121	0.125	0.114	0.00216	0.24700	0.00500
7	0.397	0.121	0.125	0.114	0.00216	0.24700	0.00500
8	0.397	0.121	0.125	0.114	0.00216	0.24700	0.00500
9	0.397	0.121	0.125	0.114	0.00216	0.24700	0.00500
10	0.397	0.121	0.125	0.114	0.00216	0.24700	0.00500
11	0.316	0.101	0.096	0.091	0.00216	0.24700	0.00400
12	0.316	0.101	0.096	0.091	0.00216	0.24700	0.00400
13	0.316	0.101	0.096	0.091	0.00216	0.24700	0.00400
14	0.316	0.101	0.096	0.091	0.00216	0.24700	0.00400
15	0.316	0.101	0.096	0.091	0.00216	0.24700	0.00400
16	0.276	0.095	0.081	0.081	0.00216	0.24700	0.00400
17	0.276	0.095	0.081	0.081	0.00216	0.24700	0.00400
18	0.276	0.095	0.081	0.081	0.00216	0.24700	0.00400
19	0.276	0.095	0.081	0.081	0.00216	0.24700	0.00400
20	0.276	0.095	0.081	0.081	0.00216	0.24700	0.00400

Sources:

CARB Methods to Find the Cost-Effectiveness of Funding Air Quality Projects, Table 3 Average Auto Emission Factors, Update from Dennis Wade email, Using columns covering years of project implementation; methodology per Yvette DiCarlo (ARB), Feb. 2010.

CO2 Emission Factors

Gasoline	18.6 lbs/gal	343.9 g/mile
Diesel	22.2 lbs/gal	301.1 g/mile
CNG (from gasoline)	lbs/gal	
CNG(from diesel)	lbs/gal	
Electric	0.00 lbs/gal	0 g/mile
Propane/LPG		
Hybrid		
Approx. Fleet Avg	18.64 lbs/gal	341.3 g/mile

CO2 factors from EMFAC 2014 - cal yr 2017, LDA, LDT1, LDT2, and MCY

Fuel Consumption		VTM %	Weighted
Lt. Duty Cars & Trucks	21.93 mpg	85.8%	18.82
Md. Duty	1 13.93 mpg	13.7%	1.91
Diesel Bus	2 4.64 mpg	0.5%	0.02
		Weighted Avg	20.75

ARB Table 2:

Baseline Vehicle

Based on LEV II standards

with 120,000 mile durability

Weight (lbs.) ¹	ROG	NOx	PM10		CO ₂ ⁴
			Exhaust	Total ³	
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.) ¹	ROG	NOx	PM10		CO ₂
			Exhaust	Total ³	
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.) ¹	ROG	NOx	PM10		CO ₂
			Exhaust	Total ³	
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.) ¹	ROG	NOx	PM10		CO ₂
			Exhaust	Total ³	
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, Table 2. Document updated May 2013.

¹ Gross vehicle weights can be associated with passenger capacity as follows: 5751-8500,

³ 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
	1	2	3
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

ARB Table 5-C:

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

Model Year	ROG ^c	NOx	Exhaust PM2.5	Exhaust PM10	Other PM	CO2 ^e
Pre-1987	0.75	14.52	0.64	0.69	0.289	1321.2

1987-1990	0.59	14.31	0.69	0.75	0.289	1307.3
1991-1993	0.26	10.7	0.38	0.41	0.289	1266.3
1994-1997	0.2	10.51	0.21	0.23	0.289	1171.0
1998-2002	0.2	10.33	0.23	0.25	0.289	1201.0
2003-2006	0.13	6.84	0.14	0.16	0.289	1215.4
2007-2009	0.11	4.01	0.02	0.02	0.289	1241.9
2007-2009 (0.5 g/bhp-hr NOx or Cleaner) ^d	0.1	1.73	0.02	0.02	0.289	1241.9
2010+	0.09	0.74	0.02	0.02	0.289	1246.0

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 Fanai (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.

CO2 from EMFAC 2014, includes both RUNEX, other CO2 emissions averaged over VMT for a total per mile figure. Ken Mak, updated Dec 12, 2016

ARB Table 5-D:

Diesel^b Heavy Heavy-Duty Vehicles (g/mile)^a: 33,001-60,000 lbs

Model Year	ROG ^c	NOx	Exhaust PM2.5	Exhaust PM10	Other PM	CO2 ^e
Pre-1987	1.09	21.37	1.15	1.25	0.289	2202.4
1987-1990	0.86	21.07	1.25	1.35	0.289	2571.8
1991-1993	0.56	18.24	0.52	0.56	0.289	2788.6
1994-1997	0.42	17.92	0.34	0.37	0.289	1909.8
1998-2002	0.43	17.61	0.37	0.40	0.289	2817.7
2003-2006	0.27	11.64	0.23	0.25	0.289	2065.3
2007-2009	0.23	6.62	0.03	0.03	0.289	1995.2
2007-2009 (0.5 g/bhp-hr NOx or Cleaner) ^d	0.2	2.88	0.03	0.03	0.289	1995.2
2010+	0.19	1.27	0.03	0.03	0.289	2113.3

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.

CO2 from EMFAC 2014, includes both RUNEX, other CO2 emissions averaged over VMT for a total per mile figure. Ken Mak, updated Dec 12, 2016

ARB Table 5-E:

Diesel Urban Buses (g/mile)^b. 33,000+ lbs

Diesel Urban Buses (g/mile) : 55,000 lbs							
EO Certification Standards ^f (g/bhp-hr)		ROG ^a	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 Fanai (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.

CO2 from EMFAC 2014, includes both RUNEX, other CO2 emissions averaged over VMT for a total per mile figure. Ken Mak, updated Dec 12, 2016

ARB Table 5-F:

Natural Gas Urban Buses (g/mile)^b 33,000+ lbs

EO Certification Standards (g/bhp-hr)		ROG ^a	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 ^g	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 Value: EMFAC 2007 for Diesel Urban Bus, aggregate value for CO2_RUNEX(Pavley I+LCFS) for all model years. Methodology suggested by Dennis Wade from ARB; natural gas vehicles are certified to deisel 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)^a: 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	2202.4
1990, 6.0 NOX	3.42	10.80	0.450	0.244	2571.8
1991-1993, 5.0 NOX	2.85	9.00	0.180	0.244	2788.6
1994-1997, 5.0 NOX	2.85	9.00	0.180	0.244	1909.8
1998-2001, 4.0 NOX	2.28	7.20	0.180	0.244	2817.7
2002-2006, 2.5 NOX	1.14	3.60	0.020	0.244	2065.3
2007-2009, 1.8 NOX	0.82	2.59	0.020	0.244	1995.2
2007-2009, 1.5 NOX	0.68	2.16	0.020	0.244	1995.2
2007-2009, 1.2 NOX	0.55	1.73	0.020	0.244	1995.2
2007-2009, 0.84 NOX	0.38	1.21	0.020	0.244	1995.2
2007-2009, 0.5 NOX	0.29	0.90	0.020	0.244	1995.2
2010+, 0.2 NOX	0.11	0.36	0.020	0.244	2113.3

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: used values for medium heavy-duty deisel vehicles, per Dennis Wade's suggestion (ARB), as Alt. fuel vehicles are certified to deisel standard and alt. 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)^a: 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	2202.4
1990, 6.0 NOX	5.70	18.00	0.750	0.289	2571.8
1991-1993, 5.0 NOX	4.75	15.00	0.300	0.289	2788.6
1994-1997, 5.0 NOX	4.59	14.50	0.290	0.289	1909.8
1998-2001, 4.0 NOX	3.67	11.60	0.290	0.289	2817.7
2002-2006, 2.5 NOX	1.84	5.80	0.030	0.289	2065.3
2007-2009, 1.8 NOX	1.32	4.18	0.030	0.289	1995.2
2007-2009, 1.5 NOX	1.10	3.48	0.030	0.289	1995.2
2007-2009, 1.2 NOX	0.88	2.78	0.030	0.289	1995.2
2007-2009, 0.84 NOX	0.62	1.95	0.030	0.289	1995.2
2007-2009, 0.5 NOX	0.46	1.45	0.030	0.289	1995.2
2010+, 0.2 NOX	0.18	0.58	0.030	0.289	2113.3

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

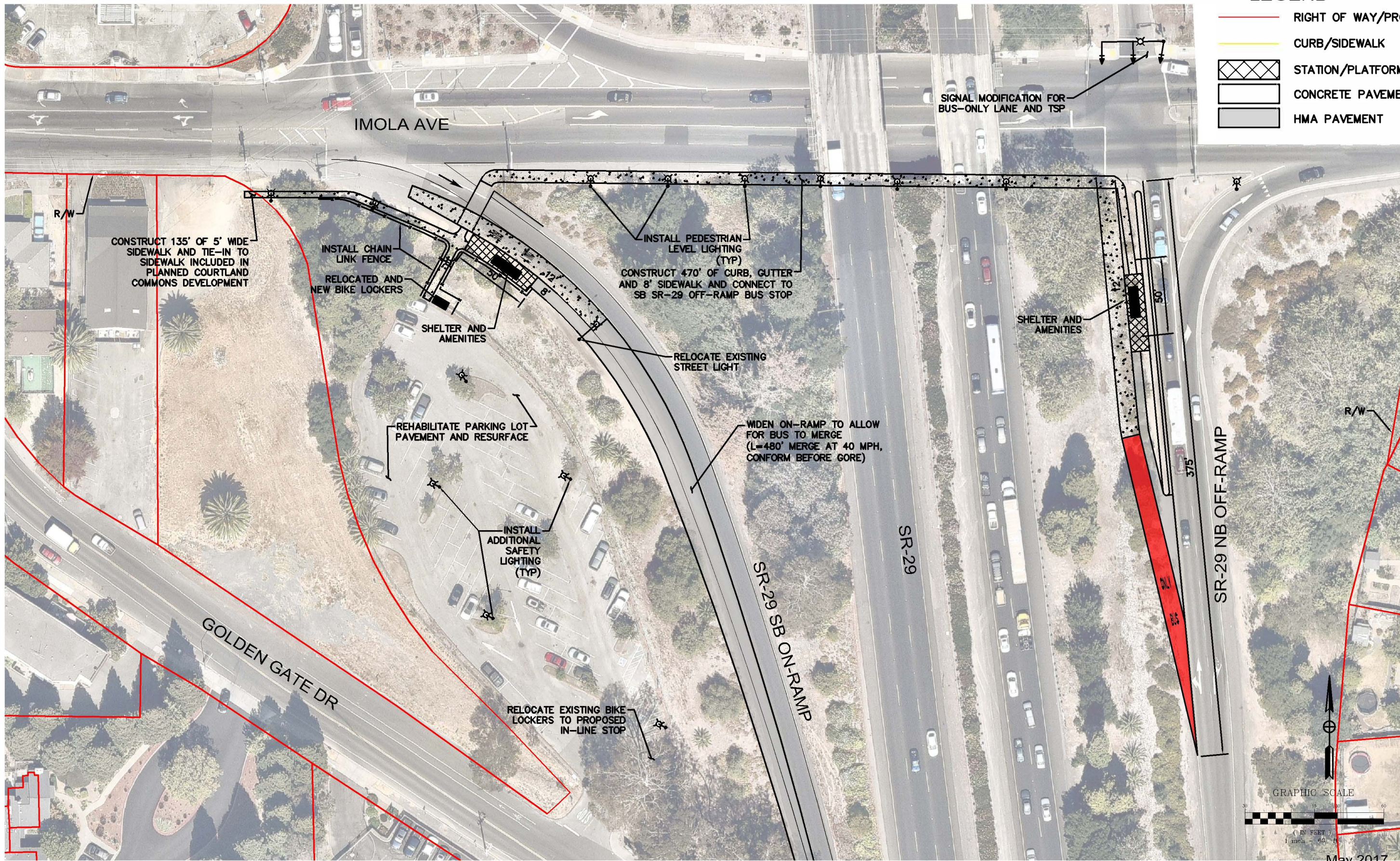
See "Other PM10, Diesel Fleet" for Other PM calculations

Source for CO2 Values: used values for heavy heavy-duty deisel vehicles, per Dennis Wade's (ARB) suggestion, as Alt. fuel vehicles are certified to deisel standard and alt. 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 MEDIUM DUTY VEHICLES (5751-8500 lbs)

Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD*	CO2
2000	0.669	0.962	0.004	0.204	619.041
2001	0.563	0.776	0.004	0.204	619.338
2002	0.524	0.768	0.004	0.204	619.106
2003	0.468	0.759	0.004	0.204	618.481
2004	0.254	0.154	0.000	0.200	618.978



Vine Transit Express Bus Corridors Study
 Conceptual Estimate of Project Costs
 Imola Park and Ride (D.2)
 Engineer's Opinion of Probable Cost
 June 2017

Item	Description	Quantity	Unit	Unit Cost	Total
1	Traffic Control	1	LS	\$50,000	\$50,000
2	Erosion Control	1	LS	\$15,000	\$15,000
3	Clearing and Grubbing	1	LS	\$10,000	\$10,000
4	Roadway Excavation (Includes removal of sidewalk, curb/gutter, etc.)	1	LS	\$110,000	\$110,000
5	Resurface Pavement (Slurry Seal)	34,200	SF	\$1	\$34,200
6	Roadway Pavement (HMA/AB) (Includes reconstruction of 50% of Parking Lot Pavement)	28,290	SF	\$15	\$424,350
7	Roadway Pavement (Concrete/AB)	3,695	SF	\$25	\$92,375
8	Curb and Gutter	1,175	LF	\$35	\$41,125
9	Sidewalk/Driveway	4,540	SF	\$15	\$68,100
10	Chain Link Fence (6')	225	LF	\$30	\$6,750
11	ADA Curb Ramp	1	EA	\$5,000	\$5,000
12	Hardscaping	-	SF	\$15	\$0
13	Landscaping/Clean water features	-	SF	\$45	\$0
14	Signing and Striping	1	LS	\$15,000	\$15,000
15	RRFB	-	EA	\$15,000	\$0
16	Signal Modification/Relocation (NB Ramps - Includes TSP)	1	LS	\$200,000	\$200,000
17	Signal Modification/Relocation (SB Ramps)	1	LS	\$75,000	\$75,000
18	Station Platform	1,200	SF	\$25	\$30,000
19	Relocate Existing Bike Lockers	1	EA	\$3,000	\$3,000
20	Bike Racks/Lockers	1	EA	\$5,000	\$5,000
21	Bench	2	EA	\$5,000	\$10,000
22	Real-Time Arrival Signs	2	EA	\$15,000	\$30,000
23	Wayfinding Signs	2	EA	\$10,000	\$20,000
24	Wi-Fi	2	EA	\$5,000	\$10,000
25	Shelter	2	EA	\$75,000	\$150,000
26	Utilities (5% of project items)	1	LS	\$70,300	\$70,300
27	Drainage (7% of project items)	1	LS	\$98,400	\$98,400
28	Lighting and Electrical (20% of project items)	1	LS	\$281,000	\$281,000
29	Mobilization (10% of project items)	1	LS	\$140,500	\$140,500
				Construction Sub-Total	\$1,995,100
				40% Contingency	\$798,040
				Construction Total	\$2,793,200
	RIGHT OF WAY ACQUISITION	-	SF	\$45	\$0
	ENGINEERING/DESIGN (18% OF CONSTRUCTION COST)	1	LS	\$502,776	\$502,776
	ENVIRONMENTAL (10% OF CONSTRUCTION COST)	1	LS	\$279,320	\$279,320
	CONSTRUCTION MANAGEMENT (15% OF CONSTRUCTION COST)	1	LS	\$418,980	\$418,980
	PERMITTING (2% OF CONSTRUCTION COST)	1	LS	\$55,864	\$55,864
				Other Project Costs Total =	\$1,256,900
				GRAND TOTAL =	\$4,050,100

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.

6/20/2017

PROJECT INFORMATION

A. Project Number: 21NAP01

B. Project Title: Napa Valley Vine Trail- Calistoga to St. Helena Segment

C. TFCA County Program Manager Funds Allocated: \$ 200,000

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

E. Total TFCA Funds Allocated (sum of C and D):\$ 200,000

F. Total Project Cost: \$9,100,000

G. Project Description:

Grantee will use TFCA funds to construct a Class I Multi-use facility from the City of Calistoga to the City of St. Helena. This segment is primarily adjacent to the SR29 corridor, a high volume two-lane highway that currently lacks adequate bicycle and pedestrian facilities. The total segment length for this project is 9.1 miles. The total project once complete will be a total of 47 miles, from Calistoga to the Vallejo Ferry Terminal.

The Class I facility will consist of a 10' wide paved path with 2' shoulders on either side. Crossing improvements (HAWK Signals and ladder crossings) will be installed to facilitate safe crossings along the route.

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

A Final Report Form 3 for Bicycle Projects will be provided upon completion of the project

I. Completed Cost Effectiveness Worksheet attached

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS **FYE 2019 TFCA Program Manager Fund Worksheet**

Version 2019.1, updated 1/23/2018

General Information Tab: Complete areas shaded in yellow.

Project Number (19XXYY)	21NAP01
Project Title	Napa Valley Vine Trail-Calistoga to St. Helena Segment
Project Type Code (e.g., 7a)	7a
County (2-3 character abbreviation)	NAP
Worksheet Calculated By	Diana Meehan
Date of Submission	March 20, 2018
Project Sponsor	
Project Sponsor Organization	Napa Valley Transportation Authority
Public Agency? (Y or N)	Y
Contact Name	Herb Fredricksen
Email Address	hfredricksen@nvta.ca.gov
Phone Number	707-259-5951
Mailing Address	625 Burnell St.
City	Napa
State	CA
Zip	94559
Project Schedule	
Project Start Date	12/1/2021
Project Completion Date	6/30/2023
Final Report to CMA	10/31/2023

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS

FYE 2019 TFCA Program Manager Fund Worksheet

Version 2019.1, Updated 1/23/2018

Regional Fund Proj. #:	N/A
Route Name:	Napa Valley Vine Trail-Calistoga to St. Helena Segment

Cost Effectiveness Inputs	
# Years Effectiveness:	3
Total Cost for route:	\$9,100,000
TFCA Cost for route 40%:	\$200,000
TFCA Cost for route 60%:	N/A
Total TFCA Cost for route:	\$200,000

Program Manager Proj. #	21NAP01
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Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

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	71,900	62,950	989	98,798	154,024,624
240	250	9.4	564,000	113,952	92,868	1,518	139,305	192,493,200
			0	0	0	0	0	0
Total			564,000	113,952	92,868	1,518	139,305	192,493,200

Step 2 - Emissions for New Trips to Access Transit/Ridesharing								
50	250	3	37,500	11,900	7,588	144	9,262	14,439,808
			0	0	0	0	0	0
			0	0	0	0	0	0
Total			0	0	0	0	0	0

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	0.32	860	8000	1,840	3,200	960	1,600	6,880,000
									0	0	0	0	0
									0	0	0	0	0
Total									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
									0	0	0	0	0
Total									0	0	0	0	0

Cost Effectiveness Results			Annual	Lifetime
1. VMT Reduced			564,000	1,692,000 Miles
2. Trips Reduced			60,000	180,000 Trips
3. ROG Emissions Reduced			0.13	0.38 Tons
4. NOx Emissions Reduced			0.10	0.31 Tons
5. PM Emissions Reduced			0.16	0.47 Tons
6. PM Weighted Emissions Reduced			0.19	0.56 Tons
7. CO2 Emissions Reduced			212.2	636.6 Tons
8. Emission Reductions (ROG, NOx & PM)			0.38	1.15 Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)				\$173,971 /Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). THIS VALUE MUST MEET POLICY REQUIREMENTS.				\$160,642 /Ton

Notes & Assumptions

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

TFCA funds will be used to construct a 9.4 mile Class I section of the Napa Valley Vine Trail from Calistoga to St. Helena. The project is adjacent to the SR29 Corridor and will serve multiple schools, residences, commuters and visitor destinations.

The ADT on SR29 adjacent to the project is approximately 30,000.

Project length	9.4mi		
ADT	30,000	0.8	240 one way trips reduced

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2019 Worksheet, Version 2019.1, updated 1/23/2018

Average Auto Emission Factors							
Yrs Eff	Trip Fac.	Run Emis. (VMT)	Trip Fac.	Run Emis. (VMT)	Exhaust	Tire, Brakes, Road PM	PM Commute Trip End
1	0.508	0.148	0.166	0.147	0.00216	0.24700	0.00500
2	0.508	0.148	0.166	0.147	0.00216	0.24700	0.00500
3	0.508	0.148	0.166	0.147	0.00216	0.24700	0.00500
4	0.508	0.148	0.166	0.147	0.00216	0.24700	0.00500
5	0.508	0.148	0.166	0.147	0.00216	0.24700	0.00500
6	0.397	0.121	0.125	0.114	0.00216	0.24700	0.00500
7	0.397	0.121	0.125	0.114	0.00216	0.24700	0.00500
8	0.397	0.121	0.125	0.114	0.00216	0.24700	0.00500
9	0.397	0.121	0.125	0.114	0.00216	0.24700	0.00500
10	0.397	0.121	0.125	0.114	0.00216	0.24700	0.00500
11	0.316	0.101	0.096	0.091	0.00216	0.24700	0.00400
12	0.316	0.101	0.096	0.091	0.00216	0.24700	0.00400
13	0.316	0.101	0.096	0.091	0.00216	0.24700	0.00400
14	0.316	0.101	0.096	0.091	0.00216	0.24700	0.00400
15	0.316	0.101	0.096	0.091	0.00216	0.24700	0.00400
16	0.276	0.095	0.081	0.081	0.00216	0.24700	0.00400
17	0.276	0.095	0.081	0.081	0.00216	0.24700	0.00400
18	0.276	0.095	0.081	0.081	0.00216	0.24700	0.00400
19	0.276	0.095	0.081	0.081	0.00216	0.24700	0.00400
20	0.276	0.095	0.081	0.081	0.00216	0.24700	0.00400

Sources:

CARB Methods to Find the Cost-Effectiveness of Funding Air Quality Projects, Table 3 Average Auto Emission Factors, Update from Dennis Wade email, Using columns covering years of project implementation; methodology per Yvette DiCarlo (ARB), Feb. 2010.

CO2 Emission Factors

Gasoline	18.6 lbs/gal	343.9 g/mile
Diesel	22.2 lbs/gal	301.1 g/mile
CNG (from gasoline)	lbs/gal	
CNG(from diesel)	lbs/gal	
Electric	0.00 lbs/gal	0 g/mile
Propane/LPG		
Hybrid		
Approx. Fleet Avg	18.64 lbs/gal	341.3 g/mile

CO2 factors from EMFAC 2014 - cal yr 2017, LDA, LDT1, LDT2, and MCY

Fuel Consumption		VMT %	Weighted
Lt. Duty Cars & Trucks	21.93 mpg	85.8%	18.82
Md. Duty	13.93 mpg	13.7%	1.91
Diesel Bus	4.64 mpg	0.5%	0.02
		Weighted Avg	20.75

ARB Table 2:

Baseline Vehicle

Based on LEV II standards
with 120,000 mile durability

Weight (lbs.) ¹	ROG	NOx	PM10		CO ₂ ⁴
			Exhaust	Total ³	
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.) ¹	ROG	NOx	PM10		CO ₂
			Exhaust	Total ³	
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.) ¹	ROG	NOx	PM10		CO ₂
			Exhaust	Total ³	
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.) ¹	ROG	NOx	PM10		CO ₂
			Exhaust	Total ³	
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, Table 2. Document updated May 2013.

¹ Gross vehicle weights can be associated with passenger capacity as follows: 5751-8500,

³ 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
	1	2	3
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

ARB Table 5-C:

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

Model Year	ROG ^c	NOx	Exhaust PM2.5	Exhaust PM10	Other PM	CO2 ^e
Pre-1987	0.75	14.52	0.64	0.69	0.289	1321.2

1987-1990	0.59	14.31	0.69	0.75	0.289	1307.3
1991-1993	0.26	10.7	0.38	0.41	0.289	1266.3
1994-1997	0.2	10.51	0.21	0.23	0.289	1171.0
1998-2002	0.2	10.33	0.23	0.25	0.289	1201.0
2003-2006	0.13	6.84	0.14	0.16	0.289	1215.4
2007-2009	0.11	4.01	0.02	0.02	0.289	1241.9
2007-2009 (0.5 g/bhp-hr NOx or Cleaner) ^d	0.1	1.73	0.02	0.02	0.289	1241.9
2010+	0.09	0.74	0.02	0.02	0.289	1246.0

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 Fanai (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.

CO2 from EMFAC 2014, includes both RUNEX, other CO2 emissions averaged over VMT for a total per mile figure. Ken Mak, updated Dec 12, 2016

ARB Table 5-D:

Diesel^b Heavy Heavy-Duty Vehicles (g/mile)^a: 33,001-60,000 lbs

Model Year	ROG ^c	NOx	Exhaust PM2.5	Exhaust PM10	Other PM	CO2 ^e
Pre-1987	1.09	21.37	1.15	1.25	0.289	2202.4
1987-1990	0.86	21.07	1.25	1.35	0.289	2571.8
1991-1993	0.56	18.24	0.52	0.56	0.289	2788.6
1994-1997	0.42	17.92	0.34	0.37	0.289	1909.8
1998-2002	0.43	17.61	0.37	0.40	0.289	2817.7
2003-2006	0.27	11.64	0.23	0.25	0.289	2065.3
2007-2009	0.23	6.62	0.03	0.03	0.289	1995.2
2007-2009 (0.5 g/bhp-hr NOx or Cleaner) ^d	0.2	2.88	0.03	0.03	0.289	1995.2
2010+	0.19	1.27	0.03	0.03	0.289	2113.3

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.

CO2 from EMFAC 2014, includes both RUNEX, other CO2 emissions averaged over VMT for a total per mile figure. Ken Mak, updated Dec 12, 2016

ARB Table 5-E:

Diesel Urban Buses (g/mile)^b. 33,000+ lbs

EO Certification Standards ^f (g/bhp-hr)		ROG ^a	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 Fanai (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.

CO2 from EMFAC 2014, includes both RUNEX, other CO2 emissions averaged over VMT for a total per mile figure. Ken Mak, updated Dec 12, 2016

ARB Table 5-F:

Natural Gas Urban Buses (g/mile)^b 33,000+ lbs

EO Certification Standards (g/bhp-hr)		ROG ^a	NOx	Exhaust PM _{2.5}	Exhaust PM ₁₀	Other PM	CO ₂
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 ^g	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 Value: EMFAC 2007 for Diesel Urban Bus, aggregate value for CO2_RUNEX(Pavley I+LCFS) for all model years. Methodology suggested by Dennis Wade from ARB; natural gas vehicles are certified to deisel 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)^a: 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	2202.4
1990, 6.0 NOX	3.42	10.80	0.450	0.244	2571.8
1991-1993, 5.0 NOX	2.85	9.00	0.180	0.244	2788.6
1994-1997, 5.0 NOX	2.85	9.00	0.180	0.244	1909.8
1998-2001, 4.0 NOX	2.28	7.20	0.180	0.244	2817.7
2002-2006, 2.5 NOX	1.14	3.60	0.020	0.244	2065.3
2007-2009, 1.8 NOX	0.82	2.59	0.020	0.244	1995.2
2007-2009, 1.5 NOX	0.68	2.16	0.020	0.244	1995.2
2007-2009, 1.2 NOX	0.55	1.73	0.020	0.244	1995.2
2007-2009, 0.84 NOX	0.38	1.21	0.020	0.244	1995.2
2007-2009, 0.5 NOX	0.29	0.90	0.020	0.244	1995.2
2010+, 0.2 NOX	0.11	0.36	0.020	0.244	2113.3

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: used values for medium heavy-duty deisel vehicles, per Dennis Wade's suggestion (ARB), as Alt. fuel vehicles are certified to deisel standard and alt. 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)^a: 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	2202.4
1990, 6.0 NOX	5.70	18.00	0.750	0.289	2571.8
1991-1993, 5.0 NOX	4.75	15.00	0.300	0.289	2788.6
1994-1997, 5.0 NOX	4.59	14.50	0.290	0.289	1909.8
1998-2001, 4.0 NOX	3.67	11.60	0.290	0.289	2817.7
2002-2006, 2.5 NOX	1.84	5.80	0.030	0.289	2065.3
2007-2009, 1.8 NOX	1.32	4.18	0.030	0.289	1995.2
2007-2009, 1.5 NOX	1.10	3.48	0.030	0.289	1995.2
2007-2009, 1.2 NOX	0.88	2.78	0.030	0.289	1995.2
2007-2009, 0.84 NOX	0.62	1.95	0.030	0.289	1995.2
2007-2009, 0.5 NOX	0.46	1.45	0.030	0.289	1995.2
2010+, 0.2 NOX	0.18	0.58	0.030	0.289	2113.3

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

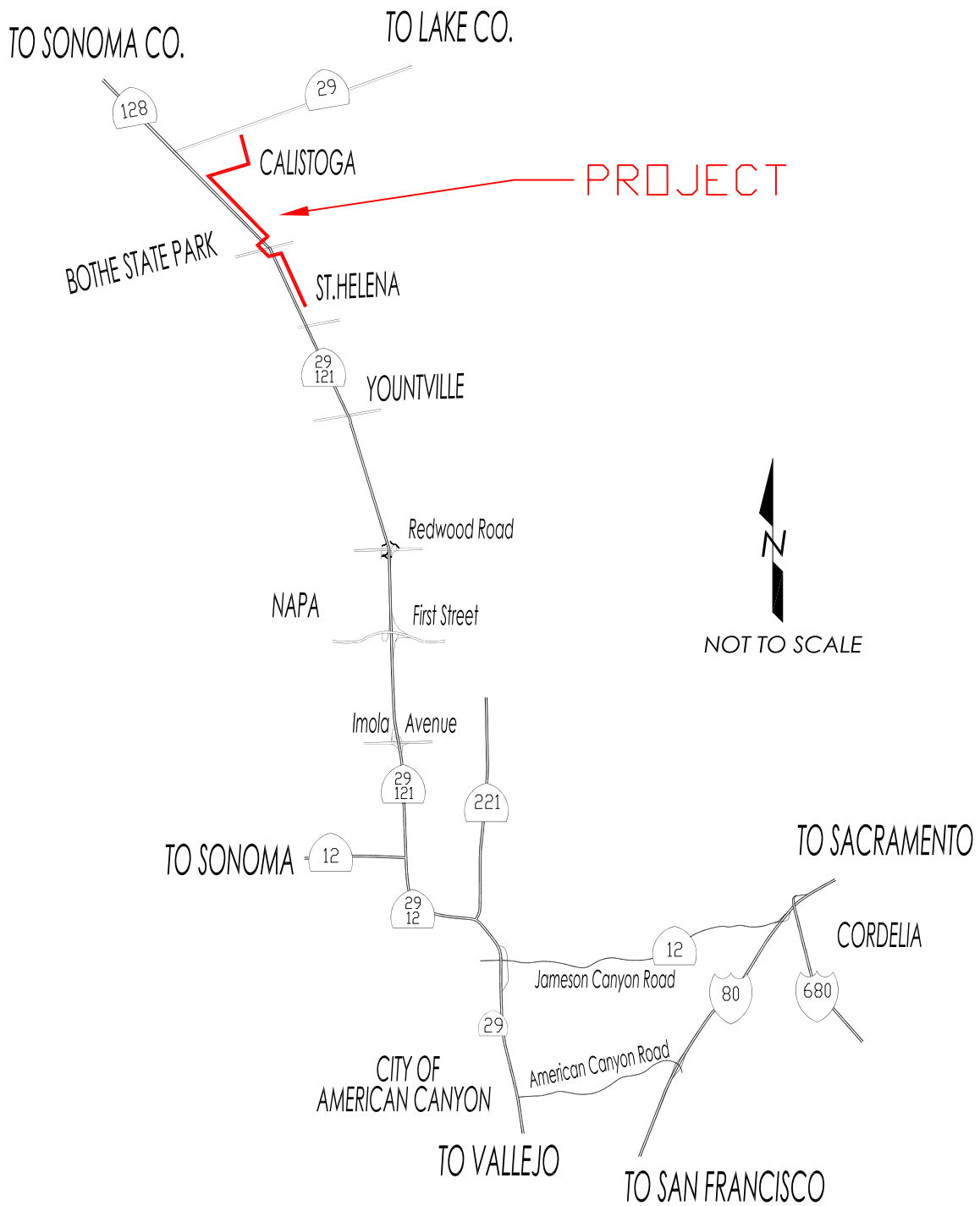
See "Other PM10, Diesel Fleet" for Other PM calculations

Source for CO2 Values: used values for heavy heavy-duty deisel vehicles, per Dennis Wade's (ARB) suggestion, as Alt. fuel vehicles are certified to deisel standard and alt. 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 MEDIUM DUTY VEHICLES (5751-8500 lbs)

Model year	ROG	NOX	PM10 Exhaust	PM10 TW+BW+RD*	CO2
2000	0.669	0.962	0.004	0.204	619.041
2001	0.563	0.776	0.004	0.204	619.338
2002	0.524	0.768	0.004	0.204	619.106
2003	0.468	0.759	0.004	0.204	618.481
2004	0.254	0.154	0.000	0.200	618.978



Detailed Engineer's Estimate and Total Project Cost

Important: Read the Instructions in the other sheet (tab) before entering data. Do not enter in shaded fields (with formulas).

Project Information:

Agency:

Napa County Transportation and Planning Agency

Application ID:

04-Napa County Transp. Planning Agency - 1

Prepared by:

RSA/HF

Date:

5/26/2015

Project Description:

Construction of Class 1 Facility between Pratt Avenue in St. Helena and Lincoln Avenue in Calistoga

Project Location:

Between Calistoga and St Helena, Napa County CA

Engineer's Estimate and Cost Breakdown:

Engineer's Estimate (for Construction Items Only)

Cost Breakdown

Note: Cost can apply to more than one category. Therefore may be over 100%.

ATP Eligible Items

Landscaping

Non-Participating Items

To be Constructed by Corps/CCC

Item No.	Item	Quantity	Units	Unit Cost	Total Item Cost	%	\$	%	\$	%	\$	%	\$
1	Mobilization, Traffic Control, Dust Control, Water Pollution Program	1	LS	\$ 200,000	\$ 200,000	100%	\$200,000						
2	Clearing, Grubbing Tree removal	1	LS	\$ 80,000	\$ 80,000	100%	\$80,000						
3	Demolition	1	LS	\$ 80,000	\$ 80,000	100%	\$80,000						
4	Utility Relocation	1	l.s.	\$ 54,260	\$ 54,260					100%	\$54,260		
5	Earthwork	6,000	c.y.	\$ 10	\$ 60,000	100%	\$60,000						
6	Soil Export	5,700	c.y.	\$ 20	\$ 114,000	100%	\$114,000						
7	Asphalt Concrete	2,766	ton	\$ 200	\$ 553,210	100%	\$553,210						
8	Type II Base 6' deep	4,321	c.y.	\$ 75	\$ 324,056	100%	\$324,056						
9	Thermoplastic paving striping	1	l.s.	\$ 5,000	\$ 5,000	100%	\$5,000						
10	Dunaweal bike/red bridge (135 lf)	1	s.f.	\$ 300,000	\$ 300,000	100%	\$300,000						
11	Mill Creek bike/ped bridge	1	s.f.	\$ 55,550	\$ 55,550	100%	\$55,550						
12	Retaining Walls - CMU or Block	6,000	s.f.	\$ 45	\$ 270,000	100%	\$270,000						
13	Park Tread paving	208,820	s.f.	\$ 16	\$ 3,341,120	100%	\$3,341,120						
14	Box Culverts	2	ea	\$ 100,000	\$ 200,000	100%	\$200,000						
15	Culverts	3	ea	\$ 5,000	\$ 15,000	100%	\$15,000						
16	Stormwater	1	l.s.	\$ 314,633	\$ 314,633	100%	\$314,633						
17	Sidewalk	2,000	s.f.	\$ 12	\$ 24,000	100%	\$24,000						
18	Curb and Gutter	300	l.f.	\$ 18	\$ 5,400	100%	\$5,400						
19	Concrete Headwalls	3	ea	\$ 10,000	\$ 30,000	100%	\$30,000						
20	PCC Curb Ramp	10	ea	\$ 4,000	\$ 40,000	100%	\$40,000						
21	HAWK Signals	2	ea	\$ 150,000	\$ 300,000	100%	\$300,000						
22	Landscaping	1	ea	\$ 40,400	\$ 40,400			100%	\$40,400				
23	Site Amenities	1	ea	\$ 328,600	\$ 328,600	10%	\$32,860			90%	\$295,740	5%	\$17,163
Subtotal of Construction Items:					\$6,735,229		\$6,344,829		\$40,400		\$350,000		\$17,163
Construction Item Contingencies (% of Construction Items): Enter in the cell to the right				15.00%	\$1,010,284								
Total (Construction Items & Contingencies) cost:					\$7,745,513								

Project Cost Estimate:

Type of Project Delivery Cost

Cost \$

Preliminary Engineering (PE)

Environmental Studies and Permits(PA&ED):

\$ 260,000

Plans, Specifications and Estimates (PS&E):

\$ 700,000

Total PE:

\$ 960,000

12.39%

25% Max

Right of Way (RW)

Right of Way Engineering:

\$ 50,000

Acquisitions and Utilities:

\$ 50,000

Total RW:

\$ 100,000

Construction (CON)

Construction Engineering (CE):

\$ 400,000

4.91%

15% Max

Total Construction Items & Contingencies:

\$7,745,513

Total CON:

\$ 8,145,513

Total Project Cost Estimate:

\$ 9,205,513

Attachment G

6/1/2015

39

NAPA VALLEY VINE TRAIL: ST. HELENA to CALISTOGA

Trail Demand/Usage Estimate

Est. Population Within .5 mile of project* 5,840

Est. Population Within 3 miles of project** 11,679

Est. Number of Annual Visitors in 3 miles of project*** 1,595,000

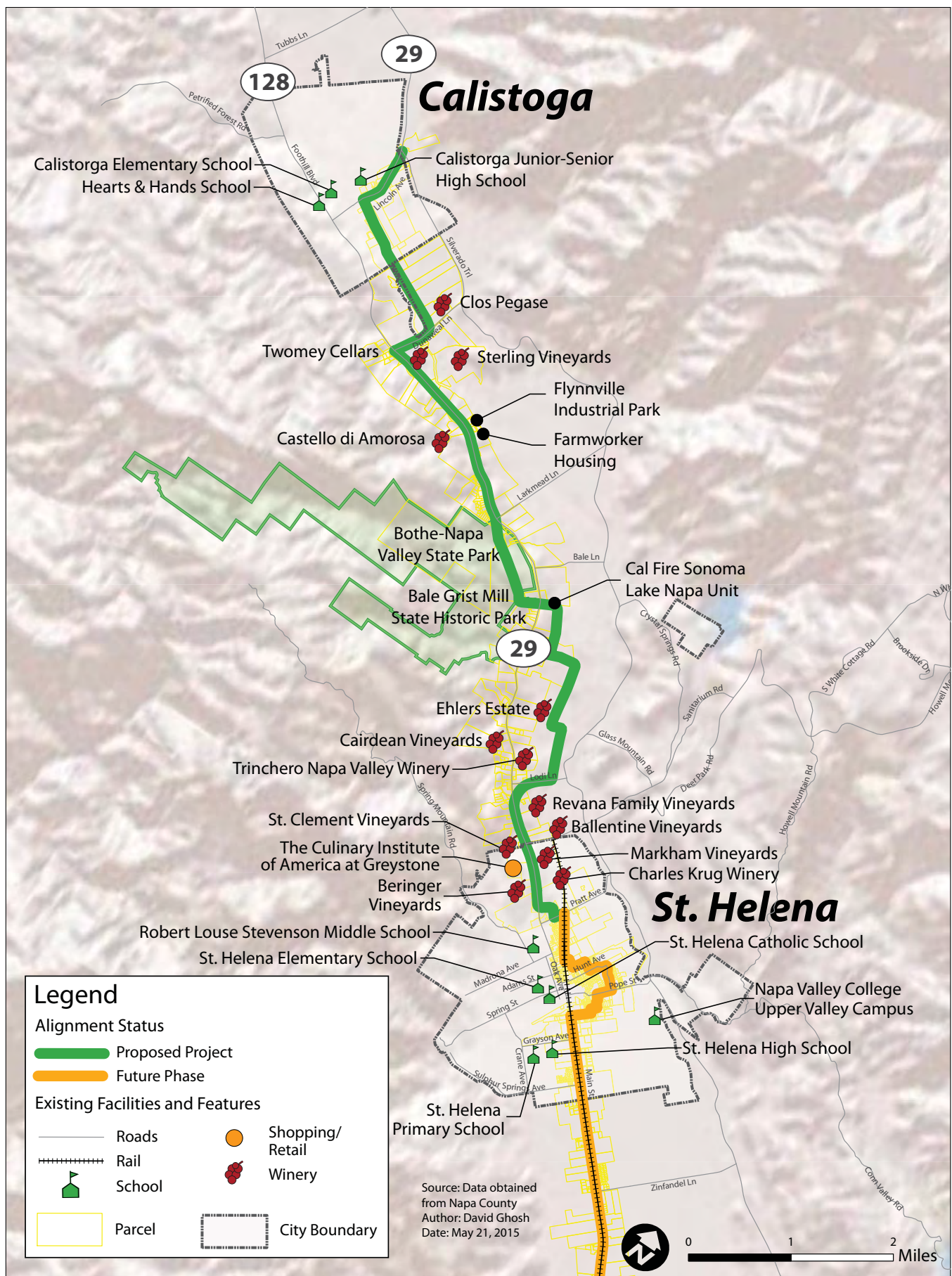
Recreational Use by Local Residents		
Bicyclists (existing)	23,358	annual trips
Bicyclists (future)	58,395	annual trips
Net increased bicycle trips	35,037	annual trips
Pedestrian (existing)	44,380	annual trips
Pedestrians (future)	88,760	annual trips
Net increased pedestrian trips	44,380	annual trips
TOTAL increased trips	79,417	annual trips
School/Work Commuting Use by Local Residents		
Bicyclists (existing)	5,606	annual trips
Bicyclists (future)	33,636	annual trips
Net increased bicycle trips	28,030	annual trips
Pedestrian (existing)	33,636	annual trips
Pedestrians (future)	70,074	annual trips
Net increased pedestrian trips	36,438	annual trips
TOTAL increased trips	64,468	annual trips
Recreational Use by Visitors		
Total Annual Napa Valley visitors	2,900,000	
Visitors visiting the St Helena to Calistoga area	1,595,000	55.1% of total
Visitors choosing to bike on trail in St.Helena and Calistoga corridor	255,200	
Visitors choosing to walk on trail in St.Helena and Calistoga corridor	63,800	
TOTAL increased trips	319,000	

* Includes 50% of population of Calistoga, St. Helena

**Includes 100% population of Calistoga, St. Helena, Deer Park

*** Estimate of 55.1%. Based on Survey Napa Valley Visitor Industry Economic Impact Report

Trips by mode and type				
	Annual uses	Recreation	Commuting	Daily Uses
Bicyclists (existing)	28,964	23,358	5,606	79
Bicyclists (future)	347,231	313,595	33,636	951
Pedestrian (existing)	78,016	44,380	33,636	214
Pedestrians (future)	222,634	152,560	70,074	610
Combined Bicyclists and Pedestrians (existing)	106,980	67,738	39,241	293
Combined Bicyclists and Pedestrians (future)	569,865	466,155	103,710	1,561



Major Facilities Served by the Napa Valley Vine Trail - St. Helena to Calistoga



NAPA VALLEY VINE TRAIL: ST. HELENA to CALISTOGA

Schools: Location from project & Attendance

School	Address	Distance from proposed project.	Enrollment 2014/15	# of students living on route proposed for improvement
St Helena High	1401 Grayson Ave, St Helena CA 94574	1.4 miles	507	75
Robert Louis Stevenson M	1316 Hillview Pl, St Helena, CA 94574	0.6 miles	288	43
St Helena Elementary	1325 Adams St, St Helena, CA 94574	0.7 miles	236	35
St Helena Primary	1701 Grayson Ave, St Helena, CA 94574	1.5 miles	238	3
Calistoga Junior-Senior H	1608 Lake St, Calistoga, CA 94515	0.4 miles	360	54
Calistoga Elementary	1327 Berry St, Calistoga, CA 94515	0.3 miles	490	74
Napa College North Valley Campus	1088 College Av, St Helena, CA 94574	1.5 miles	750	250
Totals			2869	534

2016 Traffic Volumes on California State Highways

Dist	Route	County	Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
04	029	NAP	R 10.389	NAPA, JCT. RTE. 121 NORTH	4500	55000	51000	4900	63000	60000
04	029	NAP	11.548	FIRST STREET	4900	63000	60000	5900	75000	71000
04	029	NAP	12.039	NAPA, LINCOLN AVENUE	5900	75000	71000	5200	66000	63000
04	029	NAP	13.058	TRANCAS/REDWOOD ROADS	5200	66000	63000	3950	51000	48000
04	029	NAP	15.581	OAK KNOLL AVENUE	2950	38000	36000	2850	37000	35000
04	029	NAP	19.031	CALIFORNIA DRIVE	2650	33500	32000	2900	27500	26000
04	029	NAP	22.52	OAKVILLE GRADE ROAD	2900	27500	26000	2800	26500	25500
04	029	NAP	24.595	RUTHERFORD, JCT. RTE. 128 EAST	2800	26500	25500	2500	26500	22900
04	029	NAP	26.57	ZINFANDEL LANE	2750	26500	25000	2850	27000	25500
04	029	NAP	28.75	ST. HELENA, ADAMS STREET	2200	21400	20100	2000	19000	17800
*04	029	NAP	29.25	ST. HELENA, PRATT AVENUE	2050	20500	18200	2000	20100	18000
04	029	NAP	30.66	LODI LANE	1650	16700	15300	1650	16400	15000
*04	029	NAP	33.47	LARKMEAD LANE	1550	15500	14200	1550	15300	14100
04	029	NAP	36.893	CALISTOGA, JCT. RTE. 128 NORTHWEST	1550	15300	14000	1150	11100	10200
04	029	NAP	37.902	CALISTOGA, SILVERADO TRAIL	570	5200	4800	570	5200	4800
04	029	NAP	39.5	TUBBS LANE	570	5200	4850	1000	9000	8400
04	029	NAP	48.582	NAPA/LAKE COUNTY LINE	1000	9200	8500			
01	029	LAK	0	NAPA/LAKE COUNTY LINE				970	8800	8200
01	029	LAK	4.15	RANCHERIA ROAD	870	9700	9300	870	10300	9900
01	029	LAK	4.54	DRY CREEK CUTOFF	870	10300	9900	1150	12000	11200
01	029	LAK	5.811	MIDDLETOWN, JCT. RTE. 175	1250	12600	11900	1250	13200	12000
01	029	LAK	6.36	MIDDLETOWN, BUTTS CANYON ROAD	1250	13200	12000	1250	13400	12200
01	029	LAK	11.124	HIDDEN VALLEY/SPRUCE ROAD	1150	11700	11100	960	10500	9900
01	029	LAK	11.93	SPRUCE GROVE ROAD	960	10500	9900	960	10500	9900
01	029	LAK	20.31	JCT. RTE. 53 NORTH	1200	12500	11600	1150	12600	11600
01	029	LAK	21.65	SEIGLER CANYON ROAD	1150	12600	11600	1050	11600	10600
01	029	LAK	22.19	POINT LAKEVIEW DRIVE	1050	11600	10600	930	10300	9500
01	029	LAK	27.89	JCT. RTE. 281	930	10300	9500	970	10600	9200
01	029	LAK	31.05	JCT. RTE. 175	1000	10400	9800	1000	10800	10300
01	029	LAK	32.35	BOTTLE ROCK ROAD	1000	10800	10300	1200	12200	11300
01	029	LAK	R 34.58	MAIN STREET	1200	12700	11400	1200	12100	11200
01	029	LAK	R 34.747	KELSEYVILLE, LIVE OAK DRIVE	1200	12100	11200	1100	12300	11500
01	029	LAK	R 35.32	KELSEYVILLE, BELL HILL ROAD	1050	11800	11000	1050	11800	11000
01	029	LAK	R 36.289	RENFRO DRIVE	1050	11800	11000	1300	14100	13000
01	029	LAK	R 37.669	ARGONAUT ROAD	1300	14400	13200	1300	14100	13100
01	029	LAK	R 38.592	HIGHLAND SPRINGS ROAD	1300	14100	13100	1400	15000	13900
01	029	LAK	R 40.14	JCT. RTE. 175	1500	15100	14500	1300	13700	13000



NAPA VALLEY TRANSPORTATION AUTHORITY TAC Agenda Letter

TO: Technical Advisory Committee
FROM: Kate Miller, Executive Director
REPORT BY: Shaveta Sharma, Transportation Program Planner
(707) 259-8287 / Email: ssharma@nvta.ca.gov
SUBJECT: Community Based Transportation Plan Scope of Work and Timeline

RECOMMENDATION

That the Technical Advisory Committee (TAC) review and comment on the NVTA Community Based Transportation Plan (CBTP) Scope of Work and Timeline.

EXECUTIVE SUMMARY

The purpose of the CBTP is to improve mobility options and close transportation gaps for low-income and disadvantaged communities in Napa County. The plan will also review census data and other data sources to determine where resources are most needed and identify additional communities of concern, beyond those identified by the Metropolitan Transportation Commission (MTC).

The plan is intended to identify projects that: 1) are developed through a collaborative and inclusive planning process; 2) improve transportation choices; 3) address and identify transportation gaps; and 4) focus on transportation needs specific to elderly, disabled, and low-income communities. This memo provides an outline for the scope of work and timeline that will be completed as part of the Community Based Transportation Plan (CBTP) for Napa County.

FINANCIAL IMPACT

Is there a fiscal impact? No

BACKGROUND AND DISCUSSION

MTC requires that Napa Valley Transportation Authority (NVTA), as a Congestion Management Agency (CMA), regularly analyze local conditions to improve mobility options and close transportation gaps for low-income and disadvantaged communities. This plan will be an update to NVTA's previously prepared CBTP in 2015. This update will incorporate MTC's updated guidelines to include simple and clear program goals,

incorporate a list of priority projects in coordination with other agency planning efforts, and involve a steering committee inclusive of social service and community based organization/non-profit representation that work with low-income and other underserved residents. NVTa has reached out to housing, low-income and senior representatives to serve on the steering committee.

This plan will build on the data in the 2015 plan as well as engage with the local community to understand and evaluate their transportation needs. MTC specifically requires coordination with organizations and government agencies that provide services to low income communities. To meet this requirement, NVTa formed a steering committee that will meet beginning in May to provide input and help with outreach during the planning process. Committee members include the following representatives:

- Josefina Hurtado, Puertas Abiertas Community Resource Center
- Larry Kromann, Calistoga Affordable Housing (CAH)
- Tammy Manning, Napa Valley Community Housing (NVCH)
- Julie Spencer, Rianda House
- Robin Schabes, Citizen

Scope of Work

The CBTP will gather existing, available information about Napa Valley transportation services, employment, schools, and neighborhoods, and review with the steering committee to identify data gaps and research questions. Importantly, this CBTP will establish what constitutes an eligible project and include specific projects in the plan. As part of the community outreach the CBTP will establish a ranking for assessing and prioritizing projects in the plan.

The Community Based Transportation Plan is expected to inform multiple planning and programming efforts by NVTa and its member jurisdictions. For example, the CBTP will be used to inform the next iteration of the Short Range Transit Plan and Countywide Transportation Plan as well as frame certain funding programs such as the Lifeline Program.

Timeline

Date	Subject
April – May 2018	Take Draft Scope and Approach to TAC, CAC, PCC, ATAC, NVTa Board
May 2018	Kick-off Steering Committee Meeting
May-June 2018	Kick-off Plan and finalize schedule
August – October	Conduct outreach events, survey residents
November-December 2018	Prepare analysis on demographics, trends and priorities

January – February 2019	Identify needs, set project priorities and ranking criteria; identify potential projects
March 2019	Committee Review Draft CBTP and Public Review
April – May 2019	Board Review and Final CBTP

SUPPORTING DOCUMENTS

Attachments: (1) Community Based Transportation Scope of Work and Timeline
(2) Napa County Identified Communities of Concern
(3) Additional census tracts to be included in the CBTP
(4) MTC Community Based Transportation Guidelines
(5) 2015 Community Based Transportation Plan:
<http://www.nvta.ca.gov/sites/default/files/CBTP%202015.pdf>

SCOPE OF WORK

Introduction-Community Based Transportation Plan

This plan will be an update to the previously prepared plan in 2015. This update will incorporate MTC's updated guidelines to include simple and clear program goals, incorporate a list of priority projects in coordination with other agency planning efforts, and involve a steering committee inclusive of social service and community based organization/non-profit representation that work with low-income and other underserved residents.

Complete a review of the 2015 Community Based Transportation Plan (CBTP) and build on the data received as well as engage with the local community in understanding and evaluating their transportation needs. This purpose of this plan is to improve mobility options for low-income communities in Napa County. The plan will also review census data and other data sources to determine where resources are most needed and identify additional communities of concern, beyond those identified by MTC.

Scope of Work

- Agency staff to solidify a schedule for completing the project.
- Work with Steering Committee and various committees such as the NVTAC Citizen Advisory Committee (CAC) and Paratransit Coordinating Council (PCC) to gain feedback on community needs.
- Gather existing, available information about Napa Valley transportation services, employment, schools, and neighborhoods, and review with the steering committee to identify data gaps and research questions.
- Establish what constitutes an eligible project and include specific projects in the plan.
- Establish a ranking of projects based on need and priority.
- Incorporate and define performance measures for project funding and construction.
- Agency staff and Steering Committee will work to design an approach for obtaining desired outcomes to improve mobility; data sources may include but are not limited to the following:
 - Census and American Community Survey
 - Survey of the population
 - Outreach events and feedback
- Collect and analyze data, reaching conclusions about:
 - Demographic trends
 - Transit use
- Identify Communities of Concerns.
- Identification of possible funding sources

- List of stakeholders to implement the plan
- Documented results of community outreach strategies
- Identify gaps in service, access, and needs of residents.
- Review the collected data and proposed conclusions with all committees.
- Prepare and provide edits for an Administrative Draft report for review and comment, a Public Draft, and a Final Report for approval of the NVTB Board.

The Community Based Transportation Plan is expected to provide the basis for multiple planning efforts by NVTB and its member jurisdictions within the County. For example, to inform planning efforts such as the Countywide Transportation Plan and Short Range Transit Plan.

CBTP Steering Committee Representation:

- Josefina Hurtado, Puertas Abiertas Community Resource Center
- Larry Kromann, Calistoga Affordable Housing (CAH)
- Tammy Manning, Napa Valley Community Housing (NVCH)
- Julie Spencer, Rianda House
- Robin Schabes, Citizen

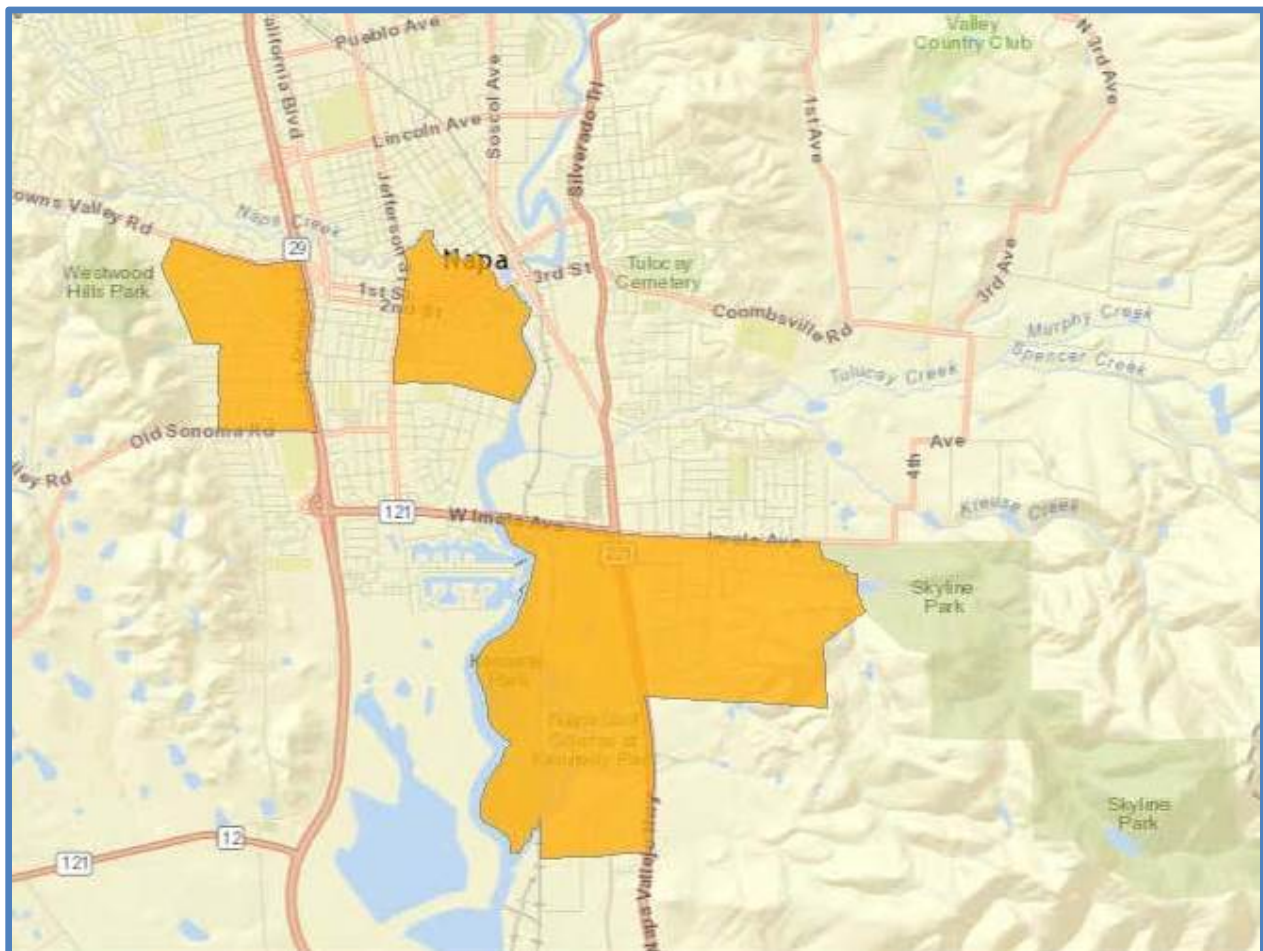
Community Based Transportation Plan Timeline/Meeting Dates

Date	Subject
April-May 2018	Take Draft Scope of Work to TAC, CAC, PCC, ATAC, NVTA Board
May 2018	Kick-off Steering Committee Meeting
May - June 2018	Kick-off plan and finalize schedule
August - October 2018	Conduct outreach events, survey residents
November -December 2018	Prepare analysis on demographics, trends and priorities
January –February 2019	Identify needs, set project priorities and ranking criteria; identify potential projects
March 2019	Committee’s Review Draft CBTP and Public Review
April - May 2019	Board Reviews Final Draft CBTP

Napa County Communities of Concern by Census Tract

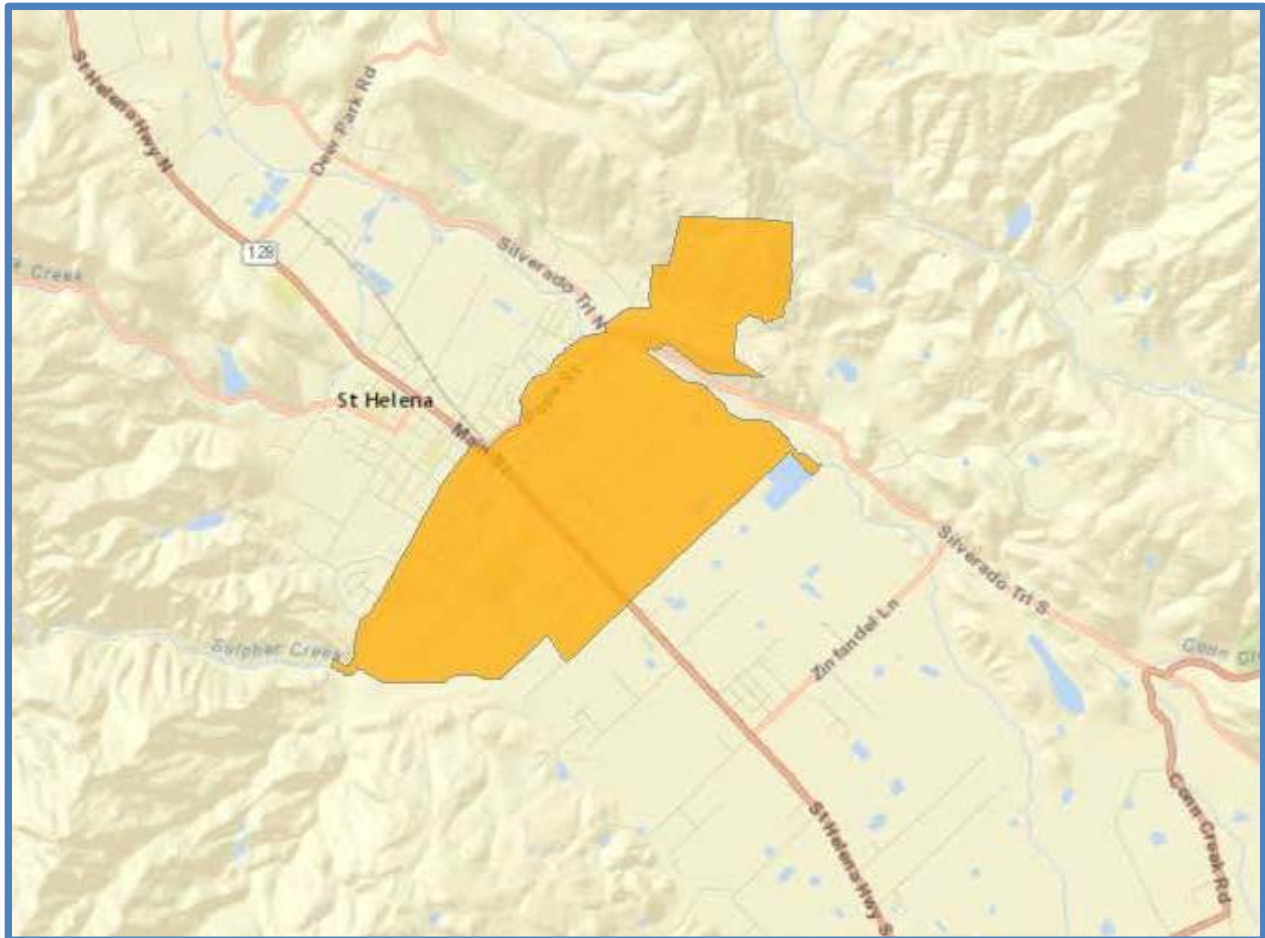
Census Tract	Neighborhood Name	Number of Criteria Met
2002.02	South Downtown Napa	4
2008.04	Westwood Neighborhood	4
2016.01	South St. Helena	5
2009	East Imola	4

City of Napa COCs



Source: MTC's Communities of Concern Tracts Plan Bay Area 2017

St. Helena COC



Source: MTC's Communities of Concern Tracts Plan Bay Area 2017

Additional census tract to be included in the CBTP

Census Tract	Neighborhood Name	Criteria
2020	Calistoga	Low Income, Senior, and Disabled populations

Calistoga COC

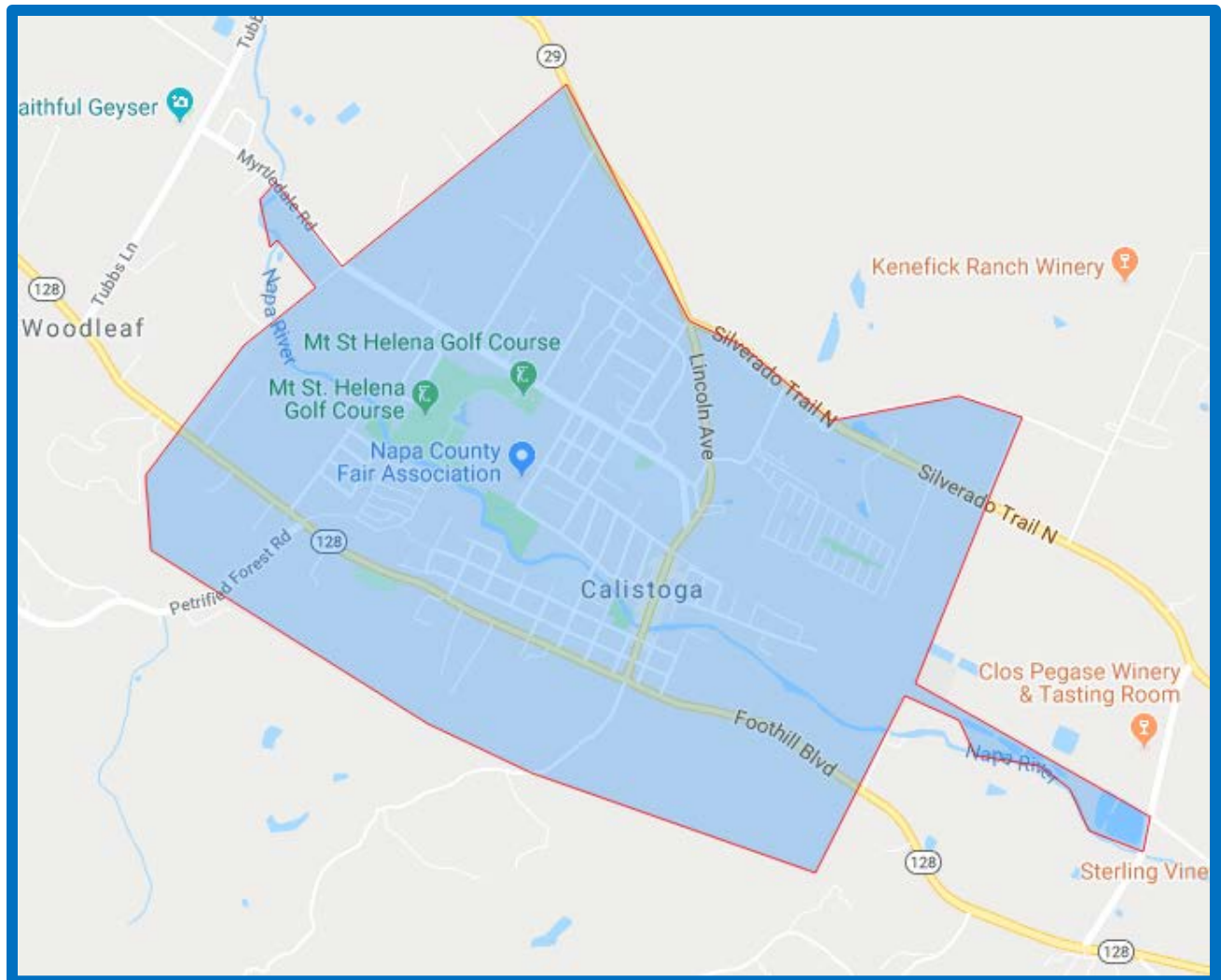


Figure 1: Census Tract 2020

Date: January 24, 2018
W.I.: 1311
Referred by: Planning
Attachment A
MTC Resolution No. 4316
Page 1 of 4

Community-Based Transportation Planning Program Guidelines - 2017-2021 Cycle

The following guidelines shall apply to the 2017-2021 Community-Based Transportation Planning (CBTP) Program:

1. **Program Goals** – in developing the CBTPs, the County Congestion Management Agencies (CMAs) must address the following two goals of the regional program:
 - Improve access and mobility for low-income communities, for commute as well as non-commute trips; and
 - Engage residents and community organizations in conducting the analysis and shaping the recommendations.

In addition, CMAs are encouraged to consider non-traditional solutions to meet travel needs of low-income communities. Non-traditional solutions may include car share, bike share, ride-sharing, van- and/or car-pooling, and on-demand, flex-route transit, among others.

2. **Funding allocation** – each county shall receive a CBTP planning grant based on its share of the region's low-income population¹ (U.S. Census American Community Survey, 2015). The grants shall be limited to a maximum funding amount equal to 20 percent of the total funds, or \$300,000, and a minimum of \$75,000. The total funding available for the CBTP program is \$1.5 million through the second round of the One Bay Area Grant Program (OBAG 2.0). Of this total, \$35,000 shall be set aside by MTC for conducting a program evaluation in 2021. County allocations are laid out in the table below.

Table 1: Proposed CBTP Funding Allocation

County	Population – Low-Income Share	Low-Income – Share in Region	Low-Income Population	Funding Proportional to Low-Income Population	Adjusted CBTP Grants (max. \$300,000 and min. \$75,000 per county)	
Alameda	27%	23%	426,642	\$337,987	\$300,000	20%
Contra Costa	25%	15%	272,721	\$216,051	\$215,000	14%
Marin	20%	3%	49,052	\$38,859	\$75,000	5%
Napa	28%	2%	38,553	\$30,542	\$75,000	5%
San Francisco	27%	12%	225,756	\$178,845	\$175,000	12%
San Mateo	21%	8%	155,274	\$123,009	\$120,000	8%
Santa Clara	23%	22%	415,848	\$329,436	\$300,000	20%
Solano	30%	7%	122,735	\$97,231	\$95,000	6%
Sonoma	29%	8%	142,693	\$113,042	\$110,000	7%
Bay Area	25%	100%	1,849,272	\$1,465,000	\$1,465,000	100%

Source: U.S. Census American Community Survey, 2011-2015, 5-year average, MTC analysis

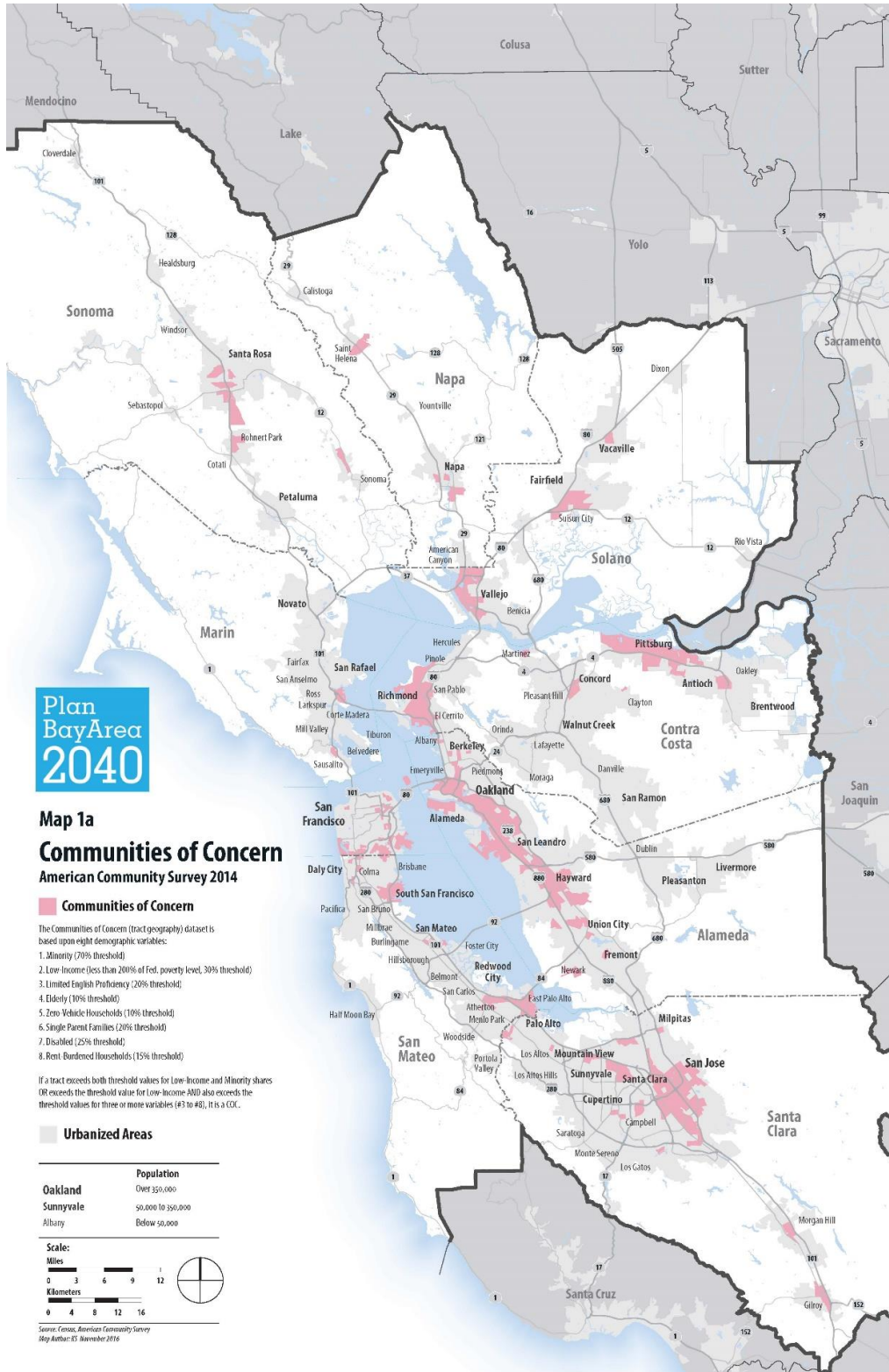
¹ Population in households earning less than 200 percent of the federal poverty level in 2015.

3. ***Coordination with other planning efforts*** – CMAs may combine CBTPs for more than one CoC, or develop a countywide plan for all CoCs. CBTPs may be developed as part of an existing planning effort (for e.g., planning for Priority Development Areas, county-wide investment and growth strategy, county-wide transportation program, or local jurisdiction general or specific plan). All program guidelines for the 2017-2021 CBTP Program shall still apply to the CBTP component of these planning efforts. If developing standalone CBTPs per CoC, CMAs may spend no more than \$100,000 of the planning grant on each plan.
4. ***Steering Committee*** - CMAs must establish a steering committee that includes social service agency and CBO and/or non-profit representatives to ensure a collaborative and inclusive CBTP planning process.
5. ***Use it or lose it provision*** – CMAs shall administer the CBTP program and must initiate the planning process for each plan within nine months of executing a grant agreement (or MoU amendment) with MTC, and adopt the plan within three years of initiating the planning process. Any funds not used within this time period shall be repurposed by MTC at its discretion for other CBTPs.
6. ***Local match*** – CMAs must provide a ten percent match for the CBTP planning grants, which may be in the form of in-kind staff time (source of CBTP funding is the State Transit Assistance program).
7. ***Incentives for community engagement*** – CMAs are highly encouraged to set aside up to 10 percent of the planning grant towards direct financial support to local community-based organizations (CBOs). This funding may be used by the CBO(s) to provide services (for e.g., translation, outreach or meeting coordination) and/or to participate in the planning process (for e.g., as stipends).
8. ***Eligible uses*** – eligible uses for CBTP planning grants include, consultant services, direct costs or stipends associated with plan development and adoption, stakeholders engagement, and, if applicable, an implementation plan. The individual plans must be developed for MTC-designated CoCs (see map of CoCs below). CMAs may designate additional transportation disadvantaged areas (TDAs), which would also be eligible for CBTP planning grants after consideration and approval by MTC staff. The criteria for identifying additional TDAs must include at least one of the following three demographic characteristic: income, age (youth or seniors) and disability. In the North Bay, CMAs may designate areas affected by recent wildfires as a TDA. CMAs must designate TDAs before executing a grant agreement (or MoU amendment) with MTC.
9. ***Prioritizing planning areas*** – CMAs are encouraged to prioritize CBTPs for areas that do not currently have a plan, areas where the plan is more than 5 years old, and areas that have the highest concentration of low-income populations.
10. ***Key components and deliverables*** – CBTPs must include key components and deliverables identified in Table 2 below. Some components may be rolled into a broader effort (for e.g., outreach and engagement for a general plan update could count towards component A.). All components may or may not be completed at the same scale (for e.g., a countywide baseline conditions analysis and needs assessment for all CoCs may be followed by separate recommendations for each CoC).

Table 2: Key Components and Deliverables for CBTP Plans

<i>Plan Components</i>	<i>Guidance and Description</i>
<i>A. Outreach and Engagement</i>	Identify key stakeholders (for e.g., partner agencies, CBOs and disadvantaged/ under-represented populations), describe outreach activities (for e.g., interviews, workshops, forums, focus groups, surveys, and polls), develop multi-lingual collateral materials (for e.g., newsletters, flyers, and website), and document residents and community feedback.
<i>B. Baseline Conditions</i>	Create a map of the planning area (showing community facilities and amenities, major transportation infrastructure, regional context, CoCs, and if applicable TDAs), summarize demographic characteristics (current conditions and recent trends, if relevant), document existing transportation services (by mode, spatial distribution and temporal characteristics), etc.
<i>C. Needs Assessment</i>	Identify key local, sub-regional and regional destinations for residents and workers in CoCs and TDAs (for e.g., job centers, medical and community facilities, grocery stores, etc.), gaps in existing transportation services and infrastructure to access these destinations, and barriers to filling these gaps, etc.
<i>D. Recommendations</i>	Identify potential solutions, innovative approaches, or best practices from other regions; address the role of emerging technologies; and develop a prioritized list of initiatives, projects and/or programs, etc.
<i>E. Implementation</i>	Develop an implementation plan for key recommendations, as needed.
<i>F. Monitoring and Evaluation</i>	Develop a process and institute a mechanism to track progress and funding provided for implementation (for each initiative, project and/or program), establish monitoring protocols, etc.

Plan Bay Area 2040 Communities of Concern Map





NAPA VALLEY TRANSPORTATION AUTHORITY TAC Agenda Letter

TO: Technical Advisory Committee (TAC)
FROM: Kate Miller, Executive Director
REPORT BY: Matthew Wilcox, Manager of Transit
(707) 259-8635 | mwilcox@nvta.ca.gov
SUBJECT: Comprehensive Operational Analysis (COA) Identified Needs

RECOMMENDATION

That the Technical Advisory Committee receive an informational summary and provide feedback on the identified needs in the Vine's Comprehensive Operational Analysis (COA).

EXECUTIVE SUMMARY

Using findings in a Market Assessment, Technical Analysis, and two rider/resident surveys, NVRTA staff have compiled a list of the most critical needs that must be addressed to make the Vine an efficient transit system that is more desirable for the community. The NVRTA Board of Directors adopted these needs and their corresponding solutions as the primary focus of the service planning portion of the Comprehensive Operational Analysis (COA). Adopting these documents creates a solid platform for a logical Vine service planning process to facilitate a cohesive line by line approach to improving the Vine transit system. NVRTA is requesting comments from the TAC in preparation for the service planning phase of the COA. The TAC will receive a presentation on proposed service changes at a future date before they are presented to the NVRTA Board of Directors for approval.

FISCAL IMPACT

Is there a fiscal impact? No

BACKGROUND AND DISCUSSION

Since the beginning of its operation, the Vine has undergone several service redesigns. The most recent occurred in December 2012. Despite the changes to service levels and route alignments the overall structure of the transit network has remained unchanged. The planning principles applied to the Vine network in the past have been focused on

geographic coverage rather than on ridership demands and consequently have not always met the unique needs of the City of Napa or the County as a whole.

Completing a COA has allowed NVRTA to take a fresh look at the operations of the Vine as well as the market it serves. Armed with more granular data as well as new innovations in technologies, NVRTA can be more strategic with its deployment of resources.

NVRTA planning staff have been able to create a list of identified needs by analyzing the responses from the COA survey, Express Bus Survey, and using the findings in the Market Assessment and the Technical Analysis. The consolidated information reflects what the general public desires from the transit system, as well as sets the stage for NVRTA staff to improve operational efficiencies. The ultimate goal is to evaluate and address each need that will result in a system design that renders the Vine a high-quality, efficient transit system that serves the community's needs.

SUPPORTING DOCUMENTS

- (1) Comprehensive Operational Analysis Identified Needs Summary

Vine Vision

Summary

Since the beginning of its operation the Vine has experienced several service redesigns. The most recent occurred in December of 2012. Despite the changes to service levels and route alignments the overall structure of the transit network has remained unchanged. The planning principles applied to the Vine network in the past have been generic and do not always meet the unique needs of the City of Napa or the County as a whole. This comprehensive operational analysis (COA), provides an opportunity to reevaluate the way that the Napa Valley Transportation Authority (NVTa) prioritizes service based on the perceived needs and wants of the Napa Valley.

The Current State of Transit in Napa Valley

The service operated by the Vine is applied as a one size fits all approach using generic transit planning techniques. Many of the riders using the local service in Napa are using it because they do not have another option. The propensity analysis completed in the Market Assessment provided a snap shot of a “typical” Vine rider. Two of the most prominent attributes were low income and “did not own a car”. Even taken separately these two attributes implicate a reliance on transit as a primary form of mobility.

It is not surprising the Vine has experienced a decline in ridership on local service year-over-year for the past three years. For local trips in the City of Napa the Vine cannot compete with a car in directness and flexibility. The healthy job market and the proliferation of easy access car loans have increased the number of vehicles purchased by low income individuals. This has directly affected transit ridership.

A recent study completed by the UCLA Institute of Transportation Studies (ITS) researched the ridership decline in the LA Metro area. They found that the largest contributing factor to transit ridership decline has been the growth in vehicle access, especially among the subsets of the population that are among the heaviest transit users. While the study was applied directly to Southern California, exact parallels can be drawn between the findings of that study and those in the Market Assessment portion of this COA. The propensity analysis found that a typical Vine rider, in addition to being low income and car-less, is a person of color, does not speak English at home, and lives with three or more workers in the same home. The authors of the UCLA study contend the primary determinants of transit use are income, race, age, nativity, and car ownership; with car ownership being the largest contributing factor per the study’s results. The desire to use one’s car over transit in Napa County can be summed up by one of the respondents to the COA rider/resident survey, “My car is more luxurious than my home, why would I want to ride a bus...”

What is the Vine’s Role in Napa County?

Ask multiple people in Napa County what they think of the Vine and you will get responses that range from “It’s a waste of tax dollars, no one ever rides it” on the negative end of the spectrum to “I use it every day, I don’t know what I would do without it” on the most positive end, and everything in between. You may even get the response of, “I have never even heard of it.” From an agency perspective the role of the Vine in Napa County is to provide high-quality transit services in the most efficient manner possible. The

service the Vine provides should be safe, comfortable, and reliable; all the while meeting the needs of an evolving and diverse community. The aforementioned role is taken directly from the goals section in the NVRTA's most recent short range transit plan (SRTTP). Despite each goal having an objective with measurable standards attached to it; what "high quality", "safe", "comfortable", "reliable", and "efficient" mean in the public's eye is highly subjective.

It is very rare that a transit system can meet the exact needs of each resident it serves. The current local service in the City of Napa only appeals to a single market, a market that is in most cases dependent on it for one reason or another. Per the ITS study this is also a market that happens to be declining in number with each year. As more and more individuals purchase automobiles the less likely they are to use transit for any of their trips. The solution to the ridership decline, as suggested by the ITS study, is not to win back old riders but focus on creating transit services that attract new riders.

Surveys of riders and residents completed for both the Express Bus Study and this COA asked what residents priorities were when it came to improving transit, ways that would make them ride or ride more. The top two improvements for both surveys were greater frequency and more direct service (shorter trip times).

Unfortunately the current Vine system is not setup in a way that facilitates direct and frequent service. The local service in the City of Napa is a coverage based network, meaning routes are laid out in a way that covers the most geographic area of the City. This network design affords residents with a bus route in close proximity to where they live or work but rarely provides a direct or frequent trip. Many suburban transit operations are designed this way in an attempt to serve the greatest number of people with the least number of resources. Providing transit in this manner leads to minimal service everywhere instead of quality service in strategic locations. The current state of transit operations in the City of Napa has created the situations listed below:

- In order to achieve the fastest trip, one way routes require passengers to make multiple transfers causing the use of transit to be a confusing and stressful endeavor.
- Circuitous routes consisting of long one way loops result in long travel times in at least one direction of travel.
- Routes are more often than not indirect in an attempt to cover the most geographic area.
- Reliance on timed transfers leads to uncertainty for passengers, especially with increased congestion in Napa.
- Service focused during traditional work hours does not match the work schedule of the service industry, a major sector of Napa's economy.
- Given the low densities or inherent lack of demand in portions of the Vine service area, the Vine currently over serves some areas.

These situations are obviously detrimental to operationally efficient and desirable transit service.

What *Should* the Vine's Role be in Napa County?

Similar to asking “what *is...*” the question “what *should...*” results in a myriad of answers. Taking the responses to the COA survey and Express Bus Survey, using the findings in the Market Assessment and the Technical Analysis, NVTa planning staff have been able to create a list of identified needs. These needs reflect what the general public would like from the transit system, as well as NVTa staffs’ proposals to improve operational efficiency. The ultimate goal is to address each need resulting in a system design that makes the public agree the Vine is a high-quality (safe, comfortable, and reliable) transit service operating in the most efficient manner possible.

Table 2 shows a list of seven identified needs and the solutions that apply to each need. This list is composed of the highest ranked needs as established in the Express Bus Study survey, the COA survey, and the findings in the in the Market Assessment and Technical Analysis. Each solution has a quantitative threshold/marker. Taking a quantitative approach when entering the service planning portion of the COA allows staff to be more objective rather than subjective when allocating service. The list of solutions and their quantitative thresholds/markers can be found in Table 1.

Table 1: Solutions

Solution	Threshold/Marker
Consolidate Routes	Local routes should be at a minimum of a quarter mile from each other and not overlap, except on major corridors
Routes should not form a "loop"	A route should have a different and distinguishable start and end point.
Create bi-direction service	Trip lengths taken on a single route should be equitable in both directions.
Eliminate unproductive service	Services not meeting standards in total passengers, passengers per revenue hour, and subsidy per passenger shall be considered for elimination.
Use on-demand service to facilitate connectivity between services.	Only apply in locations as a first, last mile solution or to fill service gap caused by a route being eliminated.
Align schedule span and frequency with peak commute times and work hours.	Align service frequency and span with patterns shown in the travel behavior study.
Create schedules that reflect seasonal changes in traffic patterns.	Schedules shall be released during peak tourism season, the start of the school year, and the summer months
Routes begin and end at locations frequented by the public	Shopping centers, medical facilities, or central business districts
Routes begin and end where timed transfers can occur between services	Park and rides or dedicated transit facilities

Table 2: Identified Needs and Solutions

Need	Solutions
More direct service	Consolidate routes. Routes should not form a “loop”. Create bi-directional service. Eliminate unproductive services.
More frequent service	Consolidate routes. Create bi-directional service. Eliminate unproductive services. Use on-demand service to facilitate connectivity between services.
Later service	Consolidate routes. Eliminate unproductive services. Align schedule span and frequency with peak commute times and work hours.
Transit in closer proximity	Eliminate unproductive services. Use on-demand service to facilitate connectivity between services. Align schedules with known travel patterns not traditional work hours. Use on-demand service to facilitate connectivity between services.
Strong anchor points	Routes begin and end at locations frequented by the public Create bi-directional service Routes begin and end where timed transfers can occur between services
Improved connections between services	Consolidate routes. Eliminate unproductive services. Align schedule span and frequency with peak commute times and work hours. Routes begin and/or end at locations frequented by the public Routes begin and/or end where timed transfers can occur between services Use on-demand service to facilitate connectivity between services.
More reliable service	Consolidate routes. Eliminate unproductive services. Align schedule span and frequency with peak commute times and work hours. Create consistent spacing between stops. Where feasible establish timepoints at stops with high number of boardings. Use on-demand service to facilitate connectivity between services. Create schedules that reflect seasonal changes in traffic patterns.

Next Steps

NVTA staff will review each route and how it does or does not satisfy the identified needs. Solutions will then be applied to each route. A line by line recommendation will be created for each route. Once the line by line recommendations are completed a holistic review of the routes will take place to ensure the newly designed system is able to operate cohesively. During this process routes could go through a range of changes. Changes could include: complete rerouting, elimination, frequency increase, replacement with on-demand service, or consolidation with another route.

Recommendations will be brought forth to the public, the Board, the Consumer Advocacy Committee (CAC), and the Paratransit Coordinating Council (PCC). Each group will have the opportunity to review the redesign and provide comments. NVTa staff will take those comments and apply them where feasible. This “second draft” will result in a two phase service delivery plan. Phase One will provide short-term recommendations for service delivery. The focus of the short-term phase will be on meeting the plans recommendations with NVTa’s existing capital and financial resources. Minimal capital resources could be used in cases where bus stops need to be relocated or installed. The changes to the system associated with Phase One will be implemented within a year of its adoption by the NVTa Board.

Phase Two will provide a long-term recommendations for service delivery. Long-term recommendations will consist of changes that could create the most ideal transit system in Napa but are currently infeasible due to financial or capital constraints. These recommendations should become feasible in the future as vehicles are added to the Vine fleet and new revenue streams are realized. Changes that will be considered as part of Phase Two could include changes such as: expanded weekend service, late night service, and even service boundary expansions. These more extensive changes will also be paired with the organic growth of the Vine. Ensuring the Vine continues to support and enhance the economic and social growth of Napa will be paramount over the next ten years and beyond.

Appendix: COA Survey Results