Appendix 3: Benefits Calculator Tool Results

California Air Resources Board

Benefits Calculator Tool for the Transit and Intercity Rail Capital Program

California Climate Investments

Note to applicants:

A step-by-step user guide, including project examples, for this Benefits Calculator Tool is available here:
https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/calsta_tircp_finaluserguide_cycle4.pdf

Project Name:	Construction Critical Rail Infrastructure

Input	Description	Quantifiable Component 1: Subcomponent 1		Quantifiable Component 1: Subcomponent 2		Quantifiable Component 1: Subcomponent 3	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Rail Track and Structures					
Funding Inputs							
TIRCP Funds Requested ($)	Total TIRCP funds requested for this separable component.	$86,450,000					
Total Project Cost ($)	Total cost of this separable component.	$206,450,000					
Additional CCI Program 1, if applicable							
CCI Program	Other CCI Program from which project has or will be requesting GGRF funds.						
Additional GGRF Funds ($)	Total GGRF funds requested or to be requested from Additional CCI Program 1.						
Additional CCI Program 2, if applicable							
CCI Program	Other CCI Program from which project has or will be requesting GGRF funds.						
Additional GGRF Funds ($)	Total GGRF funds requested or to be requested from Additional CCI Program 2.						
Total GGRF Funds Requested ($)	Total GGRF funds requested from all CCI Programs	$86,450,000					
Project Info Inputs		**Input**		**Input**		**Input**	
Project Type	For the purposes of this quantification, eligible TIRCP projects fall into four project types. Select the project type that best describes this component.	System and Efficiency Improvements					
Service Type	The transit service (e.g., Intercity/Express Bus (Long Distance), Light Rail, Vanpool, etc.) directly associated with the proposed project. For projects that serve multiple services, select Multi-modal.	Rail					
Type of Region	The type of region that best encompasses the geographic location for the proposed project type.	County					
Region	The County or Air Basin where the majority of the service occurs.	Orange					
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2027					
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2057					
Useful Life (yrs)	The number of years the service is funded or the useful life of the facility or rolling stock. Limited to up to 50 years.	30					
Displaced Passenger Auto VMT Inputs		**Input**	**Documentation**	**Input**	**Documentation**	**Input**	**Documentation**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	118,998	Assumes trips will increase by 12% over FY 2022-23 Orange County				
YrF Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the final year. If the ridership is not expected to change, Yr1 and YrF should be the same value.	556,912	Assumes trips would increase by 368% (estimated SCORE ridership).				
Adjustment Factor	Discount factor applied to annual ridership to account for transit-dependent riders. Use: Document project-specific data or system average developed from a recent, statistically valid survey or default.	0.87	Lookup table, commuter rail				
Length of Average Trip (mi)	Annual passenger miles over unlinked trips directly associated with the proposed project.	25.65	Lookup table, commuter rail				

California Air Resources Board

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California Climate Investments

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Project Name:	Construction Critical Rail Infrastructure

Input	Description	Quantifiable Component 2: Subcomponent 1	Quantifiable Component 2: Subcomponent 2
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	San Juan Creek Bridge Replacement	
		Funding Inputs	
TIRCP Funds Requested ($)	Total TIRCP funds requested for this separable component.	$17,000,000	
Total Project Cost ($)	Total cost of this separable component.	$64,880,000	
		Additional CCI Program 1, if applicable	
CCI Program	Other CCI Program from which project has or will be requesting GGRF funds.		
Additional GGRF Funds ($)	Total GGRF funds requested or to be requested from Additional CCI Program 1.		
		Additional CCI Program 2, if applicable	
CCI Program	Other CCI Program from which project has or will be requesting GGRF funds.		
Additional GGRF Funds ($)	Total GGRF funds requested or to be requested from Additional CCI Program 2.		
Total GGRF Funds Requested ($)	Total GGRF funds requested from all CCI Programs	$17,000,000	
Project Info Inputs		Input	Input
Project Type	For the purposes of this quantification, eligible TIRCP projects fall into four project types. Select the project type that best describes this component.	System and Efficiency Improvements	
Service Type	The transit service (e.g., Intercity/Express Bus (Long Distance), Light Rail, Vanpool, etc.) directly associated with the proposed project. For projects that serve multiple services, select Multi-modal.	Rail	
Type of Region	The type of region that best encompasses the geographic location for the proposed project type.	County	
Region	The County or Air Basin where the majority of the service occurs.	Orange	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2028	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2058	
Useful Life (yrs)	The number of years the service is funded or the useful life of the facility or rolling stock. Limited to up to 50 years.	30	

Displaced Passenger Auto VMT Inputs		Input	Documentation	Input	Documentation
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	1,237,600	Based on existing estimated combined Amtrak and Metrolink ridership		
YrF Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the final year. If the ridership is not expected to change, Yr1 and YrF should be the same value.	1,800,000	Assumes 75% recovery of pre-covid ridership (source: LOSSAN).		
Adjustment Factor	Discount factor applied to annual ridership to account for transit-dependent riders. Use: Document project-specific data or system average developed from a recent, statistically valid survey or default.	0.87	Lookup table, commuter rail		
Length of Average Trip (mi)	Annual passenger miles over unlinked trips directly associated with the proposed project.	25.65	Lookup table, commuter rail		

California Air Resources Board

Benefits Calculator Tool for the Transit and Intercity Rail Capital Program

California Climate Investments

Project Name:	Construction Critical Rail Infrastructure

	Quantified GHG Component 1	Quantified GHG Component 2	Quantified GHG Component 3	Quantified GHG Component 4	Quantified GHG Component 5	Quantified GHG Component 6	Total Project
Identifying Descriptor	Rail Rehabilitation Backlog (Track & Structures)	San Juan Creek Bridge Replacement					
GHG Emission Reduction Start Date (Year)	2027	2028					
Total CCI							
Total GHG Emission Reductions ($MTCO_2e$)	68,052	317,342					385,394
Total GGRF Funds Requested ($)	$86,450,000	$17,000,000					$103,450,000
Total GHG Emission Reductions/Total GGRF Funds Requested ($MTCO_2e$/$)	0.000787	0.018667					0.003725
TIRCP							
TIRCP GHG Emission Reductions ($MTCO_2e$)	68,052	317,342					385,394
TIRCP Funds Requested ($)	$86,450,000	$17,000,000					$103,450,000
TIRCP GHG Emission Reductions/TIRCP Funds Requested ($MTCO_2e$/$)	0.000787	0.018667					0.003725
TIRCP Funds Requested/TIRCP GHG Emission Reductions ($/$MTCO_2e$)	1,270	54					268
Additional CCI Program 1							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO2e)							
Total Additional GGRF Funds to Implement Project ($)							
Additional CCI Program 2							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO2e)							
Total Additional GGRF Funds to Implement Project ($)							

California Air Resources Board

Benefits Calculator Tool for the
Transit and Intercity Rail Capital Program

California Climate Investments

Project Name:	Construction Critical Rail Infrastructure

	Quantified Co-Benefit Component 1	Quantified Co-Benefit Component 2	Quantified Co-Benefit Component 3	Quantified Co-Benefit Component 4	Quantified Co-Benefit Component 5	Quantified Co-Benefit Component 6	Total Project
Identifying Descriptor	Rail Rehabilitation Backlog (Track & Structures)	San Juan Creek Bridge Replacement					
Total CCI							
Passenger VMT Reductions (miles)	225,468,875	1,013,277,292					1,238,746,167
Fossil Fuel Use Reductions (gallons)	5,996,057	28,149,050					34,145,107
Fossil Fuel Energy Use Reductions (kWh)							
Energy and Fuel Cost Savings ($)							
Passenger Travel Cost Savings ($)	$130,771,947	$587,700,829					$718,472,777
ROG Emission Reductions (lbs)	1,446	8,333					9,779
NO_x Emission Reductions (lbs)	9,523	47,715					57,238
$PM_{2.5}$ Emission Reductions (lbs)	9,138	41,360					50,498
Diesel PM Emission Reductions (lbs)	11	57					68
TIRCP							
Passenger VMT Reductions (miles)	225,468,875	1,013,277,292					1,238,746,167
Fossil Fuel Use Reductions (gallons)	5,996,057	28,149,050					34,145,107
Fossil Fuel Energy Use Reductions (kWh)							
Energy and Fuel Cost Savings ($)							
Passenger Travel Cost Savings ($)	$130,771,947	$587,700,829					$718,472,777
ROG Emission Reductions (lbs)	1,446	8,333					9,779
NO_x Emission Reductions (lbs)	9,523	47,715					57,238
$PM_{2.5}$ Emission Reductions (lbs)	9,138	41,360					50,498
Diesel PM Emission Reductions (lbs)	11	57					68

California Air Resources Board

Benefits Calculator Tool for the
Transit and Intercity Rail Capital Program

California Climate Investments

Project Name:	Deploy Zero Emission Buses and Clean Energy

	Quantified GHG Component 1	Quantified GHG Component 2	Quantified GHG Component 3	Quantified GHG Component 4	Quantified GHG Component 5	Quantified GHG Component 6	Total Project
Identifying Descriptor	Purchase 10 zero emission 40ft buses	Purchase 6 zero emission 60ft buses	Rooftop Solar at Bus Bases	Construction Circle Bus Base Zero-Emission Upgrades			
GHG Emission Reduction Start Date (Year)	2027	2028	2026	2025			
Total CCI							
Total GHG Emission Reductions ($MTCO_2e$)	7,654	4,985	37,235	192			50,066
Total GGRF Funds Requested ($)	$12,240,000	$13,800,000	$10,200,000	$1,000,000			$37,240,000
Total GHG Emission Reductions/Total GGRF Funds Requested ($MTCO_2e$/$)	0.000625	0.000361	0.003651	0.000192			0.001344
TIRCP							
TIRCP GHG Emission Reductions ($MTCO_2e$)	7,654	4,985	37,235	192			50,066
TIRCP Funds Requested ($)	$12,240,000	$13,800,000	$10,200,000	$1,000,000			$37,240,000
TIRCP GHG Emission Reductions/TIRCP Funds Requested ($MTCO_2e$/$)	0.000625	0.000361	0.003651	0.000192			0.001344
TIRCP Funds Requested/TIRCP GHG Emission Reductions ($/$MTCO_2e$)	1,599	2,768	274	5,206			744
Additional CCI Program 1							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO2e)							
Total Additional GGRF Funds to Implement Project ($)							
Additional CCI Program 2							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO2e)							
Total Additional GGRF Funds to Implement Project ($)							

California Air Resources Board

Benefits Calculator Tool for the
Transit and Intercity Rail Capital Program

California Climate Investments

Project Name:	Deploy Zero Emission Buses and Clean Energy

	Quantified Co-Benefit Component 1	Quantified Co-Benefit Component 2	Quantified Co-Benefit Component 3	Quantified Co-Benefit Component 4	Quantified Co-Benefit Component 5	Quantified Co-Benefit Component 6	Total Project
Identifying Descriptor	Purchase 10 zero emission 40ft buses	Purchase 6 zero emission 60ft buses	Rooftop Solar at Bus Bases	Construction Circle Bus Base Zero-Emission Upgrades			
Total CCI							
Passenger VMT Reductions (miles)							
Fossil Fuel Use Reductions (gallons)	888,025	569,678					1,457,703
Fossil Fuel Energy Use Reductions (kWh)	(6,153,202)	(3,691,921)	126,925,660	654,820			117,735,358
Energy and Fuel Cost Savings ($)	$1,389,133	$914,363	$11,537,542	$59,523			$13,900,562
Passenger Travel Cost Savings ($)							
ROG Emission Reductions (lbs)	12	8					20
NO_x Emission Reductions (lbs)	9,257	6,016					15,272
$PM_{2.5}$ Emission Reductions (lbs)	329	169	50,694	676			51,868
Diesel PM Emission Reductions (lbs)							
TIRCP							
Passenger VMT Reductions (miles)							
Fossil Fuel Use Reductions (gallons)	888,025	569,678					1,457,703
Fossil Fuel Energy Use Reductions (kWh)	(6,153,202)	(3,691,921)	126,925,660	654,820			117,735,358
Energy and Fuel Cost Savings ($)	$1,389,133	$914,363	$11,537,542	$59,523			$13,900,562
Passenger Travel Cost Savings ($)							
ROG Emission Reductions (lbs)	12	8					20
NO_x Emission Reductions (lbs)	9,257	6,016					15,272
$PM_{2.5}$ Emission Reductions (lbs)	329	169	50,694	676			51,868
Diesel PM Emission Reductions (lbs)							

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Project Name:	Stabilize Rail and Bus Operations

Input	Description	Quantifiable Component 1: Subcomponent 1		Quantifiable Component 1: Subcomponent 2		Quantifiable Component 1: Subcomponent 3	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Open Payment System and Smart Fareboxes					
Funding Inputs							
TIRCP Funds Requested ($)	Total TIRCP funds requested for this separable component.	$26,500,000					
Total Project Cost ($)	Total cost of this separable component.	$26,500,000					
Additional CCI Program 1, if applicable							
CCI Program	Other CCI Program from which project has or will be requesting GGRF funds.						
Additional GGRF Funds ($)	Total GGRF funds requested or to be requested from Additional CCI Program 1.						
Additional CCI Program 2, if applicable							
CCI Program	Other CCI Program from which project has or will be requesting GGRF funds.						
Additional GGRF Funds ($)	Total GGRF funds requested or to be requested from Additional CCI Program 2.						
Total GGRF Funds Requested ($)	Total GGRF funds requested from all CCI Programs	$26,500,000					
Project Info Inputs		**Input**		**Input**		**Input**	
Project Type	For the purposes of this quantification, eligible TIRCP projects fall into four project types. Select the project type that best describes this component.	System and Efficiency Improvements					
Service Type	The transit service (e.g., Intercity/Express Bus (Long Distance), Light Rail, Vanpool, etc.) directly associated with the proposed project. For projects that serve multiple services, select Multi-modal.	Local/ Intercity Bus (Short Distances)					
Type of Region	The type of region that best encompasses the geographic location for the proposed project type.	County					
Region	The County or Air Basin where the majority of the service occurs.	Orange					
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2023					
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2035					
Useful Life (yrs)	The number of years the service is funded or the useful life of the facility or rolling stock. Limited to up to 50 years.	12					
Displaced Passenger Auto VMT Inputs		**Input**	**Documentation**	**Input**	**Documentation**	**Input**	**Documentation**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	28,677,600	OCTA 2023 ridership estimate				
YrF Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the final year. If the ridership is not expected to change, Yr1 and YrF should be the same value.	29,824,704	OCTA assumes a one time 4% increase in ridership attributed to the project				
Adjustment Factor	Discount factor applied to annual ridership to account for transit-dependent riders. Use: Document project-specific data or system average developed from a recent, statistically valid survey or default.	0.56	Lookup Tables, Bus (Local), Transit Bus				

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Project Name:	Stabilize Rail and Bus Operations

Input	Description	Quantifiable Component 2: Subcomponent 1	Quantifiable Component 2: Subcomponent 2	Quantifiable Component 2: Subcomponent 3
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	OC Bus Operations Start-up: Connections to OC Streetcar		
		Funding Inputs		
TIRCP Funds Requested ($)	Total TIRCP funds requested for this separable component.	$6,072,000		
Total Project Cost ($)	Total cost of this separable component.	$6,072,000		
		Additional CCI Program 1, if applicable		
CCI Program	Other CCI Program from which project has or will be requesting GGRF funds.			
Additional GGRF Funds ($)	Total GGRF funds requested or to be requested from Additional CCI Program 1.			
		Additional CCI Program 2, if applicable		
CCI Program	Other CCI Program from which project has or will be requesting GGRF funds.			
Additional GGRF Funds ($)	Total GGRF funds requested or to be requested from Additional CCI Program 2.			
Total GGRF Funds Requested ($)	Total GGRF funds requested from all CCI Programs	$6,072,000		
Project Info Inputs		**Input**	**Input**	**Input**
Project Type	For the purposes of this quantification, eligible TIRCP projects fall into four project types. Select the project type that best describes this component.	New Service		
Service Type	The transit service (e.g., Intercity/Express Bus (Long Distance), Light Rail, Vanpool, etc.) directly associated with the proposed project. For projects that serve multiple services, select Multi-modal.	Local/ Intercity Bus (Short Distances)		
Type of Region	The type of region that best encompasses the geographic location for the proposed project type.	County		
Region	The County or Air Basin where the majority of the service occurs.	Orange		
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2024		
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2031		
Useful Life (yrs)	The number of years the service is funded or the useful life of the facility or rolling stock. Limited to up to 50 years.	7		

Displaced Passenger Auto VMT Inputs		Input	Documentation	Input	Documentation	Input	Documentation
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	825,995	2,664,500 OC Streetcar trips x 31% estimated transfers from the OC				
YrF Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the final year. If the ridership is not expected to change, Yr1 and YrF should be the same value.	5,781,500	825,995 annual trips x 7 years (SB 125 will support 7 years of operations)				
Adjustment Factor	Discount factor applied to annual ridership to account for transit-dependent riders. Use: Document project-specific data or system average developed from a recent, statistically valid survey or default.	0.56	Lookup Tables, Bus (Local), Transit Bus				
Length of Average Trip (mi)	Annual passenger miles over unlinked trips directly associated with the proposed project.	3.35	Lookup Tables, OCTA MB DO				
New Service Vehicle Inputs		**Input**	**Documentation**	**Input**	**Documentation**	**Input**	**Documentation**
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Transit Bus					
Engine Tier	The engine tier for the vehicle(s) that will operate the new service.						
Engine Horsepower	The engine horsepower rating for the vehicle(s) that will operate the new service.						
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new service, or of the new vehicle(s) to be procured.	CNG					
Hybrid Vehicle	Is the vehicle for the new service, or vehicle(s) to be procured, a hybrid? (Only applicable to non-zero emission fuel types)	No					
Model Year	The engine model year of the vehicle that will operate the new service, or of the new vehicle(s) to be procured.	2008					
Project-Specific GHG Emission Factor (gCO2e/MJ)	If used, applicant must be able to demonstrate an approved carbon intensity value under the Low Carbon Fuel Standard and submit additional documentation.						
Annual VMT (mi/yr)	The estimated annual VMT required to operate the new service or of the new vehicle(s) to be procured (e.g., 72,000). For rail and ferry vehicles, applicants may alternatively use Annual Fuel. For vehicles with multiple engines (e.g., DMUs), provide the cumulative VMT across all the engines.	350,000	7 buses x 50,000 VMT per bus				
Annual Fuel Use	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000). Units of gallons for biodiesel, diesel, gasoline, LNG, renewable diesel; scf for CNG and renewable natural gas; kWh for electric; kg for hydrogen.						

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Project Name:	Stabilize Rail and Bus Operations

Input	Description	Quantifiable Component 3: Subcomponent 1		Quantifiable Component 3: Subcomponent 2		Quantifiable Co
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	OC Streetcar Operations and Maintenance				
Funding Inputs						
TIRCP Funds Requested ($)	Total TIRCP funds requested for this separable component.	$59,280,000				
Total Project Cost ($)	Total cost of this separable component.	$160,669,000				
Additional CCI Program 1, if applicable						
CCI Program	Other CCI Program from which project has or will be requesting GGRF funds.					
Additional GGRF Funds ($)	Total GGRF funds requested or to be requested from Additional CCI Program 1.					
Additional CCI Program 2, if applicable						
CCI Program	Other CCI Program from which project has or will be requesting GGRF funds.					
Additional GGRF Funds ($)	Total GGRF funds requested or to be requested from Additional CCI Program 2.					
Total GGRF Funds Requested ($)	Total GGRF funds requested from all CCI Programs	$59,280,000				
Project Info Inputs		**Input**		**Input**		
Project Type	For the purposes of this quantification, eligible TIRCP projects fall into four project types. Select the project type that best describes this component.	New Service				
Service Type	The transit service (e.g., Intercity/Express Bus (Long Distance), Light Rail, Vanpool, etc.) directly associated with the proposed project. For projects that serve multiple services, select Multi-modal.	Streetcar				
Type of Region	The type of region that best encompasses the geographic location for the proposed project type.	County				
Region	The County or Air Basin where the majority of the service occurs.	Orange				
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2024				
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2031				
Useful Life (yrs)	The number of years the service is funded or the useful life of the facility or rolling stock. Limited to up to 50 years.	7				
Displaced Passenger Auto VMT Inputs		**Input**	**Documentation**	**Input**	**Documentation**	**Input**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	2,664,500	365 days x 7,300 daily trips (approximately 86% of pre-pandemic			
YrF Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the final year. If the ridership is not expected to change, Yr1 and YrF should be the same value.	18,651,500	2,664,500 annual trips x 7 years (SB 125 will support 7 years of operations)			
Adjustment Factor	Discount factor applied to annual ridership to account for transit-dependent riders. Use: Document project-specific data or system average developed from a recent, statistically valid survey or default.	0.56	Lookup Tables, Bus (Local), Transit Bus			
Length of Average Trip (mi)	Annual passenger miles over unlinked trips directly associated with the proposed project.	3.35	Lookup Tables, OCTA MB DO			
New Service Vehicle Inputs		**Input**	**Documentation**	**Input**	**Documentation**	**Input**
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Streetcar				
Engine Tier	The engine tier for the vehicle(s) that will operate the new service.					
Engine Horsepower	The engine horsepower rating for the vehicle(s) that will operate the new service.					
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new service, or of the new vehicle(s) to be procured.	Electric				
Hybrid Vehicle	Is the vehicle for the new service, or vehicle(s) to be procured, a hybrid? (Only applicable to non-zero emission fuel types)	N/A				
Model Year	The engine model year of the vehicle that will operate the new service, or of the new vehicle(s) to be procured.					
Project-Specific GHG Emission Factor (gCO2e/MJ)	If used, applicant must be able to demonstrate an approved carbon intensity value under the Low Carbon Fuel Standard and submit additional documentation.					
Annual VMT (mi/yr)	The estimated annual VMT required to operate the new service or of the new vehicle(s) to be procured (e.g., 72,000). For rail and ferry vehicles, applicants may alternatively use Annual Fuel. For vehicles with multiple engines (e.g., DMUs), provide the cumulative VMT across all the engines.	332,015				
Annual Fuel Use	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000). Units of gallons for biodiesel, diesel, gasoline, LNG, renewable diesel; scf for CNG and renewable natural gas; kWh for electric; kg for hydrogen.					

California Air Resources Board

Benefits Calculator Tool for the
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California Climate Investments

Project Name:	Stabilize Rail and Bus Operations

	Quantified GHG Component 1	Quantified GHG Component 2	Quantified GHG Component 3	Quantified GHG Component 4	Quantified GHG Component 5	Quantified GHG Component 6	Total Project
Identifying Descriptor	Open Payment System and Smart Fareboxes	OC Bus Operations Start-up: Connections to OC Streetcar	OC Streetcar Operations and Maintenance				
GHG Emission Reduction Start Date (Year)	2023	2024	2024				
Total CCI							
Total GHG Emission Reductions ($MTCO_2e$)	232,714	9,625	31,724				274,063
Total GGRF Funds Requested ($)	$26,500,000	$6,072,000	$59,280,000				$91,852,000
Total GHG Emission Reductions/Total GGRF Funds Requested ($MTCO_2e$/$)	0.008782	0.001585	0.000535				0.002984
TIRCP							
TIRCP GHG Emission Reductions ($MTCO_2e$)	232,714	9,625	31,724				274,063
TIRCP Funds Requested ($)	$26,500,000	$6,072,000	$59,280,000				$91,852,000
TIRCP GHG Emission Reductions/TIRCP Funds Requested ($MTCO_2e$/$)	0.008782	0.001585	0.000535				0.002984
TIRCP Funds Requested/TIRCP GHG Emission Reductions ($/$MTCO_2e$)	114	631	1,869				335
Additional CCI Program 1							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO2e)							
Total Additional GGRF Funds to Implement Project ($)							
Additional CCI Program 2							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO2e)							

California Air Resources Board

Benefits Calculator Tool for the
Transit and Intercity Rail Capital Program

California Climate Investments

Project Name:	Stabilize Rail and Bus Operations

	Quantified Co-Benefit Component 1	Quantified Co-Benefit Component 2	Quantified Co-Benefit Component 3	Quantified Co-Benefit Component 4	Quantified Co-Benefit Component 5	Quantified Co-Benefit Component 6	Total Project
Identifying Descriptor	Open Payment System and Smart Fareboxes	OC Bus Operations Start-up: Connections to OC Streetcar	OC Streetcar Operations and Maintenance				
Total CCI							
Passenger VMT Reductions (miles)	659,677,830	43,462,285	140,210,786				843,350,901
Fossil Fuel Use Reductions (gallons)	20,950,386	844,803	4,191,668				25,986,858
Fossil Fuel Energy Use Reductions (kWh)			(50,940,642)				(50,940,642)
Energy and Fuel Cost Savings ($)		($997,295)	($4,630,504)				($5,627,799)
Passenger Travel Cost Savings ($)	$382,613,141	$25,208,125	$81,322,256				$489,143,523
ROG Emission Reductions (lbs)	10,333	497	1,622				12,452
NO_x Emission Reductions (lbs)	46,965	(1,962)	7,832				52,835
$PM_{2.5}$ Emission Reductions (lbs)	27,395	1,564	5,792				34,751
Diesel PM Emission Reductions (lbs)	60	3	10				73
TIRCP							
Passenger VMT Reductions (miles)	659,677,830	43,462,285	140,210,786				843,350,901
Fossil Fuel Use Reductions (gallons)	20,950,386	844,803	4,191,668				25,986,858
Fossil Fuel Energy Use Reductions (kWh)			(50,940,642)				(50,940,642)
Energy and Fuel Cost Savings ($)		($997,295)	($4,630,504)				($5,627,799)
Passenger Travel Cost Savings ($)	$382,613,141	$25,208,125	$81,322,256				$489,143,523
ROG Emission Reductions (lbs)	10,333	497	1,622				12,452
NO_x Emission Reductions (lbs)	46,965	(1,962)	7,832				52,835
$PM_{2.5}$ Emission Reductions (lbs)	27,395	1,564	5,792				34,751
Diesel PM Emission Reductions (lbs)	60	3	10				73