

FY 2018-2019 LCTOP

Allocation Request

Lead Agency Information

Name:	Santa Clara County Transportation Authority (SCC)		
Address:	616 Gilman Ave		
City, State Zip Code:	Santa Clara, CA 95056		
County:	Santa Clara	Regional Entity:	MTC
Agency Website:	www.sccta.org		
Approved Title VI (Date)*:	11/1/2016		
Link to Agency's Approved Title VI Plan:	www.sccta.org/titleVIPlan/html		

*Please provide a copy of your FTA/Caltrans Approval Letter as an attachment to your FY18-19 LCTOP Allocation Request.

Allocation Request Prepared by	
Name:	Roger Craig
Title:	Transportation Planner
Phone #:	669-646-3733
E-mail:	rcraig@sccta.org

Contact (if different then "Prepared by")	
Name:	Jerry Rice
Title:	Chief Financial Officer (CFO)
Phone #:	669-646-3780
E-mail:	jrice@sccta.org

Authorized Agent	
Name:	Joe Montana
Title:	Chief Executive Officer (CEO)
Phone #:	669-646-3716
E-mail:	jmontana@sccta.org

Legislative District Numbers						
Assembly*:	22					
Senate*:	17					
Congressional*:	17	18	19			

*if you have more Districts please provide an attachment

Project Summary

Name: <i>No more than 180 characters.</i>	Zero-Emission Bus and Infrastructure Project					
Description (Short): <i>No more than 370 characters.</i>	Purchase fifteen (15) new forty-foot zero-emission battery electric transit buses, six (6) fast speed electric vehicle charging stations, and all related charging station improvements.					
Type:	Capital					
Sub-Type	Purchase replacement zero-emission vehicle(s) (may include equipment/infrastructure)					
Total Years of Rollover:		4	Remaining years of Rollover:		1	
Start date (anticipated):	12/31/2020		End date (anticipated):	10/1/2022		
General Area (City/County):	New Vehicles will be used across the whole SCC Transportation Authority's service area					
Specific Area (Lat-Long of the project in decimal degrees separated by a comma "," (e.g., 34.413775, -119.848624). For multiple locations, list each separated by a semicolon ";")	37.349660, -121.939083					
Project Life - For capital projects, state the "Useful Life" of the project. For operation projects state the number of months service will be funded.						
Capital:	12		Operations:			
Funding:	99313:	\$1,449,454	99314:	\$2,576,819	Total:	\$4,026,273
Approved LONP:	No		LONP Approval date:			

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Funding Information

<i>LCTOP Allocation Year</i>	Prior	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	Total
PUC 99313 Amount:	\$2,493,598	\$1,449,454					\$3,943,052
PUC 99314 Amount:	\$5,153,638	\$2,576,819	\$2,576,819				\$10,307,276
Total LCTOP Funds:	\$7,647,236	\$4,026,273	\$2,576,819	\$0	\$0	\$0	\$14,250,328
Other GGR Funds:	\$6,000,000						\$6,000,000
Other Funds:	\$4,250,000	\$2,125,000					\$6,375,000
Total Project Cost:	\$17,897,236	\$6,151,273	\$2,576,819	\$0	\$0	\$0	\$26,625,328

Lead Agency:	Santa Clara County Transportation Authority (SCCTA)	Amount:	PUC Funds Type:
Contact Person:	Jerry Rice		99313
Contact Phone #:	669-646-3780	\$2,576,819	99314
Contact E-mail:	jrice@sccta.org		

Contributing Sponsor:	Metropolitan Transportation Commission	Amount:	PUC Funds Type:
Contact Person:	Carmen Policy	\$1,449,454	99313
Contact Phone #:	415-646-3700		99314
Contact E-mails:	carmen.policy@mtc.org		

Contributing Sponsor:		Amount:	PUC Funds Type:
Contact Person:			99313
Contact Phone #:			99314
Contact E-mails:			

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Contact Person:			99313
Contact Phone #:			99314
Contact E-mails:			

Total FY 18-19 LCTOP Funding	\$4,026,273
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Supplanting Funds - Describe how the LCTOP funds will not supplant other funding sources.
 Without LCTOP funds this project would not be possible.

Fully Funded Project - Provide a description of the status of all the funds to be used to completely fund this project.
 SCC was awarded \$6,000,000 of TIRCP funds in the FY 15-16 competitive funding round and will use \$2,125,000 of FY 16-17, 17-18, and 18-19 Local Sales Tax dollars to complete the non LCTOP funding.

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Funding Plan

Proposed Total Project Cost								
Component	Prior	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
PA&ED	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
PS&E	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
R/W	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CON	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Veh/Equip Purchase	\$7,647,236	\$4,026,273	\$2,576,819	\$0	\$0	\$0	\$0	\$14,250,328
Operations/Other	\$10,250,000	\$2,125,000	\$0	\$0	\$0	\$0	\$0	\$12,375,000
TOTAL	\$17,897,236	\$6,151,273	\$2,576,819	\$0	\$0	\$0	\$0	\$26,625,328

Low Carbon Transit Operations Program (LCTOP)								
Component	Prior	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
PA&ED								\$0
PS&E								\$0
R/W								\$0
CON								\$0
Veh/Equip Purchase	\$7,647,236	\$4,026,273	\$2,576,819					\$14,250,328
Operations/Other								\$0
TOTAL	\$7,647,236	\$4,026,273	\$2,576,819	\$0	\$0	\$0	\$0	\$14,250,328

Funding Source:		TIRCP						
Component	Prior	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
PA&ED								\$0
PS&E								\$0
R/W								\$0
CON								\$0
Veh/Equip Purchase								\$0
Operations/Other	\$6,000,000							\$6,000,000
TOTAL	\$6,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$6,000,000

Funding Source:		Local Transportation Sales Tax						
Component	Prior	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
PA&ED								\$0
PS&E								\$0
R/W								\$0
CON								\$0
Veh/Equip Purchase								\$0
Operations/Other	\$4,250,000	\$2,125,000						\$6,375,000
TOTAL	\$4,250,000	\$2,125,000	\$0	\$0	\$0	\$0	\$0	\$6,375,000

Funding Source:								
Component	Prior	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
PA&ED								\$0
PS&E								\$0
R/W								\$0
CON								\$0
Veh/Equip Purchase								\$0
Operations/Other								\$0
TOTAL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

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Funding Plan

Funding Source:								
Component	Prior	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
PA&ED								\$0
PS&E								\$0
R/W								\$0
CON								\$0
Veh/Equip Purchase								\$0
Operations/Other								\$0
TOTAL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Funding Source:								
Component	Prior	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
PA&ED								\$0
PS&E								\$0
R/W								\$0
CON								\$0
Veh/Equip Purchase								\$0
Operations/Other								\$0
TOTAL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Funding Source:								
Component	Prior	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
PA&ED								\$0
PS&E								\$0
R/W								\$0
CON								\$0
Veh/Equip Purchase								\$0
Operations/Other								\$0
TOTAL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Funding Source:								
Component	Prior	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
PA&ED								\$0
PS&E								\$0
R/W								\$0
CON								\$0
Veh/Equip Purchase								\$0
Operations/Other								\$0
TOTAL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Funding Source:								
Component	Prior	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
PA&ED								\$0
PS&E								\$0
R/W								\$0
CON								\$0
Veh/Equip Purchase								\$0
Operations/Other								\$0
TOTAL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

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Project/Agency Information

Project Description - Describe the project using comprehensive overall project description regarding improvements to be made and/or increased level of service (include for operations projects number of trips, span, frequency improvements and number of days of operation; for capital projects include product specifications). *No more than 10 lines* .

Purchase fifteen (15) new forty-foot zero-emission battery electric low floor transit buses, six (6) fast speed electric vehicle charging stations, and all related charging station improvements. The Zero-Emission transit buses includes seating for thirty nine passengers and two wheelchairs, internal and external camera system, farebox, Automatic Vehicle Location (AVL), and three position exterior bike rack. Fast speed electric vehicle charging stations will be placed on three routes to allow the charging of the vehicles while on Routes 16, 33 and 42. All three of the routes serve AB 1550 populations.

Agency Service Area - Describe the project area including the city, town, community (rural, suburban, urban & demographics). *No more than 10 lines*.

Santa Clara County Transportation Authority (SCC) is an independent special district that provides sustainable, accessible, community-focused transportation options that are innovative, environmentally responsible, and promote the vitality of our region. SCC is responsible for bus, light rail and paratransit operations and provides these services throughout the county including the cities of Campbell, Cupertino, Gilroy, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga and Sunnyvale. SCC continually builds partnerships to deliver transportation solutions that meet the evolving mobility needs of Santa Clara County. The new zero-emission vehicle would be operated throughout the agencies service area.

Agency Service - Describe the service you provide and how the project plays into your overall operations plan. *No more than 10 lines*.

SCC operates bus service on 73 total bus routes including 54 Local and 19 express or limited stop routes providing 32.623 million rides in FY 15-16. SCC provides this service with 493 buses including 15 zero-emission electric transit buses, 150 hybrid diesel buses, 200 Compressed Natural Gas (CNG) and 61 small community hybrid diesel buses. These 15 zero-emission electric buses will replace 15, 2005 CNG buses which have reached the end of their useful life.

Agency Fare - Describe the fare structure for your system and how the project will affect that structure if at all.

Adults Age 19-64 - Single Ride - \$2 (Regular & Limited Stop Buses, Light Rail), Express Bus Single Ride - \$4, Community Bus - \$1.25, 8-Hour Light Rail Pass - \$4, Day Pass - \$6 (Clipper Only), Express Bus Day Pass - \$12 (Clipper Only), Monthly Pass - \$70, Express Bus Monthly Pass - \$140, Annual Pass Subscription - \$770, Youth and Senior/Disabled fares are attached. This project will have no affect on the fare structure.

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Project/Agency Information (continued)

Project Costs - Describe the assumptions and process for how the projects costs were developed. *No more than 10 lines.*

SCC purchased 15 zero emission vehicles from Proterra in FY 14-15 and has an option for 45 more vehicles over the next 5 years with an increase in cost equal to inflation. The project cost estimates are calculated off this agreement and the options for FY 19-20. FY 19-20 cost per bus was \$1,255,000 per bus and \$705,375 per charging station. Staff also estimates an additional \$594,680 per charging station for construction associated with installation.

Project Planning - Explain the planning process this project went through, including any public outreach/input, or worksho

Staff started a discussion with commission members about CARB regulation to complete transition to zero emission bus fleet by 2040 or sooner. Commission members directed staff to review zero emission vehicles and provide a plan to meet this regulation. Staff completed this work including a workshops with the general public.

Environmental Justice - Explain how your agency designed the project to avoid substantial burden on *any* low income disadvantaged community.

This project was designed to decrease the negative affects of pollution on the low income disadvantaged communities within our service area and was completed in compliance with all state and federal Civil Rights requirements.

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Project GHG Benefits**

Greenhouse Gas Reductions - Describe qualitatively how this project will reduce greenhouse gas emissions. For example, expanded/enhanced transit service will improve headways thus making transit a more convenient option of transportation thus increasing ridership, reducing Vehicle Miles Traveled (VMT) and reducing GHG.

New Zero-Emission forty-foot transit buses will reduce greenhouse gas emissions in two ways; first new vehicles create an incentive for members of the general public to ride transit thus increasing overall ridership; second the new vehicles decrease the number of emissions per mile compared with the current fleet of 2005 Compress Natural Gas thus reducing GHG emission.

Greenhouse Gas Reductions - Please provide quantitative information requested below and explanation/support for the data provided.

	Value	Explanation
Year 1 (Yr1) - <i>First year of service, or year that capital improvements will be completed.</i>	2021	First zero-emission buses are expected to be put into service in late 2021.
Year F (YrF) - <i>Final year that the service is funded or the final year of the capital improvements useful life.</i>	2033	The end of the useful life for these transit vehicles is expected to be 2033.
Project Yr1 Ridership - <i>Estimated annual ridership contributed by the new service or capital improvement in Yr1.</i>	14,488	Ridership is expected to increase about 1.5% due to the improved reliability, convenience and the novelty of the new buses. FY 16-17 bus ridership was 32,195,504 the 15 new vehicles will replace roughly 3% of the fleet.
Project F Yr. Ridership - <i>Estimated annual ridership contributed by the new service or capital improvement in YrF.</i>	14,488	Ridership is expected to increase about 1.5% due to the improved reliability, convenience and the novelty of the new buses. FY 16-17 bus ridership was 32,195,504 the 15 new vehicles will replace roughly 3% of the fleet.
Adjustment (A) - <i>Adjustment factor to account for transit dependency. Default: 0.5 for local bus service and 0.83 for long distance commute service.</i>	0.50	Using the default for local bus service
Trip Length (L) - <i>Length (miles) of average auto trip reduced or average passenger trip length (miles).</i>	7.56	System wide average passenger trip length is 7.56 miles as reported in the National Transit Database (NTD)
Project Useful Life	12	This is calculated based on the values above.
Total Project Ridership Increased	173,856	This is calculated based on the values above.
Total Project VMTs Reduced	657,176	This number is calculated based on the values above.
Estimated Total Project GHG (mtco2) Reduction:	14755.18	This number is calculated based on the values from above and the QM-Tool tab.
LCTOP Emission Reductions /Total LCTOP Funds Requested	1035.42756	This number is calculated based on the values from above and the QM-Tool tab.

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Project Benefits

Job Support Benefits (Refer to Read Me for more information)

Primary Project Activity <i>(select from drop down)</i>	Procurement of buses
% of Project Budget Associate with Primary Activity	70.00%
Secondary Project Activity <i>(select from drop down)</i>	Procurement of electric vehicle supporting infrastructure
% of Project Budget Associate with Tertiary Activity	16.00%
Secondary Project Activity <i>(select from drop down)</i>	Procurement of bicycle racks or lockers
% of Project Budget Associate with Tertiary Activity	14.00%

Travel Cost Savings Benefits

	Value	Explanation
Standard Fare Cost for Project (\$/Trip)	\$0.00	Project will not provide service
Reduced Fare Cost (\$/Trip)	\$0.00	Project will not reduce fares
Transit Facility Parking Cost (\$/Trip)	\$0.00	Project will not provide service
Avoided Parking Cost (\$/Trip)	\$0.00	Project will not provide service
Avoided Toll Cost (\$/Trip)	\$0.00	Project will not provide service

Transit Mode Share (increase mobility): Describe how this project will increase transit mode share (increase mobility).

As TCRP Report 111 Elements Needed to Create High Ridership Transit Systems," The vehicles environment also plays an essential role affecting the rider's transit experience." New vehicles are more reliable, have better seating (padded seats and higher seatbacks), have on vehicle passenger information systems (AVL), and improve security (internal and external camera system). All of these features create a better rider experience thus increasing ridership.

Co-Benefits - Check all additional Benefits/Outcomes.

- | | |
|---|---|
| <input type="checkbox"/> Improved Safety | <input type="checkbox"/> Coordination with Educational Institution |
| <input type="checkbox"/> Improved Public Health | <input type="checkbox"/> College <input type="checkbox"/> Grades K-12 |
| <input checked="" type="checkbox"/> Reduced Operating/Maintenance Costs | <input checked="" type="checkbox"/> Promotes Active Transportation |
| <input checked="" type="checkbox"/> Increase System Reliability | <input checked="" type="checkbox"/> Promotes Integration w/ other modes |
| <input type="checkbox"/> Other Benefits | |

Co-Benefits - Describe benefits indicated above and other benefits not listed.

New vehicles will decrease operating/maintenance cost as new vehicles have a lower cost to maintain then 12-15 year old vehicles.

New vehicles will increase system reliability as new vehicle have a lower rate of break down then 12-15 year old vehicles.

New vehicle will be delivered with new three position bike racks which will encourage people to bicycle to and from bus stops.

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Priority Populations Benefits

Does your Service Area have a Disadvantaged Community? (as defined by SB 535)	Yes
Is the project located within the boundaries of a disadvantaged community census tract?	Yes
Is the project located within the boundaries of a low-income community census tract?	Yes
Is the project located outside of a disadvantaged community, but within 1/2 mile of a disadvantage community and within a low-income census tract?	Yes
Is the project a new or expanded transit service that connects with transit service serving a disadvantaged communities?	No
Is the project a transit fare subsidies or network and fare integration technology improvements, including, but not limited to, discounted or free student transit passes	No
Is the project a purchase of zero-emission transit buses and/or supporting infrastructure?	Yes

Identify the Project Census Tract(s) <i>(please use the 10-digit identification code) :</i>	6085505100, 6085504318, 6085501102, 6085504319, 6085503709, 6085501401, 6085501000, 6085503602, more include in an attachment.
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Identify an important community or household need and evaluate whether the project provides a benefit that meaningfully addresses that need. <i>(For more information please review Read Me) :</i>	D. Where direct engagement is infeasible, refer to the list of common needs for disadvantaged communities in CARB’s Funding Guidelines Table 2-2 and select a project that addresses a listed need.
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Identify Specific Common Needs of Priority Populations <i>(if you select letter D. in question above):</i>	PHS 1 Reduce health harms (e.g., asthma) suffered disproportionately by low-income residents / communities due to air pollutants.
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Priority Populations Community Need: Describe, in detail the identified community need(s) and how the project meets the need(s), including the levels of community engagement.
SCC Transportation Authority used a variety of approaches to determine the community need including using the common need list in Table 2.2, looking at factors in CalEnviroScreen that caused census tracts within our service area to be defined as DACs and hosting community meetings (part of the Transportation 2035 Equity [Communities of Concern]).

Identify the Specific Priority Population Benefit:	F. Project creates or improves infrastructure or equipment that reduces criteria air pollutant or toxic air contaminant emissions on regular scheduled routes that are primarily within a disadvantaged or low-income community (e.g., rail electrification, zero-emission bus);
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DAC Benefit - Explain, in your own words, how the project will benefit Disadvantaged Community(ies) within your service area.

There are twenty three (23) DAC census tracts within SCC Transportation Authority's service area. Seventy five percent (75%) of all SCC bus service travels through these DACs, traveling nearly 8,000,000 miles a year within those DACs. The new vehicle will allow 3% or 235,000 of those miles to be traveled with zero-tail-pipe emissions thus reducing air pollution within those DACs.

Low-Income Community or Low-Income Household Benefit - Explain, in your own words, how the project will benefit Low-Income Community(ies) or Low-Income Households within the project area.

There are twenty (20) Low-Income Community census tracts within SCC Transportation Authority's service area. Seventy five percent (65%) of all SCC bus service travels through these DACs, traveling nearly 6,500,000 miles a year within those Low-Income Communities. The new vehicle will allow 3% or 235,000 of those miles to be traveled with zero-tail-pipe emissions thus reducing air pollution within those Low-Income Communities.

Low-Income Community or Low-Income Household within 1/2 a mile of a Disadvantaged Community Benefit - Explain, in your own words, how the project will benefit Low-Income Community(ies) or Low-Income Households within the project area.

There are twenty (20) Low-Income Community census tracts within SCC Transportation Authority's service area. Seventy five percent (65%) of all SCC bus service travels through these DACs, traveling nearly 6,500,000 miles a year within those Low-Income Communities. The new vehicle will allow 3% or 235,000 of those miles to be traveled with zero-tail-pipe emissions thus reducing air pollution within those Low-Income Communities.

Amount funds to benefit a DAC: \$	3,267,723
Amount funds to benefit Low-Income Households & Residents: \$	408,465
Amount funds to benefit Low-Income Households or Resident within 1/2 mile of a DAC: \$	408,465



California Air Resources Board
Benefits Calculator Tool for the
Low Carbon Transit Operations Program
California Climate Investments

Note to applicants:



Inputs	Required	Description
SECTION 1: This section is used to determine the quantification method and emission factors to use to estimate emissions.		
Project Type	Purchase replacement zero-emission vehicle(s) (may include equipment/infrastructure)	
Quantification Method	Technology Conversion Automated	Emission Estimates = Emissions from Baseline Vehicle – Emissions from New Vehicle
Type of Region	County Yes	The region that best encompasses the geographic location for the proposed project type.
Region	Santa Clara Yes	The county where the majority of the service occurs.
Year 1 (Yr1)	2021 Yes	The first year of the rolling stock's useful life.
Year F (YrF)	2033 Yes	The final year of the rolling stock's useful life.
Quantification Period	12 Calculated	The useful life of the rolling stock.
SECTION 2: This section is used to estimate the emission and cost reductions from displaced auto vehicle miles traveled (VMT).		
Service Type	No	Not applicable for this project type.
Yr1 Ridership	14,488 No	Not applicable for this project type.
YrF Ridership	14,488 No	Not applicable for this project type.
Adjustment Factor (A)	0.50 No	Not applicable for this project type.
Length of Average Trip (L)	7.56 No	Not applicable for this project type.
Passenger VMT Reductions	Not Applicable Calculated	Not applicable for this project type.
GHG Emission Reductions	Not Applicable Calculated	Not applicable for this project type.
SECTION 3: This section is used to estimate the net emission reductions from new service or from the purchase of new zero-emission/hybrid vehicle(s).		
Vehicle Type	Transit Bus Yes	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) of the rolling stock to be acquired.
Engine Tier	No	Not applicable for this vehicle type.
Hybrid Vehicle	No Yes	Is the vehicle to be acquired a hybrid?
Fuel/Energy Type	Electric Yes	The fuel type (e.g. Electric, Diesel, etc.) of the vehicle to be acquired.
Project Specific Emission Factor	Optional	Applicant must be able to demonstrate an approved carbon intensity value under the Low Carbon Fuel Standard; must submit additional documentation.
Model Year	2021 Yes	The engine model year of the vehicle to be acquired.
Annual VMT	630,000 Yes	The estimated annual VMT of the vehicle to be acquired (e.g., 72,000).
Annual Fuel/Energy (kWh)	No	Not applicable for this vehicle type.
GHG Emissions	3,528 Calculated	The estimated GHG emissions (MTCO _{2e}) of the vehicle to be acquired.

SECTION 4: This section is used to estimate the net emission reductions from vehicle replacement as a result of the proposed project.			
Additional GHG Reductions	Vehicle Replacement	Yes	An existing vehicle will be replaced by the acquisition of a new zero-emission or near zero-emission vehicle.
Vehicle Type	Transit Bus	Yes	The vehicle type expected to be replaced as a result of the project (e.g., Transit Bus).
Engine Tier		No	Not applicable for this vehicle type.
Fuel/Energy Type	CNG	Yes	The fuel type of the vehicle expected to be replaced as a result of the project (e.g., Diesel).
Model Year	2005	Yes	Engine model year of the vehicle to be replaced.
Annual VMT	630,000	Yes	The estimated annual VMT of the vehicle to be replaced.
Annual Fuel/Energy (cubic feet)		No	Not applicable for this vehicle type.
GHG Reductions	18,283	Calculated	The estimated GHG emission reductions (MTCO ₂ e) from vehicle replacement.
SECTION 5: This section is used to estimate the net emission reductions from fuel/energy reductions as a result of the proposed project.			
Additional GHG Reductions		No	Not applicable for this project type.
Vehicle Type		No	Not applicable for this project type.
Engine Tier		No	Not applicable for this vehicle type.
Fuel/Energy Type		No	Not applicable for this project type.
Model Year		No	Not applicable for this project type.
Annual Fuel/Energy		No	Not applicable for this vehicle type.
GHG Reductions	Not Applicable	Calculated	Not applicable for this project type.
SECTION 6: This section calculates the greenhouse gas (GHG) emission reductions achieved by the proposed project.			
Total Project GHG Reductions	14,755	Calculated	Total GHG emission reductions (MTCO ₂ e) from the project during the useful life.
LCTOP Project GHG Reductions	10,383	Calculated	The portion of GHG emission reductions attributable to funding from LCTOP; GHG emission reductions are prorated according to the level of program funding contributed from LCTOP and other CCI programs, as applicable.



California Air Resources Board
Benefits Calculator Tool for the
Low Carbon Transit Operations Program
California Climate Investments

Project Information		
Project Name	Zero-Emission Bus and Infrastructure Project	
FY 2018-19 LCTOP GGRF Funds Requested (\$)	\$	4,026,273
Total LCTOP GGRF Funds (\$)	\$	14,250,328
Total GGRF Funds (\$)	\$	20,250,328
Non-GGRF Leveraged Funds (\$)	\$	6,375,000
Total Funds (\$)	\$	26,625,328
GHG Summary		
Total LCTOP GHG Emission Reductions (MTCO ₂ e)		10,383
Total GHG Emission Reductions (MTCO ₂ e)		14,755
Total GHG Emission Reductions per Total LCTOP GGRF Funds (MTCO ₂ e/\$million)		1,035
Total GHG Emission Reductions per Total GGRF Funds (MTCO ₂ e/\$million)		729



California Air Resources Board
Benefits Calculator Tool for the
Low Carbon Transit Operations Program
California Climate Investments

Project Name	Zero-Emission Bus and Infrastructure Project
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Co-benefits and Key Variables Summary	
	LCTOP GGRF Funds
Diesel PM emission reductions (lbs)	0
NOx emission reductions (lbs)	139,691
PM2.5 emission reductions (lbs)	352
ROG emission reductions (lbs)	22,780
Passenger VMT reductions (miles)	N/A
Fossil fuel use reductions (gallons)	90,589
Fossil fuel energy use reductions (kWh)	N/A
Renewable energy generated (kWh)	N/A
Travel cost savings (\$)	N/A
Energy and fuel cost savings (\$)	\$2,470,725
	Additional California Climate Investments Program(s)
Diesel PM emission reductions (lbs)	N/A
NOx emission reductions (lbs)	58,816
PM2.5 emission reductions (lbs)	148
ROG emission reductions (lbs)	9,591
Passenger VMT reductions (miles)	N/A
Fossil fuel use reductions (gallons)	38,142
Fossil fuel energy use reductions (kWh)	N/A
Renewable energy generated (kWh)	N/A
Travel cost savings (\$)	N/A
Energy and fuel cost savings (\$)	\$1,040,281
	Total California Climate Investments
Diesel PM Emission Reductions (lbs)	0
NOx emission reductions (lbs)	198,507
PM2.5 emission reductions (lbs)	501
ROG emission reductions (lbs)	32,371
Passenger VMT reductions (miles)	N/A
Fossil fuel use reductions (gallons)	128,730
Fossil fuel energy use reductions (kWh)	N/A
Renewable energy generated (kWh)	N/A
Travel cost savings (\$)	N/A
Energy and fuel cost savings (\$)	\$3,511,007



California Air Resources Board
Benefits Calculator Tool for the
Low Carbon Transit Operations Program
California Climate Investments

Total Full-time Equivalent Jobs Supported by Project Budget	163.0
Total Full-time Equivalent Jobs Supported by Project GGRF Funds	24.6
Full-time Equivalent Jobs Directly Supported by Project GGRF Funds	8.8
Full-time Equivalent Jobs Indirectly Supported by Project GGRF Funds	6.9
Full-time Equivalent Induced Jobs Supported by Project GGRF Funds	8.9

Note:

It is not appropriate to directly compare the job estimates from this Job Co-benefit Modeling Tool to the GGRF project dollars. California Climate Investments facilitate greenhouse gas emission reductions and deliver a suite of economic, environmental, and public health co-benefits, including job co-benefits. A different mix of spending on materials, equipment, and labor is expected across various California Climate Investments project types and match funding arrangements. As such, some project types will support more jobs than others.

Census Tract	Total Population	California County	ZIP	City	Longitude	Latitude	CES 3.0 Score
6085503105	2484	Santa Clara	95122	San Jose	-121.858788	37.3262673	53.78
6085512602	2997	Santa Clara	95020	Gilroy	-121.5244284	37.018124	50.69
6085500100	6339	Santa Clara	95112	San Jose	-121.8927423	37.358556	50.03
6085504318	5265	Santa Clara	95131	San Jose	-121.8957703	37.376939	48.52
6085512603	3954	Santa Clara	95020	Gilroy	-121.5626698	37.001726	47.37
6085503601	2992	Santa Clara	95133	San Jose	-121.8661537	37.3583881	47.09
6085503122	3449	Santa Clara	95112	San Jose	-121.8568692	37.3125122	46.69
6085501600	6854	Santa Clara	95112	San Jose	-121.8750532	37.3294823	45.89
6085503110	4618	Santa Clara	95122	San Jose	-121.8498004	37.3331809	45.22
6085504602	2144	Santa Clara	95002	Alviso	-121.9948126	37.4495367	44.52
6085503214	7253	Santa Clara	95111	San Jose	-121.8479711	37.2991814	44.50
6085501102	4477	Santa Clara	95112	San Jose	-121.8812071	37.3540562	43.54
6085503602	4741	Santa Clara	95116	San Jose	-121.8522546	37.3445854	42.87
6085501401	3295	Santa Clara	95116	San Jose	-121.8697204	37.3515633	42.85
6085512310	3791	Santa Clara	95037	Morgan Hill	-121.6336267	37.1171152	42.75
6085503113	4760	Santa Clara	95110	San Jose	-121.8808148	37.3157311	41.94
6085503117	3120	Santa Clara	95122	San Jose	-121.8515984	37.3274092	41.45
6085501501	4278	Santa Clara	95116	San Jose	-121.8583166	37.3417324	41.36
6085505202	5867	Santa Clara	95050	Santa Clara	-121.960583	37.3702343	40.60

CES 3.0 Percentile	CES 3.0 Percentile Range	Ozone	Ozone Pctl	PM2.5	PM2.5 Pctl	Diesel PM	Diesel PM Pctl	Drinking Water
92.23	91-95%	0.038	22.34	10.37	52.61	34.565	89.48	479.23
89.53	86-90%	0.040	25.87	6.602046	8.67	9.883	28.46	717.13
88.85	86-90%	0.035	16.94	10.37	52.61	37.927	91.75	479.23
87.33	86-90%	0.035	16.94	10.37	52.61	37.898	91.74	540.90
85.94	86-90%	0.040	25.87	6.602046	8.67	27.545	81.19	237.53
85.62	86-90%	0.035	16.94	10.37	52.61	32.452	87.94	479.23
85.08	86-90%	0.038	22.34	10.37	52.61	35.483	89.97	479.23
84.13	81-85%	0.035	16.94	10.37	52.61	33.660	89.00	479.23
83.20	81-85%	0.038	22.34	10.37	52.61	32.997	88.29	479.23
82.28	81-85%	0.035	16.94	9.955483	42.86	8.951	25.50	288.25
82.27	81-85%	0.038	22.34	10.37	52.61	33.678	89.01	479.23
80.92	81-85%	0.035	16.94	10.37	52.61	33.396	88.77	479.23
80.00	76-80%	0.038	22.34	10.37	52.61	33.401	88.79	479.23
79.96	76-80%	0.035	16.94	10.37	52.61	33.643	88.89	479.23
79.86	76-80%	0.040	25.87	8.278764	20.16	25.611	77.55	490.68
78.71	76-80%	0.038	22.34	10.37	52.61	36.650	90.96	479.23
78.08	76-80%	0.038	22.34	10.37	52.61	33.687	89.04	479.23
77.92	76-80%	0.038	22.34	10.37	52.61	33.660	89.00	479.23
76.95	76-80%	0.035	16.94	10.37	52.61	35.287	89.89	179.53

Drinking Water Pctl	Pesticides	Pesticides Pctl	Tox. Release	Tox. Release Pctl	Traffic	Traffic Pctl	Cleanup Sites	Cleanup Sites Pctl	Groundwater Threats
51.02	0.00	0.00	194.927	35.33	1775.83	88.03	20.95	84.13	24.6
83.66	6855.84	97.23	11.87078	9.60	550.78	36.33	19.2	82.65	18.25
51.02	0.00	0.00	413.4933	47.78	1470.17	82.20	82.35	98.74	95.9
56.64	0.00	0.00	612.5349	53.89	1804.76	88.43	158.65	99.80	130.9
23.69	5940.21	96.85	3.606582	6.36	854.86	60.38	19.5	83.02	16.5
51.02	0.00	0.00	332.4554	43.71	1490.91	82.75	20.5	83.95	34.95
51.02	0.00	0.00	162.5576	32.10	618.7	43.50	22.6	85.52	65.75
51.02	0.00	0.00	213.0712	37.32	2731.64	96.20	7.25	53.19	54.05
51.02	0.00	0.00	204.9198	36.46	2920.22	97.04	7	52.46	6.6
30.45	0.97	38.47	195.4411	35.40	1787.2	88.24	111.85	99.42	53.35
51.02	0.00	0.00	134.5652	28.87	630.47	44.40	21.1	84.42	37
51.02	0.00	0.00	331.7	43.68	938.31	64.46	27.25	89.13	45.55
51.02	0.00	0.00	242.511	39.87	2058.27	91.50	3.5	35.08	14.85
51.02	0.00	0.00	313.7349	42.88	1915.11	89.97	13.4	73.37	31
52.13	22.02	64.96	25.86955	13.63	1027.54	69.02	21	84.39	51.5
51.02	0.00	0.00	169.1653	32.90	1221.69	75.89	7.2	53.03	61.3
51.02	0.00	0.00	191.661	35.02	764.65	54.63	4.7	42.92	7
51.02	0.00	0.00	238.6018	39.64	2571.95	95.55	3.5	35.08	28.75
13.56	0.00	0.00	776.6153	57.35	1105.14	71.95	159.75	99.84	129.2

Groundwater Threats Pctl	Haz. Waste	Haz. Waste Pctl	Imp. Water Bodies	Imp. Water Bodies Pctl	Solid Waste	Solid Waste Pctl	Pollution Burden	Pollution Burden Score	Pollution Burden Pctl
76.50	5.275	96.90	2	29.25	15.5	95.47	57.75	7.11	88.16
67.83	0.3	69.19	16	97.26	35	99.72	55.38	6.82	84.32
96.94	5.625	97.41	3	41.15	19.75	97.24	61.36	7.56	93.17
98.39	12.97	99.68	2	29.25	35.75	99.79	62.77	7.73	94.50
64.58	0.16	55.09	0	0.00	5	73.54	47.27	5.82	64.77
84.79	1.465	89.92	2	29.25	11	90.99	57.16	7.04	87.13
94.19	10.375	99.28	2	29.25	29.5	99.34	54.94	6.77	83.57
92.04	0.05	25.76	3	41.15	6.7	80.55	52.19	6.43	77.62
37.92	0.2	60.50	2	29.25	2.2	52.16	48.60	5.99	68.69
91.91	1.215	88.36	12	91.47	71.5	99.98	57.87	7.13	88.30
86.05	0.25	65.56	2	29.25	0.5	20.49	46.50	5.73	62.83
89.79	1.22	88.42	2	29.25	12.5	92.74	56.19	6.92	85.51
59.50	0.05	25.76	1	15.26	0	0.00	42.00	5.17	50.49
82.51	0.135	50.68	2	29.25	8.35	85.97	54.05	6.66	81.88
91.44	0.1	43.11	6	63.17	9.5	88.33	55.49	6.83	84.52
93.53	1.26	88.84	3	41.15	7.05	82.86	54.98	6.77	83.65
39.42	0.6	80.61	2	29.25	3.2	62.70	46.01	5.67	61.39
80.55	0.2	60.50	2	29.25	1.9	41.38	49.80	6.13	72.07
98.30	9.855	99.11	3	41.15	15	95.02	57.68	7.11	88.04

Asthma	Asthma Pctl	Low Birth Weight	Low Birth Weight Pctl	Cardiovascular Disease	Cardiovascular Disease Pctl	Education	Education Pctl	Linguistic Isolation	Linguistic Isolation Pctl
46.14	51.04	6.25	81.24	8.14	52.51	36.2	83.23	43.2	98.87
64.77	74.19	5.33	61.58	10.11	75.65	23.1	67.34	15	74.47
61.75	70.94	4.88	49.03	9.18	65.33	26.1	71.65	12.9	69.02
39.41	40.88	5.32	61.09	7.5	43.75	30.2	76.65	31.5	95.35
67.35	76.35	5.53	66.32	10.47	78.18	48.6	93.25	28.8	93.65
50.27	56.56	5.44	64.22	8.04	51.04	30.5	77.04	22.9	88.15
31.51	27.79	7.2	92.16	5.16	14.00	27.5	73.63	36.1	97.21
59.13	67.96	6.04	77.16	8.1	51.84	22.6	66.46	11.5	64.34
56.53	64.73	4.44	37.05	10.8	81.49	52.1	95.14	39.8	98.28
72.08	79.87	10.38	99.82	6.78	34.21	12.9	47.43	12.3	66.88
53.77	61.35	6.23	80.65	9.27	66.26	33.4	80.14	37.3	97.57
58.93	67.77	4.62	41.87	8.76	60.24	28.9	75.32	12.2	66.66
64.59	74.03	6.69	87.33	9.67	71.19	35.1	82.12	27.1	92.40
47.16	52.79	5.58	67.72	7.05	38.00	41.2	87.90	26.9	92.13
38.43	39.30	5.01	52.54	8.81	61.00	17.6	57.42	10.6	61.22
37.88	38.27	4.8	46.74	6.87	35.49	50.4	94.36	18.6	81.99
56.72	65.18	3.21	11.76	10.84	81.89	41.8	88.49	35.8	97.15
56.07	64.26	3.7	20.11	8.54	57.35	42.6	89.25	33.9	96.49
35.84	34.95	6.19	79.87	8.1	51.84	22.2	65.90	15.6	76.00

Poverty	Poverty Pctl	Unemployment	Unemployment Pctl	Housing Burden	Housing Burden Pctl	Pop. Char.	Pop. Char. Score	Pop. Char. Pctl
49.5	72.57	15.3	85.53	26.6	80.81	72.90	7.56	84.15
36.4	54.42	14.1	80.71	29.7	87.19	71.65	7.43	82.04
40.2	59.97	10.5	59.88	22.5	68.95	63.83	6.62	70.93
46.7	69.30	11.5	66.75	18.9	54.18	60.51	6.28	65.73
58.8	83.22	14.5	82.35	21.2	63.94	78.45	8.14	91.00
53.2	77.10	10.1	56.83	20.1	59.39	64.49	6.69	71.80
59.8	84.19	19.1	94.29	33.2	92.78	66.53	6.90	75.08
52.6	76.32	10.4	59.12	34.2	93.89	68.84	7.14	78.26
71.7	94.12	8.4	42.25	33.5	93.12	72.84	7.55	84.05
24	34.38	9.1	48.58	17.6	48.53	60.23	6.25	65.36
52.9	76.72	13.3	77.40	22.9	70.20	74.91	7.77	86.87
33.1	49.45	13.2	76.86	19.1	55.15	60.66	6.29	66.02
52.8	76.57	14.4	82.00	25.7	78.41	79.91	8.29	92.65
46.4	68.81	7.5	33.82	24	73.80	62.06	6.44	68.12
42.8	63.76	14.3	81.61	28.2	84.32	60.31	6.25	65.46
61.1	85.41	8.4	42.25	32.8	92.24	59.71	6.19	64.57
62.6	86.79	14.3	81.61	29.3	86.52	70.53	7.31	80.62
52.9	76.72	12.8	74.93	25	76.62	65.02	6.74	72.66
36.7	54.83	4.1	6.94	22.7	69.61	55.10	5.71	57.66

