SANTA CLARA VALLEY TRANSPORTATION AUTHORITY
CONGESTION MANAGEMENT PROGRAM
TRANSPORTATION FUND FOR CLEAN AIR
AGREEMENT
FY 2023/24

This agreement ("Agreement") is entered into between the Santa Clara Valley Transportation Authority ("VTA") and the City of San Jose ("Sponsor") and shall be effective retroactively beginning on July 1, 2023 ("Effective Date"). Hereinafter, Sponsor and VTA may be individually referred to as a "PARTY" or collectively referred to as the "PARTIES".

RECITALS

This Agreement is made with reference to the following facts:

A. VTA has been designated, by resolutions of the County of Santa Clara and a majority of the cities therein, as the Program Manager for Santa Clara County's Transportation Fund for Clean Air ("TFCA") funds under the State of California Health and Safety Code Section 44241.

B. Pursuant to that designation, VTA is responsible for allocating and administering the County of Santa Clara's TFCA County Program Manager ("CPM") Fund to eligible project sponsors in accordance with the State of California Health and Safety Code Sections 44241 and 44242 and VTA's current agreement with the Bay Area Air Quality Management District ("Air District").

C. On October 5, 2023, the VTA Board approved the programming of Fiscal Year ("FY") 2023/24 TFCA CPM funds for the Jackson Avenue Quick-Build Safety Improvements, Centralized Transit Signal Priority TFCA FYE 2024, Grand Boulevard Centralized Transit Signal Priority TFCA FYE 2024, and San Jose Bike Lockers projects. ("Project(s)").

D. This Agreement specifies the conditions under which VTA will allocate and administer a grant(s) from the TFCA CPM Fund to Sponsor for FY 2023/24.

Now, therefore the Parties agree as follows:

AGREEMENT

Section 1. Grant of TFCA Funds; Description of Projects

A. Subject to appropriation and receipt of TFCA funds (as further set forth in Section 10, below), VTA hereby agrees to allocate to Sponsor a TFCA grant in an amount not to exceed $1,729,035 (the "Grant Funds") in consideration for Sponsor's agreement to implement and complete the Project(s), as further set forth in the Project Summary(ies) attached hereto as **Attachment A**, in accordance with the terms and conditions set forth in this Agreement.

B. In consideration of VTA providing Sponsor with the Grant Funds, Sponsor hereby agrees to implement and complete the Project(s) in conformance with the terms of this Agreement. In

implementing the Project(s), Sponsor shall comply with reporting requirements as described in Section 13.

Section 2. Proper Expenditure; Return of Funds

A. Sponsor must assure that all Grant Funds received under this Agreement are expended only in accordance with all applicable provisions of federal, state, and local laws, and Sponsor shall require any other sub-recipients of Grant Funds for the Project(s) to do the same.

B. Sponsor must comply with all TFCA program requirements, as set forth in the Air District's *County Program Manager Fund Expenditure Plan Guidance Fiscal Year Ending (FYE) 2024* and the Funding Agreement between VTA and the Air District (24-SC). These documents, including appendices and revisions, are incorporated herein and made a part hereof by this reference as if fully set forth herein and will be provided by VTA to Sponsor upon request.

C. Since the Air District mandates that all TFCA Funds that are not expended in accordance with applicable provisions of law must be returned, Sponsor must reimburse VTA all Grant Funds that are not expended in accordance with the terms and conditions of this Agreement and/or applicable provisions of law upon notification.

D. Sponsor must also return the Grant Funds to VTA if the Project(s) are not maintained and/or operated throughout and until the conclusion of the years of effectiveness ("Years of Effectiveness"). This is the default value stated in the Air District's *County Program Manager Fund Expenditure Plan Guidance Fiscal Year Ending 2024* for the applicable project type, unless a different value was approved by the Air District and shown to yield a project that meets the cost-effectiveness requirement specified in the TFCA Guidance document cited above. The amount of Grant Funds returned to the Program Manager must be calculated on a prorated basis based on the length of a project's Years of Effectiveness.

Section 3. Administrative project costs

Administrative project costs are costs associated with the administration of a TFCA project, and do not include capital or operating costs. Sponsor must expend no more than six and a quarter percent (6.25%) of Grant Funds received hereunder on administrative costs.

Hourly labor charges for administrative project costs must be expressed based on hours worked on the TFCA project. Administrative project costs are limited to the following activities that have documented hourly labor and overhead:

A. Costs associated with administering the TFCA Funding Agreement (e.g., responding to requests for information from Air District and processing amendments). Costs incurred in preparation of a TFCA application or costs incurred prior to the execution of the Funding Agreement are not eligible for reimbursement;

B. Accounting for TFCA funds;

C. Fulfilling all monitoring, reporting, and record-keeping requirements specified in the TFCA Funding Agreement, including the preparation of reports, invoices, and final reports; and

D. Documenting indirect administrative costs associated with administrating the Project(s), including reasonable overhead costs of utilities, office supplies, reproduction, and managerial oversight.

The costs to prepare proposals and/or grant applications are not eligible.

If Sponsor requests reimbursement of administrative project costs, Sponsor must document and explain all such expenses in its invoices. Additionally, Sponsor must track these expenses to ensure that they do not exceed 6.25% of total TFCA funds received and provide auditable documentation to VTA. Upon notice, Sponsor must reimburse VTA for any administrative project costs deemed ineligible and returned by VTA to the Air District.

Section 4. Term

A. The term of this Agreement is retroactive beginning on July 1, 2023, until either the Project(s) are completed or terminated in accordance with Section 16C, but no later than June 30, 2025, without written approval as described below.

B. The Grant Funds must be expended within two (2) years of receipt of the first transfer of funds from the Air District to the VTA in the applicable fiscal year, unless one of the following applies:

    a. Multi-Year Funded Project: If VTA requests multi-year funding in compliance with the Guidance; and the Air District approves the request for multi-year funding.

    b. Extensions of Expenditure Deadline: If VTA finds that a project will take a longer period of time to implement or that significant progress has been made on a project, then VTA can approve no more than two one-year schedule extensions for a project, as memorialized in writing by VTA. Any subsequent schedule extensions for projects may be given on a case-by-case basis only by written amendment to this Agreement, if the Air District finds that significant progress has been made on a project, and the Funding Agreement is amended to reflect the revised schedule.

C. In addition to the specific term of this Agreement, Sponsor must maintain each Project for the Years of Effectiveness prescribed in Section 2D herein.

Section 5. Work Product

Sponsor must place in the public domain any software, written document, or other product developed with funds received through this Agreement, to the extent not otherwise prohibited by law, and to the extent required by the California Public Records Act (California Government Code Sections 6250 et seq.).

Section 6. Acknowledgement of Funding Sources

A. Sponsor must acknowledge both VTA and Air District as funding sources during the implementation of the Project(s) and must use the VTA and the Air District approved logos as specified below:

(1) The logos must be used on signs posted at the site of any project construction;

(2) The logos must be displayed on any vehicles or equipment operated with or obtained as part of the Project(s);

(3) The logos must be used on any material intended for public consumption associated with the Project(s), such as websites and printed materials, including transit schedules, brochures, handbooks, maps created for public distribution, and promotional material; and

(4) Sponsor will demonstrate to VTA, through evidence such as photographs of vehicles, equipment, construction signs, and copies of press releases, that the logos are used and displayed as required by this Section.

B. VTA will provide a copy of Air District and VTA logos to Sponsor for use in fulfilling Sponsor's obligations under this Section.

C. Sponsor must acknowledge VTA and Air District as a funding source in any related articles, news releases, or other publicity materials for the Project(s) that are produced or caused to be produced by Sponsor.

Section 7. Indemnity and Insurance Requirements

A. Sponsor must indemnify, defend, and hold harmless VTA, the Air District, their respective officers, agents, employees, representatives, and successors-in-interest from any claim, liability, loss, expense, including reasonable attorneys' fees, and/ or claims for injury or damage arising out of, or in connection with, performance of this Agreement by Sponsor and/or its agents, employees, representatives, and subcontractors, excepting only loss, injury or damage caused by the gross negligence or willful misconduct of personnel employed by VTA.

B. Sponsor may satisfy all insurance requirements pursuant with this agreement by means of self-insurance, with limits of at least $4,000,000 for General Liability, $4,000,000 for Automobile liability, Worker's Compensation per statute, $1,000,000 for Employer's Liability, $2,000,000 for Professional Liability, and $2,000,000 for Pollution. In the event that Sponsor elects to purchase insurance policies rather than self-insure, Sponsor must comply with the insurance requirements and specifications of Attachment B-1 and Attachment B-2 attached hereto, and herein incorporated by reference. In any agreement between Sponsor and a third party for purposes related in any way to the subject matter of this Agreement ("Third Party Contract"), Sponsor must require that VTA and Air District be named as (i) additional insured on all policies of insurance required by Sponsor in the Third-Party Contract except Workers' Compensation and Employers Liability, Professional Liability, and Pollution Liability and (ii) indemnified party in any indemnity provision contained in the Third-Party Contract. Such Third-Party Contracts must

contain requirements for General Liability, Automobile Liability, Workers' Compensation and Employer's Liability, and Pollution Liability.

Section 8. Invoicing

Sponsor must submit invoices at quarterly intervals to VTA for reimbursement of costs incurred to implement the Project(s). Sponsor must email requests for reimbursement to VTA Accounts Payable at VTA.AccountsPayable@vta.org. Sponsor must include relevant, auditable back-up documentation (time sheets, bills, etc.) with each invoice.

Section 9. Reimbursement

A. All funds allocated by VTA to Sponsor will be paid on a cost-reimbursement basis only. VTA will pay no funds in advance.

B. Upon review and approval of invoices and documentation, VTA will, within fifteen (15) days of receipt of an invoice that conforms to the requirements set forth in this Agreement, reimburse Sponsor for all eligible expenditures up to the maximum amount described in Section 1 of this Agreement. Only those expenses incurred by Sponsor on or after July 1, 2023, will be considered reimbursable expenditures.

C. Funds for the Projects described in this Agreement, which are not submitted for reimbursement prior to June 30, 2025, will not be available to reimburse Project costs unless a Project schedule, which extends the Project completion date beyond June 30, 2025, has been approved by VTA or the Air District, as set forth in Section 4B, above.

Section 10. Funds Subject to Appropriation/Allocation of Funds Contingent on Appropriation

VTA's obligations under the terms of this Agreement are contingent upon and subject to the allocation of TFCA funds to VTA by the Air District under VTA's "24-SC" agreement with the Air District for approved projects during Fiscal Year 2023/24.

Section 11. Audit

This Agreement is subject to the examination and audit of the California State Auditor pursuant to California Government Code Section 8546.7 for a period of five (5) years after each Project(s) Years of Effectiveness. Audits may also be conducted by an auditor chosen by the Air District or VTA.

Section 12. Sponsor's Record Keeping

Sponsor must:

A. Allow VTA and Air District staff, authorized representatives, and independent auditors, during the term of this Agreement and for five (5) years from the end of each Project(s) Years of Effectiveness, to conduct performance and financial audits and to inspect the Project(s). During audits, Sponsor must make available to the auditor, in a timely manner, all records relating to

Sponsor's implementation of the Project(s). During inspections, Sponsor will provide, at the request of VTA or the Air District, access to inspect the Project(s) and related records.

B. Maintain employee time sheets documenting those hourly labor costs incurred in the implementation of the Project(s), including both administrative and implementation costs, or to establish an alternative method to document staff costs charged to the Project(s).

C. Keep all financial and implementation records necessary to demonstrate compliance with this Agreement and the TFCA Program. Such records must include documentation that demonstrates significant progress made for those Project(s) seeking extensions to the completion date. Sponsor must keep such documents in a central location for a period of five (5) years from the end of each Project's Years of Effectiveness.

Section 13. Reporting Requirements.

A. Sponsor must submit an interim project report to VTA in each May and October until the Project(s) is/are completed, and all closeout requirements have been fulfilled. The interim report must utilize Air District-approved report forms. One form should be submitted for each Project listed in Attachment A. VTA will supply the Interim Project Report form to Sponsor for this requirement.

B. Sponsor must submit a Final Report for each completed Project on the Air District-approved report form appropriate for the specific project type. Sponsor must also submit a post-project Cost-Effectiveness spreadsheet. Post-project evaluations should be completed using the version of the Cost-Effectiveness worksheet for the year the purchased, installed, or constructed project became available for use by the public. VTA will provide the Final Report Forms and spreadsheets for this requirement.

Section 14. Review

VTA will review Sponsor's progress in implementing the Project(s) at the end of the sixth (6^{th}) quarter following execution of this Agreement. If progress at the sixth (6^{th}) quarter review is insufficient to implement any Project or to expend the funds within the period described in Section 4, VTA will develop an action plan with Sponsor to ensure that the Grant Funds are not required to be repaid to VTA and/or the Air District. The action plan may include reprogramming funds to other projects within Santa Clara County to ensure their expenditure prior to the term expiration date described in Section 4.

Section 15. Non-Performance

If Sponsor causes all or part of these Grant Funds to be subject to repayment to the CPM Fund because of failure to complete the Project(s) according to the work scope described in Attachment A, Sponsor's next grant allocation of any kind that is from or passes through VTA may be reduced by the amount that VTA repaid to the CPM Fund.

Section 16. General Terms and Conditions

A. **Notices.** Any notice required to be given by either Party, or which either Party may wish to give,

must be in writing and served either by personal delivery or sent by certified or registered mail, postage prepaid, addressed as follows:

To VTA: Santa Clara Valley Transportation Authority
Chief Planning & Programming Officer
3331 North 1st Street
San José, CA 95134

To SPONSOR: City of San Jose
City Manager
200 East Santa Clara Street
San Jose, CA 95113

B. **Program Liaison.** Within thirty (30) days from the Effective Date of this Agreement, Sponsor must notify VTA of Sponsor's "Program Liaison" and provide the Program Liaison's address, telephone number, and email address. The Program Liaison must be the contact to VTA pertaining to implementation of this Agreement and for information about the Project(s). Sponsor must notify VTA of the change of Program Liaison or of the Program Liaison's contact information in writing no later than thirty (30) days from the date of any change.

C. **Non-Waiver.** The failure of either party to insist upon the strict performance of any of the terms, covenants, and conditions of this Agreement will not be deemed a waiver of any right or remedy that either party may have and will not be deemed a waiver of their right to require strict performance of all of the terms, covenants, and conditions thereafter.

D. **Assignment:** Sponsor must not assign, sell, license, or otherwise transfer any rights or obligations under this Agreement without the prior written consent of VTA.

E. **Integration.** This Agreement, including all attachments and references, constitutes the entire Agreement between the Parties pertaining to the subject matter contained herein and supersedes all prior or contemporaneous agreements, representations, and understandings of the Parties relative thereto.

F. **Amendments**. Future amendments and modifications to this Agreement must be made in writing and signed by both parties.

G. **Independent Contractor**: Sponsor is an independent contractor and shall not be considered employees or agents of VTA or the Air District.

H. **Governing Law**: Any dispute that arises under or relates to this Agreement shall be governed by California law, excluding any laws that direct the application of another jurisdiction's laws. Venue for resolution of any dispute that arises under or relates to this Agreement shall be San Jose, California.

I. **Attachments**. Each attachment hereto is incorporated into this Agreement as if fully set forth herein.

J. **Severability**. If any term, covenant, condition, or provision of this Agreement, or the application

thereof to any person or circumstance, shall to any extent be held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the terms, covenants, conditions, and provisions of this Agreement, or the application thereof to any person or circumstance, must remain in full force and effect and shall in no way be affected, impaired or invalidated thereby.

K. **Warranty of Authority to Execute Agreement.** Each Party to this Agreement represents and warrants that each person whose signature appears hereon has been duly authorized and has the full authority to execute this Agreement on behalf of the entity that is a Party to this Agreement.

L. **Survival.** Any provision that, by its nature, extends beyond the term or termination of this Agreement will survive the expiration or termination of this Agreement.

Section 17. Termination.

A. **Voluntary.** Either Party may terminate this Agreement and/or a Project at any time by giving written notice of termination to the other Party which must specify the effective date thereof. Notice of termination under this paragraph must be given at least ninety (90) days before the effective date of such termination unless the Parties mutually agree to an earlier termination date. This Agreement will also terminate at the end of the fiscal year during which VTA loses its designation as County Program Manager for Santa Clara County.

If VTA terminates this Agreement and/or a Project pursuant to this provision, the Sponsor must cease all work under this Agreement and cease further expenditures of Grant Funds received under this Agreement for the terminated Project immediately upon receipt of the notice of termination, excepting any work permitted to continue that is specified in the notice of termination. VTA will review the project to determine if it will still reduce emissions, and if it does, VTA may reimburse Sponsor for eligible funds and no further Grant Funds will be provided for that Project.

If Sponsor terminates this Agreement and/or a Project pursuant to this provision, the Sponsor must return all Grant Funds provided by VTA for the specific Project up to and including the date of termination.

B. **After Breach.** VTA may terminate this Agreement and/or a Project for breach. Upon any breach, VTA will deliver a written notice of termination for breach to Sponsor that specifies the date of termination, which will be no less than ten (10) business days from delivery of such notice and will provide the Sponsor an opportunity to contest such breach within that period of time. If Sponsor contests the notice of termination for breach, VTA will provide written notice of VTA's determination of Sponsor's contestation. If VTA upholds the termination for breach, the written notice will specify the effective date of termination and Sponsor will have ten (10) business days to cure. If the breach is not cured within the allotted time, the Agreement will automatically terminate. The notice of termination will specify the Total Grant Funds VTA has paid to the Sponsor, which Sponsor must reimburse to the VTA within thirty (30) days of the effective date of termination.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date shown below.

City of San Jose
(Sponsor)

Dated: _____

_____
Toni J. Taber
City Clerk
City of San Jose

Approved as to Form:

_____
Matthew Tolnay
City Attorney

Santa Clara Valley Transportation Authority
(VTA)

Dated: _____

_____
Carolyn Gonot
General Manager and CEO
VTA

Approved as to Form:

_____
Judith Propp
VTA Counsel

ATTACHMENT A-1 – PROJECT INFORMATION SUMMARY

A. Project Number: 24SC02
B. Project Title: Jackson Avenue Quick-build Safety Improvements
C. Project Category (project will be evaluated under this category): Bikeways
D. TFCA County Program Manager Funds Allocated: $17,700
E. TFCA Regional Funds Awarded (if applicable): n/a
F. Total TFCA Funds Allocated (sum of C and D): $17,700
G. Total Project Cost: $578,000
H. Project Description:

The City of San Jose will use TFCA funds to implement Class IV bike lanes using physical separators in conjunction with the appropriate roadway striping and signage on Jackson Avenue between Berryessa Road and Story Road. The project will provide safety improvement for bicyclists and will help encourage residents to do more biking for shorter trips along this corridor. Hence, will help reduce the number of vehicle trips.

I. Final Report Content: Final Report form and final Cost Effectiveness Worksheet
The trip reduction form will be used for final reporting.
J. Attach a completed Cost-Effectiveness Worksheet and any other information used to evaluate the proposed project.
Please see attached completed C-E worksheet
K. Has or will this project receive any other TFCA funds, such as Regional Funds? No
L. Comments (if any): n/a
M. Please indicate if the project is located in a SB535 Disadvantaged Community and/or AB1550 Low-income Community (Please use the map to find your project's location: https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/communityinvestments.htm)
Two-third of the project corridor is within the MTC's designated Equity Priority Communities. Please refer to Attachment 3 (Equity Priority Communities Map) in the application.

Section 2. Project Category Specific Questions

N. If a bikeway project, answer the following questions:
   a. What plan is the project referenced in?
   Jackson Avenue has been identified as a priority bikeway network in the San Jose's Better Bike Plan 2025, which calls for Class IV separated bike lanes.
   b. Will the project be publicly accessible and available for use by all members of the public?
   Yes
   c. If applicable, will the project be consistent with design standards published in the California Highway Design Manual or conform to the provisions of the Protected Bikeway Act of 2014?
   Yes

d. Has the project completed all applicable environmental reviews and either have been deemed exempt by the lead agency or have been issued the applicable negative declaration or environmental impact report or statement?
This project will be covered under the City's CEQA Exemption referenced File No. ER23-009

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Worksheet

Version 2024, Updated 1/9/23

General Information Tab: Complete areas shaded in yellow.

Project Number (24XXXYY)	24SC02
Project Title	Jackson Avenue Bikeway Improvements
Project Type Code (e.g., 7a)	7j
County (2-3 character abbreviation)	SC
Worksheet Calculated By	Vu Dao
Date of Submission	45044
Project Sponsor	
Project Sponsor Organization	City of San Jose
Public Agency? (Y or N)	Y
Contact Name	Vu Dao
Email Address	vu.dao@sanjoseca.gov
Phone Number	(408) 975-3712
Mailing Address	200 East Santa Clara Street, 8th Floor
City	San Jose
State	CA
Zip	95113
Project Schedule	
Project Start Date	12/1/2023
Project Completion Date	12/31/2024
Final Report to CMA	6/30/2025

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Wo

Version 2024, Updated 1/9/23

Program Manager Proj.#:	24SC02
Route Name:	Jackson Avenue

Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
Project Operational Start Year:	2024
# Years Effectiveness:	7
Project Operational End Year:	2031
Total Cost for route:	758,000
Total Cost for route 40%:	17,700
Total Cost for route 60%:	NA
Total TFCA Cost for route:	$17,700.00

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	240	16	304294	26,452	18,378	555	76,739	71,607,424
12	240	3	8,640	1,258	655	25	2,179	2,141,705
0			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
		Total	8,640	1,258	655	25	2,179	2,141,705

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

50	250	3	304294	23,801	17,683	505	76,739	71,039,814
			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
		0.1	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	0

Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			See Emission Factors Tab, Emissions for Buses Table													
Vehicle Ref #	Engine Year, Make, & Model	Odometer reading	ROG Factor (gr/mi)	ROG DR (g/10k miles)	NOx Factor (g/mi)	Nox DR (g/10k miles	Exhaust PM10 Factor (g/mi)	Exhaust PM DR (g/10k miles)	**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)
												0.00	0	0	0	0
												0.00	0	0	0	0
												0.00	0	0	0	0
										Total	0	0	0	0	0	0

Cost Effectiveness Results	Annual	Lifetime	
1. VMT Reduced	8,640.00	60,480.00	Miles
2. Trips Reduced	2,880.00	20,160.00	Trips
3. ROG Emissions Reduced	0.0014	0.010	Tons
4. NOx Emissions Reduced	0.0007	0.005	Tons
5. PM Emissions Reduced	0.0024	0.017	Tons
6. PM Weighted Emissions Reduced	0.0030	0.021	Tons
7. CO2 Emissions Reduced	2.3608	16.526	Tons
8. Emission Reductions (ROG, NOx & PM)	0.0045	0.032	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		557,195.86	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). **THIS VALUE MUST MEET POLICY REQUIREMENTS.**		**$498,872**	**/Ton**

Notes & Assumptions

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

Two key compoonents in calculating cost-effectiveness are the number of vehicle trips eliminated per day and the trip length.
A frequently used proxy is the % of survey respondents who report they would have driven alone if not for the service being provided.
If survey data is not available, alternative **supporting documentation must be provided to justify the inputs used in the CE calculations**.

Trips Eliminated Per Day
This is number of trips by participants that would have driven as a single occupant vehicle if not for the service; **it is not the same as the total number of riders or participants**.

Trip Length
Only use the trip length of the **vehicle trip avoided** by only the riders or participants that would otherwise have driven alone.

Policy 11. Duplication
MTC's regional ridehsaring program provides funding to counties. This funding may contain TFCA funding, which, if used in combination with TFCA funding, may violate Policy 11. Duplication.

We are using calculations based on recommendations provided in Appendix H of the CPM Fund Expenditure Plan Guidance FYE 2021 for Emission Reduction Inputs.
Values follow guidance for Bicycle Projects under Trip Reduction projects.

Item	Value	Source	Notes
# Years of Effectiveness	7	CPM Fund Expenditure Plan Guidance for FYE 2024	Not to exceed 7 years for Class 2, 3, 4
ADT on Jackson Avenue	20,000	ADT counts from SJ Engineering Traffic Survey	Average traffic volume
Trips Reduced	12	CPM Fund Expenditure Plan Guidance for FYE 2024	Segment length is greater than 2 miles 0.6% ACT for ADT between 12,000 - 24,000
Days/Yr	240	CPM Fund Expenditure Plan Guidance for FYE 2024	Per recommendation from CPM Fund Expenditure Plan Guidance for FYE 2024
Trip Length (1-way)	3	CPM Fund Expenditure Plan Guidance for FYE 2024	Length is in miles

ATTACHMENT A-2 – PROJECT INFORMATION SUMMARY

A. Project Number: 24SC03
B. Project Title: Centralized Transit Signal Priority TFCA FYE 2024
C. Project Category (project will be evaluated under this category): Pilot Trip Reduction
D. TFCA County Program Manager Funds Allocated: $756,000
E. TFCA Regional Funds Awarded (if applicable): $0
F. Total TFCA Funds Allocated (sum of C and D): $756,000
G. Total Project Cost: $756,000
H. Project Description:

San José seeks TFCA funding to implement cloud-based, central TSP along three VTA Frequent Routes (Route 57, Route 60 and Route 61) within both the City of San Jose and the City of Santa Clara. Route 57 runs from Old Ironsides Station to West Valley College passing through Allendale, Quinto, Saratoga, Kiely, Bowers, Great America, and Tasman, passing through a total of 13 traffic signals operated by the City of San José. Route 60 runs from Milpitas BART to Winchester Station passing through Winchester, Bellomy, Monroe, Benton, Brokaw, and Tradezone, passing through a total of 34 traffic signals operated by the City of San José and 11 traffic signals operated by the City of Santa Clara. Route 61 runs from Sierra & Piedmont to Good Samaritan Hospital, passing through Bascom, Samaritan, Union, Taylor, Naglee, Hedding, Berryessa, and Sierra, passing through a total of 50 traffic signals operated by the City of San José. This project scope includes 108 unique traffic signals.

Project components include the system development and integration of a central TSP system, TSP timing development and optimization, implementation and fine-tuning, and system evaluation. Observations to the operation of non-transit modes of transportation will be made to ensure that their operations will be minimally impacted. The project will also consider how opposing transit phases are prioritized and identify operational bottlenecks in the overall transit operations.

Project Eligibility:

This project meets the eligibility for the Trip Reduction Category as outlined in Appendix D – Board-adopted Policies for FYE 2024. This project reduces single-occupancy commute vehicle trips by encouraging mode-shift to other forms of shared transportation. The project will expand Central TSP services to the west San Jose area, where currently has no Central TSP.

The project cost will include a 5-year operating and maintenance contract. Therefore, it will cost 0$ to maintain its operation from year 3 to year 5. After year 5, there is an opportunity to renegotiate maintenance pricing once the number of centralized TSP signals increases.

I. Final Report Content: Final Report form and final Cost Effectiveness Worksheet
Final Report form that will be completed and submitted after project completion
- *Trip Reduction*

J. Attach a completed Cost-Effectiveness Worksheet and any other information used to evaluate the proposed project.
See Attached

K. Has or will this project receive any other TFCA funds, such as Regional Funds? No

L. Comments (if any): No

M. Please indicate if the project is located in a SB535 Disadvantaged Community and/or AB1550 Low-income Community
This project will serve people living and traveling through San José and is within many Communities of Concern as defined by the Metropolitan Transportation Commission. A majority of Routes 57, 60, and 61 exist within a Community of Concern

Section 2. Project Category Specific Questions

N. If a **pilot trip reduction** project, confirm that the project complies with all the following requirements:

☒ Project will reduce single-occupancy vehicle trips and result in a reduction in emissions of criteria pollutants.

☒ Service is available for use by all members of the public.

☒ Applicant provided a written plan showing how the service will be financed in the future and require minimal, if any, TFCA funds to maintain its operation by the end of the third year.

☒ If the local transit provider is not a partner, the applicant demonstrated that they have attempted to have the service provided by the local transit agency. The transit provider was given the first right of refusal and determined that the proposed project does not conflict with existing service.

☒ Applicant provided data and/or other evidence demonstrating the public's need for the service, such as a demand assessment survey and letters of support from potential users.

☒ Service is at least 70% unique and operates where no other service was provided within the past three years.

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Worksheet

Version 2024, Updated 1/9/23

General Information Tab: Complete areas shaded in yellow.

Project Number (24XXXYY)	24SC03
Project Title	Centralized Transit Signal Priority TFCA FYE 2024
Project Type Code (e.g., 7a)	5g
County (2-3 character abbreviation)	SC
Worksheet Calculated By	Tan Tranngo / Associate Engineer
Date of Submission	5/5/2023
Project Sponsor	
Project Sponsor Organization	City of San José
Public Agency? (Y or N)	Y
Contact Name	Renee Zhou / Senior Engineer
Email Address	renee.zhou@sanjoseca.gov
Phone Number	(408) 975-3232
Mailing Address	200 East Santa Clara Street, 8th Floor
City	San José
State	CA
Zip	95113
Project Schedule	
Project Start Date	7/1/2024
Project Completion Date	6/30/2026
Final Report to CMA	12/31/2026

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Worksheet

Version 2024, Updated 1/9/23

Program Manager Proj.#:	24SC03
Route Name:	57

Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
Project Operational Start Year:	2024
# Years Effectiveness:	2
Project Operational End Year:	2026
Total Cost for route:	91,000
Total Cost for route 40%:	91,000
Total Cost for route 60%:	NA
Total TFCA Cost for route:	$91,000.00

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	240	16	304294	27,461	19,513	568	76,739	76,634,241
143	240	6	213,814	23,555	14,846	475	53,921	54,770,912
125	125	6	93,750	10,469	6,547	211	23,642	24,045,703
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
		Total	307,564	34,024	21,393	686	77,563	78,816,616

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

50	250	3	304294	24,655	18,766	518	76,739	76,025,816
71.5	240	3.0	51,480	7,842	4,153	153	12,983	13,657,915
62.5	125	3.0	23,438	3,570	1,891	70	5,911	6,218,092
			0	0	0	0	0	0
		Total	74,918	11,412	6,043	223	18,893	19,876,007

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
		0.1	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	0

Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			See Emission Factors Tab, Emissions for Buses Table													
Vehicle Ref #	Engine Year, Make, & Model	Odometer reading	ROG Factor (gr/mi)	ROG DR (g/10k miles)	NOx Factor (g/mi)	Nox DR (g/10k miles	Exhaust PM10 Factor (g/mi)	Exhaust PM DR (g/10k miles)	**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)
												0.00	0	0	0	0
												0.00	0	0	0	0
												0.00	0	0	0	0
										Total	0	0	0	0	0	0

Cost Effectiveness Results	Annual	Lifetime	
1. VMT Reduced	232,646.10	465,292.20	Miles
2. Trips Reduced	17,160.00	34,320.00	Trips
3. ROG Emissions Reduced	0.0249	0.050	Tons
4. NOx Emissions Reduced	0.0169	0.034	Tons
5. PM Emissions Reduced	0.0652	0.130	Tons
6. PM Weighted Emissions Reduced	0.0749	0.150	Tons
7. CO2 Emissions Reduced	64.9698	129.940	Tons
8. Emission Reductions (ROG, NOx & PM)	0.1070	0.214	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		425,132.49	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). **THIS VALUE MUST MEET POLICY REQUIREMENTS.**		**$389,823**	**/Ton**

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Worksheet

Version 2024, Updated 1/9/23

Program Manager Proj.#:	24SC03
Route Name:	60

Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
Project Operational Start Year:	2024
# Years Effectiveness:	2
Project Operational End Year:	2026
Total Cost for route:	315,000
Total Cost for route 40%:	315,000
Total Cost for route 60%:	NA
Total TFCA Cost for route:	$315,000.00

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	240	16	304294	27,461	19,513	568	76,739	76,634,241
156	240	19	722,592	60,439	45,067	1,263	182,228	180,944,997
144	125	19	347,400	29,057	21,667	607	87,609	86,992,787
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
		Total	1,069,992	89,497	66,733	1,870	269,837	267,937,783

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

50	250	3	304294	24,655	18,766	518	76,739	76,025,816
78.0	240	3.0	56,160	8,555	4,530	167	14,163	14,899,544
72.0	125	3.0	27,000	4,113	2,178	80	6,809	7,163,242
			0	0	0	0	0	0
		Total	83,160	12,668	6,708	247	20,972	22,062,786

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
		0.1	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	0

Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			See Emission Factors Tab, Emissions for Buses Table													
Vehicle Ref #	Engine Year, Make, & Model	Odometer reading	ROG Factor (gr/mi)	ROG DR (g/10k miles)	NOx Factor (g/mi)	Nox DR (g/10k miles	Exhaust PM10 Factor (g/mi)	Exhaust PM DR (g/10k miles)	**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)
												0.00	0	0	0	0
												0.00	0	0	0	0
												0.00	0	0	0	0
										Total	0	0	0	0	0	0

Cost Effectiveness Results	Annual	Lifetime	
1. VMT Reduced	986,832.00	1,973,664.00	Miles
2. Trips Reduced	18,720.00	37,440.00	Trips
3. ROG Emissions Reduced	0.0847	0.169	Tons
4. NOx Emissions Reduced	0.0662	0.132	Tons
5. PM Emissions Reduced	0.2761	0.552	Tons
6. PM Weighted Emissions Reduced	0.3101	0.620	Tons
7. CO2 Emissions Reduced	271.0262	542.052	Tons
8. Emission Reductions (ROG, NOx & PM)	0.4270	0.854	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		368,883.13	/Ton
10. **TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). THIS VALUE MUST MEET POLICY REQUIREMENTS.**		**$341,679**	**/Ton**

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Worksheet

Version 2024, Updated 1/9/23

Program Manager Proj.#:	24SC03
Route Name:	61

Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
Project Operational Start Year:	2024
# Years Effectiveness:	2
Project Operational End Year:	2026
Total Cost for route:	350,000
Total Cost for route 40%:	350,000
Total Cost for route 60%:	NA
Total TFCA Cost for route:	$350,000.00

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	240	16	304294	27,461	19,513	568	76,739	76,634,241
139	240	23	757,272	61,906	46,847	1,298	190,974	189,318,325
96	125	23	272,400	22,268	16,852	467	68,696	68,100,117
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
		Total	1,029,672	84,175	63,699	1,765	259,669	257,418,441

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

50	250	3	304294	24,655	18,766	518	76,739	76,025,816
69.5	240	3.0	50,040	7,623	4,037	149	12,619	13,275,875
48.0	125	3	18,000	2,742	1,452	54	4,539	4,775,495
		Total	68,040	10,365	5,489	202	17,159	18,051,370

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
		0.1	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	0

Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			See Emission Factors Tab, Emissions for Buses Table													
Vehicle Ref #	Engine Year, Make, & Model	Odometer reading	ROG Factor (gr/mi)	ROG DR (g/10k miles)	NOx Factor (g/mi)	Nox DR (g/10k miles	Exhaust PM10 Factor (g/mi)	Exhaust PM DR (g/10k miles)	**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)
												0.00	0	0	0	0
												0.00	0	0	0	0
												0.00	0	0	0	0
										Total	0	0	0	0	0	0

Cost Effectiveness Results	Annual	Lifetime	
1. VMT Reduced	961,632.00	1,923,264.00	Miles
2. Trips Reduced	10,680.00	21,360.00	Trips
3. ROG Emissions Reduced	0.0814	0.163	Tons
4. NOx Emissions Reduced	0.0642	0.128	Tons
5. PM Emissions Reduced	0.2690	0.538	Tons
6. PM Weighted Emissions Reduced	0.3018	0.604	Tons
7. CO2 Emissions Reduced	263.8526	527.705	Tons
8. Emission Reductions (ROG, NOx & PM)	0.4146	0.829	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		422,129.14	/Ton
10. **TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). THIS VALUE MUST MEET POLICY REQUIREMENTS.**		**$391,239**	**/Ton**

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS

FYE 2024 TFCA County Progam Manager Fund W

Version 2024, Updated 1/9/23

Program Manager Proj.#:	24SC03
Route Name:	57 & 60 & 61

Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
Project Operational Start Year:	2024
# Years Effectiveness:	2
Project Operational End Year:	2026
Total Cost for route:	756,000
Total Cost for route 40%:	756,000
Total Cost for route 60%:	NA
Total TFCA Cost for route:	$756,000.00

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	240	16	304294	27,461	19,513	568	76,739	76,634,241
143	240	6	213,814	23,555	14,846	475	53,921	54,770,912
125	125	6	93,750	10,469	6,547	211	23,642	24,045,703
156	240	19	722,592	60,439	45,067	1,263	182,228	180,944,997
144	125	19	347,400	29,057	21,667	607	87,609	86,992,787
139	240	23	757,272	61,906	46,847	1,298	190,974	189,318,325
96	125	23	272,400	22,268	16,852	467	68,696	68,100,117
		Total	2,407,228	207,695	151,825	4,321	607,070	604,172,841

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

50	250	3	304294	24,655	18,766	518	76,739	76,025,816
71.5	240	3.0	51,480	7,842	4,153	153	12,983	13,657,915
62.5	125	3.0	23,438	3,570	1,891	70	5,911	6,218,092
78.0	240	3.0	56,160	8,555	4,530	167	14,163	14,899,544
72.0	125	3.0	27,000	4,113	2,178	80	6,809	7,163,242
69.5	240	3.0	50,040	7,623	4,037	149	12,619	13,275,875
48.0	125	3.0	18,000	2,742	1,452	54	4,539	4,775,495
			0	0	0	0	0	0
		Total	226,118	34,445	18,240	672	57,024	59,990,163

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
		0.1	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	0

Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			See Emission Factors Tab, Emissions for Buses Table													
Vehicle Ref #	Engine Year, Make, & Model	Odometer reading	ROG Factor (gr/mi)	ROG DR (g/10k miles)	NOx Factor (g/mi)	Nox DR (g/10k miles	Exhaust PM10 Factor (g/mi)	Exhaust PM DR (g/10k miles)	**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)
												0.00	0	0	0	0
												0.00	0	0	0	0
												0.00	0	0	0	0
										Total	0	0	0	0	0	0

Cost Effectiveness Results	Annual	Lifetime	
1. VMT Reduced	2,181,110.10	4,362,220.20	Miles
2. Trips Reduced	29,160.00	58,320.00	Trips
3. ROG Emissions Reduced	0.1910	0.382	Tons
4. NOx Emissions Reduced	0.1472	0.294	Tons
5. PM Emissions Reduced	0.6103	1.221	Tons
6. PM Weighted Emissions Reduced	0.6868	1.374	Tons
7. CO2 Emissions Reduced	599.8486	1,199.697	Tons
8. Emission Reductions (ROG, NOx & PM)	0.9486	1.897	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		398,500.86	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). **THIS VALUE MUST MEET POLICY REQUIREMENTS.**		**$368,789**	**/Ton**

Notes & Assumptions

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

Two key compoonents in calculating cost-effectiveness are the number of vehicle trips eliminated per day and the trip length.
A frequently used proxy is the % of survey respondents who report they would have driven alone if not for the service being provided.
If survey data is not available, alternative **supporting documentation must be provided to justify the inputs used in the CE calculations**.

Trips Eliminated Per Day
This is number of trips by participants that would have driven as a single occupant vehicle if not for the service; **it is not the same as the total number of riders or participants**.

Trip Length
Only use the trip length of the **vehicle trip avoided** by only the riders or participants that would otherwise have driven alone.

Policy 11. Duplication
MTC's regional ridehsaring program provides funding to counties. This funding may contain TFCA funding, which, if used in combination with TFCA funding, may violate Policy 11. Duplication.

Project Description:
Implementation of transit signal priority system for VTA routes 57, 60, and 61.
No other TFCA funds will be used to fund this project.

Years of Effectiveness:
Assumption: Two years of project effectiveness.

Costs:
Project costs were determined based vendor estimates for centralized transit signal priority systems for this scale of deployment.

Days/yr:
240 weekdays per year
125 weekends and holidays per year

Number of Trips/Day:
Ridership data from October 2017 to October 2018 was provided by the VTA website: https://data.vta.org/datasets/VTA::ridership-by-route-cumulative-yearly/explore
Route 57 Weekdays: 1,427
Route 57 Weekends: 1,249
Route 60 Weekdays: 1,565
Route 60 Weekends: 1,441
Route 61 Weekdays: 1,392
Route 61 Weekends: 963

Project is estimated to increase ridership by 10%. Estimate is in range provided by the VTA. The increase in ridership assumes to be equal to the number of vehicular trip reduce. Therefore, the ridership incrreases are expected to be:
Route 57 Weekdays: 143
Route 57 Weekends: 125
Route 60 Weekdays: 156
Route 60 Weekends: 144
Route 61 Weekdays: 139
Route 61 Weekends: 96

Trip Length (1-way)
The average distance of single occupancy vehicle trip reduced was estimated to be 6.2 miles for Route 57, 19.3 miles for Route 60, and 22.7 miles for Route 61. Trip length estimation uses existing survey data on Google Earth Map.

ATTACHMENT A-3 – PROJECT INFORMATION SUMMARY

A. Project Number: 24SC04
B. Project Title: Grand Boulevard Centralized Transit Signal Priority TFCA FYE 2024
C. Project Category (project will be evaluated under this category): Pilot Trip Reduction
D. TFCA County Program Manager Funds Allocated: $869,100
E. TFCA Regional Funds Awarded (if applicable): $0
F. Total TFCA Funds Allocated (sum of C and D): $869,100
G. Total Project Cost: $869,100
H. Project Description:

San José seeks TFCA funding to implement cloud-based, central TSP along 7 VTA Frequent Routes (Route 22, Rapid 522, Route 23, Rapid 523, Route 64B, Route 70, and Route 77) within both the City of San Jose and the City of Santa Clara. These routes primarily travel on streets designated as "Grand Boulevards" (major corridors intended as primary transit routes) per the City of San Jose's General Plan.

Route 22 runs from the Palo Alto Transit Center to Eastridge passing through King Rd, Santa Clara St, The Alameda, and El Camino Real, passing through a total of 53 traffic signals operated by the City of San José and 5 traffic signals operated by the City of Santa Clara.

Rapid 522 runs from the Palo Alto Transit Center to Eastridge passing through Capitol Ave/Expy, Alum Rock Ave, Santa Clara St, The Alameda, and El Camino Real, passing through a total of 45 traffic signals operated by the City of San José and 5 traffic signals operated by the City of Santa Clara.

Route 23 runs from De Anza College to Alum Rock Station passing through Alum Rock Ave, Santa Clara St, San Carlos St, and Stevens Creek Blvd, passing through a total of 54 traffic signals operated by the City of San José and 7 traffic signals operated by the City of Santa Clara.

Rapid 523 runs from San José State to Lockheed Martin passing through Santa Clara St, San Carlos St, and Stevens Creek Blvd, passing through a total of 28 traffic signals operated by the City of San José and 7 traffic signals operated by the City of Santa Clara.

Route 64B runs from Almaden & Camden to McKee & White passing through McKee Rd, Julian St, Santa Clara St, Race St, and Meridian Ave, passing through a total of 22 traffic signals operated by the City of San José.

Route 70 runs from Milpitas BART to Capitol Station passing through Mabury Rd, Jackson Ave, Capitol Expy, King Rd, and Senter Rd, passing through a total of 48 traffic signals operated by the City of San José.

Route 77 runs from Milpitas BART to Eastridge passing through Lundy Ave and King Rd, passing through a total of 40 traffic signals operated by the City of San José.

This project scope includes 134 unique traffic signals.

Project components include the system development and integration of a central TSP system, TSP timing development and optimization, implementation and fine-tuning, and system evaluation.

Observations to the operation of non-transit modes of transportation will be made to ensure that their operations will be minimally impacted. The project will also consider how opposing transit phases are prioritized and identify operational bottlenecks in the overall transit operations.

Project Eligibility:
This project meets the eligibility for the Trip Reduction Category as outlined in Appendix D – Board-adopted Policies for FYE 2024. This project reduces single-occupancy commute vehicle trips by encouraging mode-shift to other forms of shared transportation. The project will expand Central TSP services to the west and east San Jose areas, which currently have limited to no Central TSP.

The project cost will include a 5-year operating and maintenance contract. Therefore, it will cost $0 to maintain its operation from year 3 to year 5. After year 5, there is an opportunity to renegotiate maintenance pricing once the number of centralized TSP signals increases.

I. Final Report Content: Final Report form and final Cost Effectiveness Worksheet
Final Report form that will be completed and submitted after project completion
- *Trip Reduction*

J. Attach a completed Cost-Effectiveness Worksheet and any other information used to evaluate the proposed project.
See Attached

K. Has or will this project receive any other TFCA funds, such as Regional Funds? No

L. Comments (if any): None

M. Please indicate if the project is located in a SB535 Disadvantaged Community and/or AB1550 Low-income Community
All routes pass through and serve census tracts that are considered Disadvantaged Communities, Low-income Communities, or both.

Section 2. Project Category Specific Questions

N. If a **pilot trip reduction** project, confirm that the project complies with all the following requirements:

☒ Project will reduce single-occupancy vehicle trips and result in a reduction in emissions of criteria pollutants.

☒ Service is available for use by all members of the public.

☒ Applicant provided a written plan showing how the service will be financed in the future and require minimal, if any, TFCA funds to maintain its operation by the end of the third year.

☒ If the local transit provider is not a partner, the applicant demonstrated that they have attempted to have the service provided by the local transit agency. The transit provider was given the first right of refusal and determined that the proposed project does not conflict with existing service.

☒ Applicant provided data and/or other evidence demonstrating the public's need for the service, such as a demand assessment survey and letters of support from potential users.

☒ Service is at least 70% unique and operates where no other service was provided within the past three years.

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Worksheet

Version 2024, Updated 1/9/23

General Information Tab: Complete areas shaded in yellow.

Project Number (24XXXYY)	24SC04
Project Title	Grand Boulevard Centralized Transit Signal Priority TFCA FYE 2024
Project Type Code (e.g., 7a)	8b
County (2-3 character abbreviation)	SC
Worksheet Calculated By	Vanessa See / Associate Engineer
Date of Submission	5/5/2023
Project Sponsor	
Project Sponsor Organization	City of San José
Public Agency? (Y or N)	Y
Contact Name	Renee Zhou / Senior Engineer
Email Address	renee.zhou@sanjoseca.gov
Phone Number	(408) 975-3232
Mailing Address	200 East Santa Clara Street, 8th Floor
City	San José
State	CA
Zip	95113
Project Schedule	
Project Start Date	7/1/2024
Project Completion Date	6/30/2026
Final Report to CMA	12/31/2026

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS

FYE 2024 TFCA County Progam Manager Fund W

Version 2024, Updated 1/9/23

Program Manager Proj.#:	24SC04
Route Name:	22, 522, 23, 523, 64B, 70, 77

Cost Effectiveness Inputs	
Project Operational Start Year:	2024
# Years Effectiveness:	2
Project Operational End Year:	2026
Total Cost for route:	869,100
Total Cost for route 40%:	869,100
Total Cost for route 60%:	NA
Total TFCA Cost for route:	$869,100.00

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	240	16	304294	27,461	19,513	568	76,739	76,634,241
882	240	7	1,545,264	161,364	104,930	3,274	389,694	393,914,398
668	125	7	609,276	63,623	41,372	1,291	153,651	155,315,006
776	240	9	1,601,045	159,099	106,563	3,248	403,761	406,379,862
420	125	9	451,823	44,899	30,072	917	113,943	114,682,341
727	240	11	1,832,040	172,648	119,432	3,549	462,015	462,972,013
396	125	11	519,750	48,980	33,883	1,007	131,074	131,345,224
639	240	7	1,134,864	117,995	76,925	2,395	286,197	289,185,225
249	125	7	230,325	23,948	15,612	486	58,085	58,691,250
167	240	7	293,285	30,626	19,915	621	73,962	74,763,345
65	125	7	59,678	6,232	4,052	126	15,050	15,212,822
454	240	1	98,064	33,549	12,868	623	24,730	30,052,184
266	125	1	29,925	10,238	3,927	190	7,547	9,170,660
216	240	6	300,672	33,997	21,109	683	75,825	77,210,033
92	125	6	66,700	7,542	4,683	152	16,821	17,127,997
		Total	8,772,710	914,739	595,344	18,562	2,212,356	2,236,022,361

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

50	250	3	304294	24,655	18,766	518	76,739	76,025,816
441.0	240	3.0	317,520	48,369	25,613	944	80,074	84,239,727
333.9	125	3.0	125,194	19,071	10,099	372	31,572	33,214,561
387.9	240	3.0	279,252	42,539	22,526	830	70,423	74,087,025
210.2	125	3.0	78,806	12,005	6,357	234	19,874	20,907,713
363.5	240	3.0	261,720	39,869	21,112	778	66,002	69,435,693
198.0	125	3.0	74,250	11,311	5,990	221	18,725	19,698,916
319.5	240	3.0	230,040	35,043	18,557	684	58,013	61,030,823
124.5	125	3.0	46,688	7,112	3,766	139	11,774	12,386,439
83.7	240	3.0	60,264	9,180	4,861	179	15,198	15,988,356
32.7	125	3.0	12,263	1,868	989	36	3,092	3,253,306
227.0	240	0.5	27,240	15,227	5,148	278	6,870	9,628,873
133.0	125	0.5	8,313	4,647	1,571	85	2,096	2,938,326
108.0	240	3.0	77,760	11,845	6,273	231	19,610	20,630,137
46.0	125	3.0	17,250	2,628	1,392	51	4,350	4,576,516
			0	0	0	0	0	0
		Total	1,616,559	260,714	134,254	5,063	407,674	432,016,411

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
		0.1	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	0

Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			See Emission Factors Tab, Emissions for Buses Table													
Vehicle Ref #	Engine Year, Make, & Model	Odometer reading	ROG Factor (gr/mi)	ROG DR (g/10k miles)	NOx Factor (g/mi)	Nox DR (g/10k miles	Exhaust PM10 Factor (g/mi)	Exhaust PM DR (g/10k miles)	**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)
												0.00	0	0	0	0
												0.00	0	0	0	0
												0.00	0	0	0	0
											Total 0	0	0	0	0	0

Cost Effectiveness Results	Annual	Lifetime	
1. VMT Reduced	7,156,151.35	14,312,302.70	Miles
2. Trips Reduced	117,340.00	234,680.00	Trips
3. ROG Emissions Reduced	0.7209	1.442	Tons
4. NOx Emissions Reduced	0.5083	1.017	Tons
5. PM Emissions Reduced	2.0042	4.008	Tons
6. PM Weighted Emissions Reduced	2.2869	4.574	Tons
7. CO2 Emissions Reduced	1,988.5427	3,977.085	Tons
8. Emission Reductions (ROG, NOx & PM)	3.2334	6.467	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		134,396.21	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). THIS VALUE MUST MEET POLICY REQUIREMENTS.		**$123,590**	**/Ton**

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Worksheet

Version 2024, Updated 1/9/23

Program Manager Proj.#:	24SC04
Route Name:	22 & 522

Calculations Tab: Complete areas shaded in yellow only.
SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
Project Operational Start Year:	2024
# Years Effectiveness:	2
Project Operational End Year:	2026
Total Cost for route:	343,000
Total Cost for route 40%:	343,000
Total Cost for route 60%:	NA
Total TFCA Cost for route:	$343,000.00

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	240	16	304294	27,461	19,513	568	76,739	76,634,241
882	240	7	1,545,264	161,364	104,930	3,274	389,694	393,914,398
668	125	7	609,276	63,623	41,372	1,291	153,651	155,315,006
776	240	9	1,601,045	159,099	106,563	3,248	403,761	406,379,862
420	125	9	451,823	44,899	30,072	917	113,943	114,682,341
			0	0	0	0	0	0
			0	0	0	0	0	0
		Total	4,207,408	428,985	282,937	8,729	1,061,050	1,070,291,607

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

50	250	3	304294	24,655	18,766	518	76,739	76,025,816
441.0	240	3.0	317,520	48,369	25,613	944	80,074	84,239,727
333.9	125	3.0	125,194	19,071	10,099	372	31,572	33,214,561
387.9	240	3.0	279,252	42,539	22,526	830	70,423	74,087,025
210.2	125	3.0	78,806	12,005	6,357	234	19,874	20,907,713
		Total	800,772	121,984	64,596	2,380	201,944	212,449,026

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
		0.1	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	0

Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			See Emission Factors Tab, Emissions for Buses Table													
Vehicle Ref #	Engine Year, Make, & Model	Odometer reading	ROG Factor (gr/mi)	ROG DR (g/10k miles)	NOx Factor (g/mi)	Nox DR (g/10k miles	Exhaust PM10 Factor (g/mi)	Exhaust PM DR (g/10k miles)	**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)
												0.00	0	0	0	0
												0.00	0	0	0	0
												0.00	0	0	0	0
										Total	0	0	0	0	0	0

Cost Effectiveness Results	Annual	Lifetime	
1. VMT Reduced	3,406,635.55	6,813,271.10	Miles
2. Trips Reduced	79,571.25	159,142.50	Trips
3. ROG Emissions Reduced	0.3384	0.677	Tons
4. NOx Emissions Reduced	0.2407	0.481	Tons
5. PM Emissions Reduced	0.9540	1.908	Tons
6. PM Weighted Emissions Reduced	1.0869	2.174	Tons
7. CO2 Emissions Reduced	945.5937	1,891.187	Tons
8. Emission Reductions (ROG, NOx & PM)	1.5331	3.066	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		111,867.39	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). **THIS VALUE MUST MEET POLICY REQUIREMENTS.**		**$102,940**	**/Ton**

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Worksheet

Version 2024, Updated 1/9/23

Program Manager Proj.#:	24SC04
Route Name:	23 & 523

Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
Project Operational Start Year:	2024
# Years Effectiveness:	2
Project Operational End Year:	2026
Total Cost for route:	224,000
Total Cost for route 40%:	224,000
Total Cost for route 60%:	NA
Total TFCA Cost for route:	$224,000.00

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	240	16	304294	27,461	19,513	568	76,739	76,634,241
727	240	11	1,832,040	172,648	119,432	3,549	462,015	462,972,013
396	125	11	519,750	48,980	33,883	1,007	131,074	131,345,224
639	240	7	1,134,864	117,995	76,925	2,395	286,197	289,185,225
249	125	7	230,325	23,948	15,612	486	58,085	58,691,250
			0	0	0	0	0	0
			0	0	0	0	0	0
		Total	3,716,979	363,571	245,852	7,437	937,371	942,193,711

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

50	250	3	304294	24,655	18,766	518	76,739	76,025,816
363.5	240	3.0	261,720	39,869	21,112	778	66,002	69,435,693
198.0	125	3.0	74,250	11,311	5,990	221	18,725	19,698,916
319.5	240	3.0	230,040	35,043	18,557	684	58,013	61,030,823
124.5	125	3.0	46,688	7,112	3,766	139	11,774	12,386,439
		Total	612,698	93,334	49,424	1,821	154,514	162,551,871

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
		0.1	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	0

Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			See Emission Factors Tab, Emissions for Buses Table													
Vehicle Ref #	Engine Year, Make, & Model	Odometer reading	ROG Factor (gr/mi)	ROG DR (g/10k miles)	NOx Factor (g/mi)	Nox DR (g/10k miles	Exhaust PM10 Factor (g/mi)	Exhaust PM DR (g/10k miles)	**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)
												0.00	0	0	0	0
												0.00	0	0	0	0
												0.00	0	0	0	0
										Total	0	0	0	0	0	0

Cost Effectiveness Results	Annual	Lifetime	
1. VMT Reduced	3,104,281.50	6,208,563.00	Miles
2. Trips Reduced	71,677.50	143,355.00	Trips
3. ROG Emissions Reduced	0.2979	0.596	Tons
4. NOx Emissions Reduced	0.2165	0.433	Tons
5. PM Emissions Reduced	0.8691	1.738	Tons
6. PM Weighted Emissions Reduced	0.9867	1.973	Tons
7. CO2 Emissions Reduced	859.3936	1,718.787	Tons
8. Emission Reductions (ROG, NOx & PM)	1.3835	2.767	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		80,952.47	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). **THIS VALUE MUST MEET POLICY REQUIREMENTS.**		**$74,611**	**/Ton**

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Worksheet

Version 2024, Updated 1/9/23

Program Manager Proj.#:	24SC04
Route Name:	64B

Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
Project Operational Start Year:	2024
# Years Effectiveness:	2
Project Operational End Year:	2026
Total Cost for route:	136,400
Total Cost for route 40%:	136,400
Total Cost for route 60%:	NA
Total TFCA Cost for route:	$136,400.00

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	240	16	304294	27,461	19,513	568	76,739	76,634,241
167	240	7	293,285	30,626	19,915	621	73,962	74,763,345
65	125	7	59,678	6,232	4,052	126	15,050	15,212,822
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
		Total	352,962	36,858	23,968	748	89,012	89,976,167

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

50	250	3	304294	24,655	18,766	518	76,739	76,025,816
83.7	240	3.0	60,264	9,180	4,861	179	15,198	15,988,356
32.7	125	3	12,263	1,868	989	36	3,092	3,253,306
		Total	72,527	11,048	5,850	216	18,290	19,241,662

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
		0.1	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	0

Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			See Emission Factors Tab, Emissions for Buses Table													
Vehicle Ref #	Engine Year, Make, & Model	Odometer reading	ROG Factor (gr/mi)	ROG DR (g/10k miles)	NOx Factor (g/mi)	Nox DR (g/10k miles	Exhaust PM10 Factor (g/mi)	Exhaust PM DR (g/10k miles)	**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)
												0.00	0	0	0	0
												0.00	0	0	0	0
												0.00	0	0	0	0
										Total	0	0	0	0	0	0

Cost Effectiveness Results	Annual	Lifetime	
1. VMT Reduced	280,435.80	560,871.60	Miles
2. Trips Reduced	16,000.50	32,001.00	Trips
3. ROG Emissions Reduced	0.0284	0.057	Tons
4. NOx Emissions Reduced	0.0200	0.040	Tons
5. PM Emissions Reduced	0.0785	0.157	Tons
6. PM Weighted Emissions Reduced	0.0897	0.179	Tons
7. CO2 Emissions Reduced	77.9701	155.940	Tons
8. Emission Reductions (ROG, NOx & PM)	0.1270	0.254	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		537,163.20	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). **THIS VALUE MUST MEET POLICY REQUIREMENTS.**		**$493,813**	**/Ton**

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Worksheet

Version 2024, Updated 1/9/23

Program Manager Proj.#:	24SC04
Route Name:	70

Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
Project Operational Start Year:	2024
# Years Effectiveness:	2
Project Operational End Year:	2026
Total Cost for route:	28,000
Total Cost for route 40%:	28,000
Total Cost for route 60%:	NA
Total TFCA Cost for route:	$28,000.00

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	240	16	304294	27,461	19,513	568	76,739	76,634,241
454	240	1	98,064	33,549	12,868	623	24,730	30,052,184
266	125	1	29,925	10,238	3,927	190	7,547	9,170,660
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
		Total	127,989	43,786	16,795	814	32,277	39,222,844

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

50	250	3	304294	24,655	18,766	518	76,739	76,025,816
227.0	240	0.5	27,240	15,227	5,148	278	6,870	9,628,873
133.0	125	0.5	8,313	4,647	1,571	85	2,096	2,938,326
		Total	35,553	19,874	6,719	363	8,966	12,567,199

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
		0.1	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	0

Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			See Emission Factors Tab, Emissions for Buses Table													
Vehicle Ref #	Engine Year, Make, & Model	Odometer reading	ROG Factor (gr/mi)	ROG DR (g/10k miles)	NOx Factor (g/mi)	Nox DR (g/10k miles	Exhaust PM10 Factor (g/mi)	Exhaust PM DR (g/10k miles)	**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)
												0.00	0	0	0	0
												0.00	0	0	0	0
												0.00	0	0	0	0
										Total	0	0	0	0	0	0

Cost Effectiveness Results	Annual	Lifetime	
1. VMT Reduced	92,436.50	184,873.00	Miles
2. Trips Reduced	37,855.00	75,710.00	Trips
3. ROG Emissions Reduced	0.0264	0.053	Tons
4. NOx Emissions Reduced	0.0111	0.022	Tons
5. PM Emissions Reduced	0.0262	0.052	Tons
6. PM Weighted Emissions Reduced	0.0356	0.071	Tons
7. CO2 Emissions Reduced	29.3823	58.765	Tons
8. Emission Reductions (ROG, NOx & PM)	0.0637	0.127	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		219,929.27	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). **THIS VALUE MUST MEET POLICY REQUIREMENTS.**		**$191,563**	**/Ton**

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Worksheet

Version 2024, Updated 1/9/23

Program Manager Proj.#:	24SC04
Route Name:	77

Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
Project Operational Start Year:	2024
# Years Effectiveness:	2
Project Operational End Year:	2026
Total Cost for route:	137,700
Total Cost for route 40%:	137,700
Total Cost for route 60%:	NA
Total TFCA Cost for route:	$137,700.00

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	240	16	304294	27,461	19,513	568	76,739	76,634,241
216	240	6	300,672	33,997	21,109	683	75,825	77,210,033
92	125	6	66,700	7,542	4,683	152	16,821	17,127,997
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
		Total	367,372	41,538	25,792	835	92,646	94,338,030

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

50	250	3	304294	24,655	18,766	518	76,739	76,025,816
108.0	240	3.0	77,760	11,845	6,273	231	19,610	20,630,137
46.0	125	3.0	17,250	2,628	1,392	51	4,350	4,576,516
		Total	95,010	14,473	7,664	282	23,960	25,206,653

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
		0.1	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	0

Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			See Emission Factors Tab, Emissions for Buses Table													
Vehicle Ref #	Engine Year, Make, & Model	Odometer reading	ROG Factor (gr/mi)	ROG DR (g/10k miles)	NOx Factor (g/mi)	Nox DR (g/10k miles	Exhaust PM10 Factor (g/mi)	Exhaust PM DR (g/10k miles)	**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)
												0.00	0	0	0	0
												0.00	0	0	0	0
												0.00	0	0	0	0
										Total	0	0	0	0	0	0

Cost Effectiveness Results	Annual	Lifetime	
1. VMT Reduced	272,362.00	544,724.00	Miles
2. Trips Reduced	20,170.00	40,340.00	Trips
3. ROG Emissions Reduced	0.0298	0.060	Tons
4. NOx Emissions Reduced	0.0200	0.040	Tons
5. PM Emissions Reduced	0.0763	0.153	Tons
6. PM Weighted Emissions Reduced	0.0879	0.176	Tons
7. CO2 Emissions Reduced	76.2030	152.406	Tons
8. Emission Reductions (ROG, NOx & PM)	0.1261	0.252	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		545,835.02	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). **THIS VALUE MUST MEET POLICY REQUIREMENTS.**		**$499,971**	**/Ton**

Notes & Assumptions

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

Two key compoonents in calculating cost-effectiveness are the number of vehicle trips eliminated per day and the trip length.
A frequently used proxy is the % of survey respondents who report they would have driven alone if not for the service being provided.
If survey data is not available, alternative **supporting documentation must be provided to justify the inputs used in the CE calculations**.

Trips Eliminated Per Day
This is number of trips by participants that would have driven as a single occupant vehicle if not for the service; **it is not the same as the total number of riders or participants**.

Trip Length
Only use the trip length of the **vehicle trip avoided** by only the riders or participants that would otherwise have driven alone.

Policy 11. Duplication
MTC's regional ridehsaring program provides funding to counties. This funding may contain TFCA funding, which, if used in combination with TFCA funding, may violate Policy 11. Duplication.

Project Description:
Implementation of transit signal priority system for VTA routes 22, 522, 23, 523, 64B, 70, and 77.
No other TFCA funds will be used to fund this project.

Years of Effectiveness:
Assumption: Two years of project effectiveness.

Costs:
Project costs were determined based vendor estimates for centralized transit signal priority systems for this scale of deployment.

Days/yr:
240 weekdays per year
125 weekends and holidays per year

Number of Trips/Day:
Ridership data from October 2019 was provided by the VTA website: https://data.vta.org/pages/historical-ridership

Route 22 Weekdays:	8820	
Route 22 Weekends:	6677	
Route 522 Weekdays:	7757	
Route 522 Weekends:	4203	
Route 23 Weekdays:	7268	
Route 23 Weekends:	3962	
Route 523 Weekdays:	6392	Route 523 weekday ridership = Route 23 weekday ridership * (Route 522 weekday ridership/Route 22 weekday ridership)
Route 523 Weekends:	2494	Route 523 weekend ridership = Route 23 weekend ridership * (Route 522 weekend ridership/Route 22 weekend ridership)
Route 64B Weekdays:	1674	
Route 64B Weekends:	654	
Route 70 Weekdays:	4540	
Route 70 Weekends:	2657	
Route 77 Weekdays:	2156	
Route 77 Weekends:	922	

Project is estimated to increase ridership by 10%. Estimate is in range provided by VTA. Therefore, the ridership increases are expected to be:

Route 22 Weekdays:	882		
Route 22 Weekends:	668	Ridership increase:	10%
Route 522 Weekdays:	776		
Route 522 Weekends:	420		
Route 23 Weekdays:	727		
Route 23 Weekends:	396		
Route 523 Weekdays:	639		
Route 523 Weekends:	249		
Route 64B Weekdays:	167		
Route 64B Weekends:	65		
Route 70 Weekdays:	454		
Route 70 Weekends:	266		
Route 77 Weekdays:	216		
Route 77 Weekends:	92		

Trip Length (1-way)
The estimated average distances of single occupancy vehicle trips reduced for each route are listed below. Estimates from Google Earth.

Route 22	7.3	miles
Route 522	8.6	miles
Route 23	10.5	miles
Route 523	7.4	miles
Route 64B	7.3	miles
Route 70	0.9	miles
Route 77	5.8	miles

ATTACHMENT A-4 – PROJECT INFORMATION SUMMARY

A. Project Number: 24SC05
B. Project Title: San Jose Bike Lockers
C. Project Category (project will be evaluated under this category): Bike Parking
D. TFCA County Program Manager Funds Allocated: $86,235
E. TFCA Regional Funds Awarded (if applicable): $0
F. Total TFCA Funds Allocated (sum of C and D): $86,235
G. Total Project Cost: $89,500
H. Project Description:

Project Sponsor will use TFCA funds to install two quad lockers each with eight locker spaces for a total of 16 bike parking spaces, and 250 bike racks each with two parking spaces totaling 500 bike parking spaces. The proposed project will add a total of 516 new bike parking spaces. Installation will be completed in consultation with the Bike Parking Guidelines found in Valley Transportation Authority's Bicycle Technical Guidelines, as well the VTA Community Design and Transportation manual.

Racks used will generally be in accordance with Class I and Class II bicycle rack specifications in VTA's Bicycle Technical Guidelines. For the Class II racks, this includes the use of strong steel pipe, two points of contact, and the ability to secure the frame and one wheel. The Class I lockers will conform to VTA's Bike Locker Specifications, which dictate locker dimensions and load-bearing characteristics.

Racks and lockers will generally be installed in locations that are likely to have demand for bike parking. Some past examples include schools, community centers, parks, sidewalks in front of businesses, and transit stops. Rack placement will ensure adequate clearance for utility access, clear pedestrian travel way (based on ADA requirements), public transit stops, curb-side parking, loading zones, street furniture, and other considerations. eLockers will be placed in areas that are within 50 feet of a building, have high visibility, provide protection from inclement weather, and are grounded on all-weather surfaces.

Expansion and proliferation of publicly available bike parking is called for in the 2025 better bike plan with the main goal being to "expand the availability of sidewalk bike parking, secure bike parking, and end-of-trip facilities at transit stops". When installed this project will provide secure and accessible bike parking to San Jose residents and visitors

I. Final Report Content: Final Report form and final Cost Effectiveness Worksheet
Final Report will include:

- Trip Reduction data: Pre-Project Count and Post-Project Count
- Final Cost-Effective (C-E) Worksheet

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

K. Has or will this project receive any other TFCA funds, such as Regional Funds?
No
L. Comments (if any):
N/A
M. Please indicate if the project is located in a SB535 Disadvantaged Community and/or AB1550 Low-income Community (Please use the map to find your project's location: https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/communityinvestments.htm)

Yes the project is located in a Disadvantaged and Low-income Community

Section 2. Project Category Specific Questions

N. If a **bicycle parking** project, answer the following questions:
   a. What plan is the project referenced in?
      2025 Better Bike Plan
   b. Will the project be publicly accessible and available for use by all members of the public?
      Yes, Happy Hollow Zoo Park is a public city park.

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund Worksheet

Version 2024, Updated 1/9/23

General Information Tab: Complete areas shaded in yellow.

Project Number (24XXXYY)	24SC05
Project Title	San Jose Bike Parking
Project Type Code (e.g., 7a)	30a
County (2-3 character abbreviation)	SC
Worksheet Calculated By	Jane Mei
Date of Submission	6/12/2023
Project Sponsor	
Project Sponsor Organization	City of San Jose
Public Agency? (Y or N)	Y
Contact Name	Ryan Smith
Email Address	ryan.smith@sanjoseca.gov
Phone Number	(408) 535-3850
Mailing Address	200 East Santa Clara Street 8th Floor
City	San Jose
State	CA
Zip	95113
Project Schedule	
Project Start Date	12/1/2023
Project Completion Date	12/1/2024
Final Report to CMA	5/1/2025

RIDESHARING, BICYCLE, SHUTTLE, AND SMART GROWTH PROJECTS
FYE 2024 TFCA County Progam Manager Fund W

Version 2024, Updated 1/9/23

Program Manager Proj.#:	24SC05
Route Name:	San Jose Bike Lockers

Calculations Tab: Complete areas shaded in yellow only.

SAMPLE ENTRIES ARE SHOWN IN LIGHT BLUE

Cost Effectiveness Inputs	
Project Operational Start Year:	2024
# Years Effectiveness:	3
Project Operational End Year:	2027
Total Cost for route:	89,500
Total Cost for route 40%:	86,235
Total Cost for route 60%:	NA
Total TFCA Cost for route:	$86,235

<- reduce this until the TFCA coverage is less than $250,000/ton

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	240	16	304294	27,461	19,513	568	76,739	75,480,024
16	240	3	11,520	1,755	929	34	2,905	3,010,281
250	240	3	180,000	27,420	14,520	535	45,394	47,035,645
			0	0	0	0	0	0
			0	0	0	0	0	0
		Total	191,520	29,175	15,449	569	48,299	50,045,926

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

50	250	3	304294	24,655	18,766	518	76,739	74,880,774
			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
		0.1	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	0

Step 3B - Emissions for Buses

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			See Emission Factors Tab, Emissions for Buses Table													
Vehicle Ref #	Engine Year, Make, & Model	Odometer reading	ROG Factor (gr/mi)	ROG DR (g/10k miles)	NOx Factor (g/mi)	Nox DR (g/10k miles	Exhaust PM10 Factor (g/mi)	Exhaust PM DR (g/10k miles)	**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)
												0.00	0	0	0	0
												0.00	0	0	0	0
												0.00	0	0	0	0
										Total	0	0	0	0	0	0

Cost Effectiveness Results	Annual	Lifetime	
1. VMT Reduced	191,520.00	574,560.00	Miles
2. Trips Reduced	3,840.00	11,520.00	Trips
3. ROG Emissions Reduced	0.0322	0.096	Tons
4. NOx Emissions Reduced	0.0170	0.051	Tons
5. PM Emissions Reduced	0.0539	0.162	Tons
6. PM Weighted Emissions Reduced	0.0658	0.197	Tons
7. CO2 Emissions Reduced	55.1653	165.496	Tons
8. Emission Reductions (ROG, NOx & PM)	0.1031	0.309	Tons
9. TFCA Project Cost - Cost Effectiveness (ROG, Nox & PM)		278,926.15	/Ton
10. TFCA Project Cost - Cost Effectiveness (ROG, NOx & Weighted PM). THIS VALUE MUST MEET POLICY REQUIREMENTS.		**$250,000**	**/Ton**

Notes & Assumptions

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

Two key components in calculating cost-effectiveness are the number of vehicle trips eliminated per day and the trip length.
A frequently used proxy is the % of survey respondents who report they would have driven alone if not for the service being provided.
If survey data is not available, alternative **supporting documentation must be provided to justify the inputs used in the CE calculations**.

Trips Eliminated Per Day
This is number of trips by participants that would have driven as a single occupant vehicle if not for the service; **it is not the same as the total number of riders or participants**.

Trip Length
Only use the trip length of the **vehicle trip avoided** by only the riders or participants that would otherwise have driven alone.

Policy 11. Duplication
MTC's regional ridesharing program provides funding to counties. This funding may contain TFCA funding, which, if used in combination with TFCA funding, may violate Policy 11. Duplication.

"Calculations use ""Default Assumptions"" from page 34 of TFCA's ""County Program Manager Fund Expenditure Plan Guidance for Fiscal Year Ending 2024"" document, under heading ""Bicycle Lockers & Racks."" These assumptions include: (1) # Years Effectiveness = 3; (2) # Trips/Day = 250 (250 racks x 2 bikes-per-rack x 0.5 trips); (3) Days/year = 240; and (4) Trip length 3 miles.

For eLockers, calculations use ""Default Assumptions"" from page 34 of TFCA's ""County Program Manager Fund Expenditure Plan Guidance for Fiscal Year Ending 2024"" document, under heading ""Bicycle Lockers & Racks."" (1) # Years Effectiveness = 3; (2) # Trips/Day = 16 (2 lockers x 4 bikes-per-locker x 2 trips); (3) Days/year = 240; and (4) Trip Length = 3 miles "

Bicycle Parking	**# Years of Effectiveness**	Enter in Cost Effectiveness Inputs, 3 yrs
	# Trips/Day (1-way) eliminated	Enter in Step 1-Column A:
		Capacity of lockers x 2 trip/day
		Capacity of cages x 0.75 trips per day
		Capacity of racks x 0.5 trips per day
	Days/Yr	Enter in Step 1-Column B, 240 days
	Trip Length (1-way)	Enter in Step 1-Column C, 3 miles

Page 44 of the FYE 2024 Guidance
http://www.baaqmd.gov/tfca4pm

	Cost Per Rack	Number	Total Cost	Capacity	Trips per sp	Trips per D	Days per ye	Trip length
Racks	$ 150	250	$ 37,500	2	0.5	250	240	3
Lockers	$ 26,000	2	$ 52,000	4	2	16	240	3
			$ 89,500					

Cost per trip for each bicycle parking type
Racks $ 150 per trip
Lockers $ 3,250 per trip

ATTACHMENT B-1 – INSURANCE REQUIREMENTS FOR CONSULTING THIRD PARTY CONTRACTS

SPONSOR'S ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW. IT IS HIGHLY RECOMMENDED THAT SPONSOR CONFER WITH THEIR INSURANCE CARRIERS OR BROKERS IN ADVANCE OF PROPOSAL SUBMISSION TO DETERMINE THE AVAILABILITY OF INSURANCE CERTIFICATES AND ENDORSEMENTS REQUIRED BY THIS CONTRACT.

INSURANCE

Without limiting Sponsor's obligation to indemnify and hold harmless VTA, Sponsor must procure and maintain for the duration of the Contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Work hereunder by Sponsor, its agents, representatives, or employees, or subcontractors. The cost of such insurance must be included in Contract price. Sponsor must furnish a Self-Insurance letter or an insurance certificate, within three (3) business days of any request for such by VTA.

A. Liability and Workers' Compensation Insurance

1. Minimum Scope of Coverage

Coverage must be at least as broad as:

a. Insurance Services Office General Liability coverage ("occurrence" form CG 0001). General Liability insurance written on a "claims made" basis is not acceptable.

b. Insurance Services Office Business Auto Coverage, Insurance Services Office form number CA 0001, covering Automobile Liability. Auto Liability written on a "claims-made" basis is not acceptable.

c. Workers' Compensation insurance as required by the Labor Code of the State of California and Employer's Liability insurance.

d. Professional Liability, including limited contractual liability coverage, covering liability arising out of any negligent act, error, mistake or omission in the performance of Sponsor's services under this Agreement. This coverage must be continuously maintained for a minimum of two (2) years following completion of this Agreement. This coverage may be written on a claims made basis, if so, see special provisions in Section B.

2. Minimum Limits of Insurance

Sponsor must maintain limits no less than:

a. General Liability (including umbrella/excess liability): $2,000,000 limit per occurrence for bodily injury, personal injury, and property damage. If General Liability Insurance or other form with a general aggregate limit is used either the general aggregate limit must apply separately to this project/location or the general aggregate limit must be twice the required occurrence limit.

b. Automobile Liability (including umbrella/excess liability): $2,000,000 limit per accident for bodily injury and property damage.

c. Workers' Compensation and Employer's Liability: Statutory Workers' Compensation limits and Employer's Liability limits of $1,000,000 per accident.

d. Professional Liability: $2,000,000 each occurrence/aggregate minimum limit per claim. This requirement may be satisfied by a combination of Professional Liability insurance with Excess or Umbrella policies.

3. Self-Insured Retention

The certificate of insurance must disclose the actual amount of any deductible or self-insured retention, or lack thereof, for all coverages required herein. Any self-insured retention or deductible in excess of $250,000.

B. Claims Made Provisions (not applicable to General Liability or Auto Liability)

Claims-made coverage is never acceptable for General Liability or Auto Liability. Claims-made may be considered for Professional, Environmental/Pollution, or Cyber Liability. If coverage is written on a claims-made basis, the Certificate of Insurance must clearly state so. In addition to all other coverage requirements, such policy must provide that:

1. The policy must be in effect as of the date of this Agreement and the retroactive date must be no later than the date of this Agreement.

2. If any policy is not renewed or the retroactive date of such policy is to be changed, the Sponsor must obtain or cause to be obtained the broadest extended reporting period coverage available in the commercial insurance market. This extended reporting provision must cover at least two (2) years.

3. No prior acts exclusion may be added to the policy during the contract period.

4. The policy allows for reporting of circumstances or incidents that might give rise to future claims.

C. Other Provisions

The policies must contain, or be endorsed to contain, the following provisions:

1. General Liability, Automobile Liability, and Sponsor's Pollution Liability

a. VTA, its directors, officers, officials, employees and volunteers are to be named as additional insureds as respects: liability arising out of activities performed by or on behalf of the Sponsor, including VTA's general supervision of the Sponsor; products and completed operations of the Sponsor and its subcontractors; premises owned, occupied or used by the Sponsor; or automobiles owned, leased, hired or borrowed by the Sponsor. The coverage must contain no special limitations on the scope of protection afforded to VTA, its directors, officers, officials, employees, or volunteers. Additional Insured endorsements must provide coverage at least as broad as afforded by the combination of ISO CG 20 10 10 01 and CG 20 37 10 01.

b. Sponsor's insurance coverage must be primary insurance as respects VTA, its directors, officers, officials, employees, and volunteers. Self-insurance or insurance that may be maintained by VTA, its directors, officers, officials, employees, or volunteers may apply only as excess to the Sponsor's insurance. Sponsor's insurance must not seek contribution from VTA's insurance program.

c. Any failure to comply with reporting provisions of the policies may not affect coverage provided to VTA, its directors, officers, officials, employees, or volunteers.

d. Sponsor's insurance must apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

2. All Coverages

a. The insurer must agree to waive all rights of subrogation against VTA, its directors, officers, officials, employees, and volunteers for losses arising from work performed by the Sponsor and its subcontractors for VTA

3. Other Insurance Provisions

a. The Certificate must disclose the actual amounts of all deductibles or self-insured retentions.

b. If any coverage forms or endorsements required by this Contract are updated by their publishers, whether they be the insurance carrier(s), the Insurance Services office, or the American Association of Insurance Services, during the duration of this Contract, VTA reserves the rights to require the Sponsor to procure said coverage forms or endorsements using the updated versions upon the next renewal cycle.

D. Acceptability of Insurers

Insurance and bonds must be placed with insurers with an A.M. Best's rating of no less than A VII (financial strength rating of no less than A and financial size category of no less than VII), unless specific prior written approval has been granted by VTA.

E. Certificates of Insurance

Sponsor must furnish VTA with a Self-Insurance Letter or a Certificate of Insurance. The certificates for each insurance policy are to be signed by an authorized representative of that insurer. The certificates must be issued on a standard ACORD Form. The Sponsor must instruct their insurance broker/agent to submit all insurance certificates and required notices electronically in PDF format to Insurance.certificates@vta.org. All endorsements must be attached to the ACORD certificate in a single PDF document.

The certificates must (1) identify the insurers, the types of insurance, the insurance limits, the deductibles, and the policy term, (2) include copies of all the actual policy endorsements required above, and (3) in the "Certificate Holder" box include:

Santa Clara Valley Transportation Authority ("VTA")
3331 North First Street
San Jose, CA 95134-1906

In the Description of Operations/Locations/Vehicles/Special Items Box, the VTA Contract number must appear, the list of policies scheduled as underlying on the Umbrella/Excess policy must be listed, Certificate Holder must be named as additional insured, and Waiver of Subrogation must be indicated as endorsed to all policies as stated in the Contract Documents.

If the Sponsor receives notice that any of the insurance policies required by this Exhibit may be cancelled or coverage reduced for any reason whatsoever, Sponsor must immediately provide written notice to VTA that such insurance policy required by this Exhibit is canceled or coverage is reduced.

F. Maintenance of Insurance

If Sponsor fails to maintain insurance as required herein, VTA, at its option, may suspend payment for work performed and/or may order the Sponsor to suspend work at Sponsor's expense until a new policy of insurance is in effect.

ATTACHMENT B-2 – INSURANCE REQUIREMENTS FOR CONTRACTOR THIRD PARTY CONTRACTS

SPONSOR'S ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW. IT IS HIGHLY RECOMMENDED THAT SPONSOR CONFER WITH THEIR INSURANCE CARRIERS OR BROKERS IN ADVANCE OF PROPOSAL SUBMISSION TO DETERMINE THE AVAILABILITY OF INSURANCE CERTIFICATES AND ENDORSEMENTS REQUIRED BY THIS CONTRACT.

INSURANCE

Without limiting Sponsor's obligation to indemnify and hold harmless VTA, Sponsor must procure and maintain for the duration of the Contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Work hereunder by Sponsor, its agents, representatives, or employees, or subcontractors. The cost of such insurance must be included in Contract price. Sponsor must furnish a Self-Insurance letter or an insurance certificate, within three (3) business days of any request for such by VTA.

A. Liability and Workers' Compensation Insurance

1. Minimum Scope of Coverage

Coverage must be at least as broad as:

a. Insurance Services Office General Liability coverage ("occurrence" form CG 0001). General Liability insurance written on a "claims made" basis is not acceptable.

b. Insurance Services Office Business Auto Coverage, Insurance Services Office form number CA 0001, covering Automobile Liability. Auto Liability written on a "claims-made" basis is not acceptable.

c. Workers' Compensation insurance as required by the Labor Code of the State of California and Employer's Liability insurance.

d. Pollution/Environmental Impairment Liability: covering liability arising out of the treatment, handling, storage, transportation, or accidental release of any hazardous material.

2. Minimum Limits of Insurance

Sponsor must maintain limits no less than:

a. General Liability (including umbrella/excess liability): $4,000,000 limit per occurrence for bodily injury, personal injury, and property damage. If General Liability Insurance

or other form with a general aggregate limit is used either the general aggregate limit must apply separately to this project/location or the general aggregate limit must be twice the required occurrence limit.

b. Automobile Liability (including umbrella/excess liability): $4,000,000 limit per accident for bodily injury and property damage.

c. Workers' Compensation and Employer's Liability: Statutory Workers' Compensation limits and Employer's Liability limits of $1,000,000 per accident.

d. Sponsor's Pollution/Environmental Impairment Liability: $2,000,000 per occurrence. This requirement may be satisfied by a combination of Pollution Liability insurance with Excess or Umbrella policies.

3. Self-Insured Retention

The certificate of insurance must disclose the actual amount of any deductible or self-insured retention, or lack thereof, for all coverages required herein. Any self-insured retention or deductible in excess of $250,000.

B. Claims Made Provisions (not applicable to General Liability or Auto Liability)

Claims-made coverage is never acceptable for General Liability or Auto Liability. Claims-made may be considered for Professional, Environmental/Pollution, or Cyber Liability. If coverage is written on a claims-made basis, the Certificate of Insurance must clearly state so. In addition to all other coverage requirements, such policy must provide that:

1. The policy must be in effect as of the date of this Agreement and the retroactive date must be no later than the date of this Agreement.

2. If any policy is not renewed or the retroactive date of such policy is to be changed, the Sponsor must obtain or cause to be obtained the broadest extended reporting period coverage available in the commercial insurance market. This extended reporting provision must cover at least two (2) years.

3. No prior acts exclusion may be added to the policy during the contract period.

4. The policy allows for reporting of circumstances or incidents that might give rise to future claims.

C. Other Provisions

The policies must contain, or be endorsed to contain, the following provisions:

1. General Liability, Automobile Liability, and Sponsor's Pollution Liability

a. VTA, its directors, officers, officials, employees and volunteers are to be named as additional insureds as respects: liability arising out of activities performed by or on behalf of the Sponsor, including VTA's general supervision of the Sponsor; products and completed operations of the Sponsor and its subcontractors; premises owned, occupied or used by the Sponsor; or automobiles owned, leased, hired or borrowed by the Sponsor. The coverage must contain no special limitations on the scope of protection afforded to VTA, its directors, officers, officials, employees, or volunteers. Additional Insured endorsements must provide coverage at least as broad as afforded by the combination of ISO CG 20 10 10 01 and CG 20 37 10 01.

e. Sponsor's insurance coverage must be primary insurance as respects VTA, its directors, officers, officials, employees, and volunteers. Self-insurance or insurance that may be maintained by VTA, its directors, officers, officials, employees, or volunteers may apply only as excess to the Sponsor's insurance. Sponsor's insurance must not seek contribution from VTA's insurance program.

f. Any failure to comply with reporting provisions of the policies may not affect coverage provided to VTA, its directors, officers, officials, employees, or volunteers.

g. Sponsor's insurance must apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

2. All Coverages

a. The insurer must agree to waive all rights of subrogation against VTA, its directors, officers, officials, employees, and volunteers for losses arising from work performed by the Sponsor and its subcontractors for VTA.

3. Other Insurance Provisions

a. The Certificate must disclose the actual amounts of all deductibles or self-insured retentions.

b. If any coverage forms or endorsements required by this Contract are updated by their publishers, whether they be the insurance carrier(s), the Insurance Services office, or the American Association of Insurance Services, during the duration of this Contract, VTA reserves the rights to require the Sponsor to procure said coverage forms or endorsements using the updated versions upon the next renewal cycle.

D. Acceptability of Insurers

Insurance and bonds must be placed with insurers with an A.M. Best's rating of no less than A VII (financial strength rating of no less than A and financial size category of no less than VII), unless specific prior written approval has been granted by VTA.

E. Certificates of Insurance

Sponsor must furnish VTA with a Self-Insurance Letter or a Certificate of Insurance. The certificates for each insurance policy are to be signed by an authorized representative of that insurer. The certificates must be issued on a standard ACORD Form. The Sponsor must instruct their insurance broker/agent to submit all insurance certificates and required notices electronically in PDF format to Insurance.certificates@vta.org. All endorsements must be attached to the ACORD certificate in a single PDF document.

The certificates must (1) identify the insurers, the types of insurance, the insurance limits, the deductibles, and the policy term, (2) include copies of all the actual policy endorsements required above, and (3) in the "Certificate Holder" box include:

Santa Clara Valley Transportation Authority ("VTA")
3331 North First Street
San Jose, CA 95134-1906

In the Description of Operations/Locations/Vehicles/Special Items Box, the VTA Contract number must appear, the list of policies scheduled as underlying on the Umbrella/Excess policy must be listed, Certificate Holder must be named as additional insured, and Waiver of Subrogation must be indicated as endorsed to all policies as stated in the Contract Documents.

If the Sponsor receives notice that any of the insurance policies required by this Exhibit may be cancelled or coverage reduced for any reason whatsoever, Sponsor must immediately provide written notice to VTA that such insurance policy required by this Exhibit is canceled or coverage is reduced.

F. Maintenance of Insurance

If Sponsor fails to maintain insurance as required herein, VTA, at its option, may suspend payment for work performed and/or may order the Sponsor to suspend work at Sponsor's expense until a new policy of insurance is in effect.