CAPITOL CORRIDOR JOINT POWERS AUTHORITY
300 LAKESIDE DRIVE
14TH FLOOR EAST
OAKLAND, CA 94612
(V) 510.464.6995
(F) 510.464.6901
www.capitolcorridor.org

January 11, 2018

Mr. Ezequiel Castro, Acting Chief
Division of Rail and Mass Transportation
Office of State Transit Programs and Plans (MS 39)
P.O. Box 942874
Sacramento, CA 94274-0001

Subject: Submittal: Capitol Corridor Joint Powers Authority Transit and Intercity Rail Capital Program Grant Application for the Northern California Corridor Enhancement Program

Dear Mr. Castro:

As one of the three California Intercity Passenger Rail (CA IPR) managing agencies, the Capitol Corridor Joint Powers Authority (CCJPA) is pleased to present our 2018 Transit and Intercity Rail Capital Program (TIRCP) grant application entitled *The Northern California Corridor Enhancement Program*.

The CCJPA's Northern California Corridor Enhancement Program proposes three subprojects. CCJPA is not alone in presenting these subprojects –each one is built upon critical peer agency partnerships. In combination and independently, these projects significantly reduce Vehicle Miles Travelled (VMT) and GHG emissions while enhancing the quality of life for all Californians. The subprojects are:

- Sacramento to Roseville Third Track Phase 2 and SR 51 Widening
- Oakland to San Jose Service Expansion Phase 2A
- Statewide Integrated Travel Program

<u>Sacramento to Roseville Third Track Phase 2 and SR 51 Widening</u>

With the first phase of the Sacramento to Roseville Third Main Track funded and underway, the CCJPA is prepared, along with Caltrans District 3, to seek pre-construction funding for the second phase of the SR3T Project and the widening of SR 51 (Cap City Freeway). These related sub-projects have co-joined physical elements (rebuilt rail bridges across a widened SR 51) where working together will provide for project efficiencies. Cost savings will accrue for both of these regionally significant (and shared travel market) transportation sub-projects. With this funding request, both sub-projects are efficiently placed on the same project phase timeline completing all pre-construction phases of work. Funding this critical work now will allow CCJPA and Caltrans District 3 to advance into the construction phase where up to ten Capitol Corridor round trips and a widened SR 51 will reduce vehicle congestion, accommodate HOV bus priority lanes, and provide a much-needed new bicycle access bridge across the American River. Both sub-projects have long been identified (separated from each other) in respective SACOG planning documents as critical projects for the Sacramento Region. Now with the synergy between the sub-project and the agencies leading them, the TIRCP application is an ideal way to cost-effectively and efficiently link these regional solutions together.

Oakland to San Jose Service Expansion Phase 2A

The Oakland to San Jose Service Expansion Phase 2A sub-project includes all project phases through construction. It will reroute Capitol Corridor service between Oakland and Fremont/Newark from the Union Pacific Railroad (UPRR) Niles Subdivision to the UPRR Coast Subdivision. This will result in reducing travel time between Oakland and Fremont/Newark by nearly 15 minutes, allowing a traveler to get from Oakland to Santa Clara in less than half an hour and to San Jose in less than 45 minutes. The subsequent relocation of UPRR freight operations from the Coast Subdivision to the Niles Subdivision will separate freight and passenger rail operations to optimize both services while increasing safety and efficiency. Construction of a new station at Fremont/Newark will provide the opportunity to enhance and expand intermodal transit connections across the Highway 84 Dumbarton Bridge to the Peninsula, allowing public and private bus shuttles to reduce their travel time. As one example, the construction of this project would make it feasible for a passenger to travel from Oakland to Menlo Park and Palo Alto in 50 minutes.

CCJPA is partnering with the Alameda County Transportation Commission (ACTC) in their pursuit to optimize the freight and passenger rail network in Alameda County, as the Oakland to San Jose Phase 2A project fulfills a key goal of ACTC's forthcoming Rail Strategy Study. In addition to ACTC, CCJPA is also partnering with the Alameda-Contra Costa Transit District (AC Transit), Caltrans District 4, and the cities of Newark and Fremont to collaborate on building and delivering a new intermodal transit center connecting rail and express bus services at the foot of the Dumbarton Bridge. A robust, multi-modal transportation network is needed to support the ever-increasing jobs and population growth in the Bay Area, while decreasing congestion and environmental impacts to the region. As such, completion of the Oakland to San Jose Phase 2A Project fulfills key transportation goals identified in the following countywide, regional, and state plans, which all acknowledge the need to connect people and jobs throughout the Bay Area:

- ACTC's Countywide Transportation Plan
- ACTC's Countywide Transit Plan
- ACTC's Goods Movement Plan
- Metropolitan Transportation Commission's (MTC) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), Plan Bay Area 2040 (PBA 2040)
- Draft 2018 State Rail Plan

Statewide Integrated Travel Program

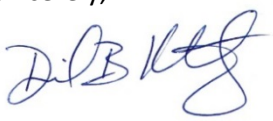
Using previous TIRCP funding, the CCJPA, working with CalSTA/Caltrans Division of Rail and Mass Transportation as co-leads, has delivered a phase one study of best practices for California based on interviews and research with European countries and operators who have developed integrated travel solutions. All indications from the research suggest that a smart-phone application with an account-based management solution is, by far, the most customer friendly and cost-effective solution available. These phase one results spurred CCJPA along with CalSTA/Caltrans to fund a phase two of this work. Phase two of the work, underway now, continues the research process, but is largely focused on developing a Congress for transit operators and partners within California. The role of the Integrated Travel Congress is to expose attendees to the key concepts of integrated travel and use direct feedback to develop a pilot program that will operate on a statewide basis with a few initial transit and rail operators. Thus, this sub-project is for the CCJPA to request funds to both develop (phase three) and launch (phase four) a pilot integrated travel program for the three CA IPR services and five transit agencies with linkages to the CA IPR network.

Initially the CCJPA will presume the role of the responsible agency for this task, however, it will be critical for an entity working on behalf of the state, with CalSTA and Caltrans, to be established to finish this critical work which is a key foundation to the 2018 Draft State Rail Plan and emerging State Transit Plan. The CCJPA is poised to work as a partner to CalSTA/Caltrans, the other CA IPR services, and the selected pilot transit partners, as well as help to form and handoff the integrated travel responsibilities to a new entity. CCJPA has presented a researched staffing and resource plan that will, after a two-year development process, launch the pilot program. Thereafter, the incremental cost to bring additional publicly available transportation options will be extremely cost effective while continually adding to the integrated travel ecosystem within California.

Documentation from 2009 from around the world as to the benefit of travel integration shows impressive ridership gains and important cost reductions for each transit service that undertook such an initiative. Worldwide, from a 2009 report, ridership gains started at 3% and some went up to 11% due to integration. Now, with the explosion of smart-phone ownership and the advance of technology into individual consumer's hands, the opportunity for California is greater than even prior documentation has shown. In this application we conservatively selected a uniform 2% ridership increase and do not account for the cost-effective rollout of integration via a smartphone application (due to lack of discoverable documentation). For the entire state, like has been seen in various European and Asian countries, the ITP can transform and enhance our publicly available transportation options, reduce VMT, reduce GHG emissions, and improve mobility for residents and visitors to California.

As a partner to the many individuals and agencies that have worked with CCJPA to date on these subprojects, the CCJPA hereby presents the CCJPA Northern California Corridor Enhancement Program as our 2018 TIRCP application pursuant the guidelines established for the TIRCP grant program. I additionally certify that the costs shown in the application are accurate and are based on prooven engineering/planning cost estimation tools. We respectfully request you and your staff's thoughtful consideration of this application. Please feel free to reach out to me or Jim Allison, Manager of Planning (jima@capitolcorridor.org, 510-464-6994) if you have any questions

Sincerely,



David Kutrosky
Managing Director

BEFORE THE
CAPITOL CORRIDOR JOINT POWERS AUTHORITY
BOARD OF DIRECTORS

In the Matter of Authorizing the Submittal of
Applications from the 2018 SB1 Call for Projects to
Support Capitol Corridor Service Expansion and Enhancements/ Resolution No. 17-22

WHEREAS, the passage of SB 1 has provided CCJPA and project partners access to a wide variety of funding programs each with unique eligibility requirements that can be combined to support CCJPA's service expansion goals aligned with those in the Vision Implementation Plan; and

WHEREAS, the State Railroad Assistance (SRA) and Transit and Intercity Rail Capital Program (TIRCP) are SB 1 fund sources for which CCJPA is eligible to apply; and

WHEREAS, CCJPA has been working with Caltrans, Alameda County Transportation Commission, Metropolitan Transportation Commission, Sacramento Area Council of Governments, Placer County Transportation Planning Agency, AC Transit and the cities of Fremont and Newark to secure SB1 and other available funds to advance the development of the service expansion plans for the Capitol Corridor trains to Roseville and San Jose/Silicon Valley; and

WHEREAS, a Call for Projects has been activated for 2018 SRA and TIRCP funds in October 2017 and other SB1 funds are set to be released for applications in early 2018; and

WHEREAS, it is the intent of the CCJPA to submit applications or support applications in the pursuant of the 2018 SB1 Call for Projects to finance those tasks for the projects listed in the table below; and

PROJECT	Total Budget	2018 Application?	SB1			Fed	Local	Regional
			SRA	TIRCP	Other	Rail	CCJPA	RM3
Sacramento-Roseville 3rd Track– Phase 2	$195M	Design/Env'l	X	X	X	X	X	
Oakland-San Jose Project – Phase 2A	$210M	Env'l/Construct	X	X	X	X	X	X
Integrated Ticketing (Phase 3) [1.5 yrs]	$0.7M	Design		X			X	
UPRR Right-of-Way Maintenance [annual]	$1M	Env'l/Construct	X					
CA PIDS Replacement/Upgrade [2 yrs]	$1.7M	Construct	X				X	
UPRR Signal System Upgrade [10 yrs]	$1.9M	Construct	X			X	X	

RESOLVED, that the CCJPA Board does hereby authorize the CCJPA Executive Director or her designee to submit and provide support for applications in response to the 2018 SB1 Call for Projects that will advance those projects identified in the table above; and.

BE IT FURTHER RESOLVED, that the CCJPA Board transmits this resolution to all applicable project partners for the submittal of such authorized applications.

# # #

ACTION: Adopted DATE: November 15, 2017	**ATTEST:**
Ayes: (13): Frerichs; Miller; Holmes; Saylor; Peralez; O'Neill; Allen; Josefowitz; Keller; Raburn; Saltzman; Price; Augustine	
Noes: (0)	**Kenneth A. Duron**
Abstain: (0)	**Secretary**

CAPITOL CORRIDOR JOINT POWERS AUTHORITY
Application for 2018 Transit and Intercity Rail Capital Program Funds

Northern California Corridor Enhancement Program

PROJECT NARRATIVE

A. Project Title Page

Project Title
The **Northern California Corridor Enhancement Program** (NCCEP) includes intercity passenger rail projects that the Capitol Corridor Joint Powers Authority (CCJPA) can advance in the FY19-23 timeframe in support of achieving 2040 goals included in CCJPA's Vision Plan and the Draft 2018 State Rail Plan. The following specific subprojects will enhance Capitol Corridor service along its entire rail corridor spanning from Auburn to San Jose, as well as the State's intercity passenger rail network and key transit partners throughout the entire State of California:

1. Sacramento to Roseville Third Track Phase 2 (SR3T) and State Route (SR) 51 Widening Projects: Design and Environmental Phases
2. Oakland to San Jose Service Expansion (OKJ-SJC) Phase 2A Project: Design, Environmental, and Construction Phases
3. Statewide Integrated Travel Program (ITP): Development and Implementation

Applicant Name
The Capitol Corridor Joint Powers Authority, which manages the system and oversees Amtrak's operation of Capitol Corridor.

Project Priority
The Capitol Corridor Joint Powers Authority is submitting a single application for the TIRCP program.

Project Purpose and Need

Introduction
Capitol Corridor Joint Powers Authority (CCJPA), created through State legislation, operates intercity passenger trains in a 170-mile corridor that extends from San Jose to Auburn. CCJPA operates 30 trains per day serving 18 stations in 8 Northern California counties. In providing motor coach services in conjunction with passenger rail, CCJPA encompasses the second largest urban service area in the western United States.

CCJPA passenger trains operate mostly over the host Union Pacific Railroad (UPRR) with the most southern 2.5 miles owned by Caltrain. The service is provided through an operating agreement with AMTRAK financed by funds from the CCJPA that are allocated by funds from the California State Transportation Agency (CalSTA). The other source of funds to support the operation is through passenger revenues which support nearly 60% of the operation.

Under the CCJPA's management, the Capitol Corridor intercity passenger rail service is the third busiest ridership route in the Amtrak national system and provides a safe, comfortable, reliable, and lower emission alternative to motor vehicle travel in the I-80, I-580, I-680, and I-880 highway corridors that link major metropolitan areas in Northern California, including Sacramento, Oakland, San Francisco, and San Jose. As such, Capitol Corridor trains have become critical components to the State's efforts to reduce vehicle miles travelled, mitigate congestion, and lower criteria air pollutants in the region and State.

In particular, the State of California has recognized the long-term importance of reducing greenhouse gas (GHG) emissions as a major factor in countering the effects of global warming. Through significant

legislation and executive orders, California has created a plan and mandates reduction of the State's GHG emissions through investment in cleaner fuels and more efficient use of energy.

The recent passage of Senate Bill 1 (SB1) has presented California with a significant enhancement of the funding available to State, regional, and local agencies for transportation improvement projects, and in particular provides a major funding boost to the Transit and Intercity Rail Capital Program (TIRCP). Underscored by the introduction of the Draft 2018 State Rail Plan[1], there is a unique opportunity to invest in projects that will enhance service and capacity, relieve congestion, reduce GHG and other emissions, and significantly improve the quality of life for all Californians.

This unprecedented legislation encourages the partnership of State and regional agencies and transit operators across transportation modes to take full advantage of the synergy and economies of scale available through cooperative multimodal projects. CCJPA, through its on-going capital investment programming and its long-term Vision Plan[2] and Vision Implementation Plan[3], and consistent with the Draft 2018 State Rail Plan has developed a series of enhancement projects across its service corridor and across the State IPR services and for key transit operators that will individually and collectively enhance intercity passenger rail (IPR) services and select transit services, increase rail and transit ridership, and reduce GHG and other emissions.

CCJPA's proposed Northern California Corridor Enhancement Program's suite of projects, undertaken in partnership with the host railroad UPRR and public agency partners along the corridor, will not only enhance the CCJPA operations, but will lay the necessary foundation for achieving elements of longer term, multimodal infrastructure projects. Completion of the subprojects described in this application will be beneficial on their own but will also start CCJPA down the path of satisfying longer-term service objectives – objectives found in the CCJPA's Vision Plan and identified in the Draft 2018 State Rail Plan. Both the CCJPA Vision Plan and the Draft 2018 State Rail Plan contain all the critical transportation elements to change transportation in the Northern California Megaregion and these subprojects are the beginning of that transformation. The funding provided through this application for the Transit and Intercity Capital Rail Program (TIRCP), in combination with the State Rail Assistance (SRA) allocated to CCJPA and local and regional funding support, will contribute the initial resources to support subsequent investment for the projects through partnerships with the California Department of Transportation (Caltrans), Alameda County Transportation Commission (Alameda CTC), Alameda-Contra Costa Transit District (AC Transit), the other JPA-led CA IPR services, and other agencies and cities throughout California.

Scope of Work
The CCJPA is requesting funds for the following three projects under the Northern California Corridor Enhancement Program:

Sacramento to Roseville Third Track (SR3T) Phase 2 and State Route (SR) 51 Widening Projects
Pursuant to various policy initiatives in SB1, the CCJPA and Caltrans, District 3, have chosen to pair a rail expansion and a highway widening project in order to maximize the benefits of both projects, which also have transit and active transportation elements and benefits. The rail element, SR3T Phase 2, continues the SR3T project that will ultimately construct a new UPRR third main track between Sacramento and Roseville, which will allow CCJPA to expand its daily services from the current one (1)

[1] http://www.dot.ca.gov/californiarail/docs/CSRP_PublicReleaseDraft_10112017.pdf

[2] https://www.capitolcorridor.org/wp-content/uploads/2016/12/CCJPAVisionPlan_Volume1.pdf

[3] https://www.capitolcorridor.org/wp-content/uploads/2016/12/CCVIP-FINAL-REPORT.pdf

round trip per day to ten (10) round trips per day. The SR 51 Highway Widening element will include a variety of lane additions and modifications to improve a key freeway congestion point in Sacramento with a bicycle path on the portion of the project crossing the American River. Additionally, Caltrans is seeking to support transit operations by allowing Sacramento Regional Transit (RT) buses to operate on the shoulder up to 35 miles per hour or in an auxiliary lane, depending on feasibility. Together, these project elements serve linked multi-modal market corridors as well as physical infrastructure and timing that make the pairing well suited to a variety of SB1 funding sources – this TIRCP application is the first utilization of this project pairing and coordination. The pairing correctly recognizes Sacramento area transportation as a system with modes and choices that, if they are working together, can achieve better transportation and air quality outcomes and more cost-effective capital expenditure results.

The first Phase of the SR3T as developed by the CCJPA and UPRR includes the modification of the Roseville Station and constructs the rail yard improvements in Roseville as well as the first 8 miles of the new third track. The funding plan for Phase 1 was secured through the allocation of 2016 TIRCP and available Proposition 1B and 1A funds. Phase 1 of the project has recently commenced final design and includes programmed funds that take this project phase through construction. This will allow CCJPA to increase daily services between Sacramento and Roseville to two (2) round trips per day.

The SR3T Phase 2 element of this application will prepare final design, NEPA clearances and required permits necessary for the construction phase of the project, which will complete the construction of the third track, and allow the full expansion of the CCJPA services to 10 round trips between Sacramento and Roseville per day. Notable in this proposed design effort will be the design and environmental permitting of a new rail bridge crossing the American River. Final construction for Phase 2 is not a part of this application; however, all pre-construction phases for Phase 2 are part of the funding requested in this application. Caltrans, District 3's SR 51 widening project is in the same phase as CCJPA – working to complete its pre-construction activities, including environmental clearances.

Caltrans District 3 is currently planning a major improvement program for State Route 51, also known as the Business 80 Corridor or Capital City Freeway in Sacramento. This project will widen the existing freeway to provide car pool lanes, auxiliary, and transition lanes and will widen the existing American River Bridge with the addition of a bicycle lane. Caltrans is currently exploring the potential to allow Sacramento Regional Transit (RT) buses to operate over the bridge in the shoulder, with a maximum speed of 35 miles per hour, or in an auxiliary lane. The freeway widening will directly affect two existing railroad bridges that cross over SR51 as well as a required third new railroad bridge which will be constructed to accommodate the new third main track as part of the SR3T Phase 2 project. The length of these three rail bridges will have to be extended to as part of the Caltrans SR51 project. Another rail bridge that crosses SR 51 closer to the Midtown and East Sacramento neighborhoods will also require modification as the freeway is widened; however, there are no direct needs to increase the capacity of that rail bridge with the SR3T Phase 2 project, though coordination with UPRR, Caltrans, District 3, and CCJPA will be paramount.

The new railroad bridge and SR51 highway bridge structures crossing the American River are in close proximity to each other and will be considered as related projects in the analysis for NEPA clearances and permits for the respective projects. Together, environmental permitting, shared markets serving corridors across modes, the varieties of bridge construction, and timing of the two project elements has resulted in a unique opportunity for Caltrans and CCJPA to partner in identifying cost efficiencies, pursuing funding, and jointly undertake the NEPA and permitting analysis requirements for both projects in the pre-construction phases. When it comes time for construction and pursuit of future funding applications, this partnership will allow significant time and cost savings for both projects and capitalize on the synergies

and economies of scale resulting from intermodal partnerships anticipated in both SB1 and the Draft 2018 State Rail Plan and forthcoming State Transit Plan.

These two projects, although in different modes, will lay the groundwork for construction allowing the operational project to solve or realize long-standing opportunities identified for the Sacramento Region, and indeed, for the Northern California Megaregion. SR51, more commonly known as Business 80 or Capital City Freeway, is near the top of the list as the most congested highway corridor within the region. It constrains both transit service as well as automobile and truck traffic and there is no present accommodation of bicycle crossing of the American River in this portion of the region. The designs proposed are expected to aid traffic flow over current conditions, but more importantly, has the potential to prioritize high-occupancy and transit vehicles regardless of traffic levels as well as accommodate bicycle access. This vital link, if improved, serves a parallel corridor to the Roseville to Sacramento portion of the Capitol Corridor service. Beyond the shared modal benefits, the potential to more cost effectively deliver two significant regional projects to the Sacramento Region is a rare opportunity of timing and partnership in accordance with SB1 funding objectives across multiple funding programs within SB1. The chance to environmentally clear and complete design for two linked multi-modal projects to satisfy long-standing transportation objectives for the Sacramento Region and Northern California Megaregion will never be more aligned than at present.

Oakland to San Jose Service Expansion Project (OKJ-SJC) Phase 2A

Further south along Capitol Corridor in Alameda County, CCJPA is proposing a project to re-align their service route from its existing Union Pacific Railroad (UPRR) Niles Subdivision line to the UPRR Coast Subdivision with adjustments to stations served with the service realignment. This new routing will create a faster link from Oakland to Fremont/Newark, Santa Clara, and San Jose by reducing travel time for passenger trains by 13 minutes. This project will provide an attractive alternative to driving through the Bay Area's 5th most congested corridor, according to the Metropolitan Transportation Commission (MTC), and the reduction of vehicle miles travelled through this congested corridor will result in increased ridership on CCJPA trains and lower GHG emissions throughout the East Bay. This project will also be a cornerstone for a new intermodal transit center at Fremont/Newark connecting existing rail with express bus and private shuttle service, enhancing the connection from Alameda County to the Peninsula across the Dumbarton Corridor. TIRCP funds will be part of the overall funding for CCJPA and its public partners to complete the design, environmental review, entitlements and construction of the OKJ-SJC Phase 2A project.

As identified in the CCJPA Vision Plan and Vision Implementation Plan, the current routes used by freight and Capitol Corridor trains in the Oakland to Newark territory present capacity conflicts for both freight and passenger rail modes. Currently, UPRR freight trains running between the Port of Oakland and the San Joaquin Valley primarily use the lengthier Coast Subdivision to later get to the Niles Subdivision, whereas Capitol Corridor trains use the lengthier Niles Subdivision to later get to the Coast subdivision. These routing conflicts reduce capacity overall and especially impact the Centerville neighborhood of Fremont, California, as both rail services cross over through the City of Fremont to ultimately reach their intended destinations. This project seeks to build the necessary infrastructure for both freight and Capitol Corridor passenger operations to be run far more efficiently, thus better serving their respective markets.

The freight component of this project includes significant improvements that will be made to the UPRR Niles and Oakland Subdivision to allow UPRR freight trains to use the Niles as their primary freight route. This will result in fewer miles travelled by freight trains and reduce congestion on the Coast route resulting in lower GHG emissions. On the passenger side, the Capitol Corridor service will now operate exclusively on the Coast Subdivision, which will similarly result in fewer miles travelled by passenger

trains, resulting in faster service and a reduction in GHG emissions. Specific OKJ-SJC Phase 2A rail improvements include upgrading the Coast Subdivision from Elmhurst Mile Post (MP) 13.6 to Newark Junction MP 31.4. The work will include track and tie replacements, security fencing, signal upgrades and a new passing siding. Required rail freight mitigation measures will include a new connection between the Niles and Oakland Subdivisions at Industrial Parkway (MP24.0) and a new connection at Shinn (MP30.1), all of which compart with an extensive Alameda CTC led planning effort to improve freight and passenger rail service with targeted investments.

Under the new alignment, CCJPA will eliminate service to two existing stations at Fremont/Centerville and at Hayward (both served by BART, which is extending service into Santa Clara County beginning in 2018) and will replace them with an upgraded multi-modal (rail/bus/Park & Ride) station at the location of an existing Park & Ride facility on the city borders of Fremont and Newark, CA, providing an enhanced connection to transit service to the Peninsula. Circulation and access between modes of travel will be enhanced at the new intermodal Fremont/Newark station and travel times for public and private bus patrons will be significantly reduced. CCJPA will construct a new rail single track side platform at-grade on the Coast Subdivision at SR 84 (Dumbarton Bridge approach) adjacent to the current AC Transit Ardenwood Park & Ride facility.

With project partners, including Caltrans, District 4, AC Transit, the City of Fremont, and the City of Newark, CCJPA will seek to upgrade the existing parking accommodations at the Park & Ride facility by accommodating two stories of parking and continuing to allow for local bus and drop-off connection. However, the public and private Dumbarton bus services currently utilizing the local roadway network connecting between SR84 and the existing Ardenwood Park & Ride facility will instead be relocated to an elevated SR 84 median bus expressway (SR 84 is elevated crossing above the Coast Subdivision tracks) with direct vertical access to the new passenger rail station and upgraded Park & Ride.

The OKJ-SJC Phase 2 project is a transformational project not only for the connection between the East and South Bay in the Bay Area, but for the entire Megaregion, and in pursuit of the goals outlined in the Draft 2018 State Rail Plan. In line with the State's near-term and mid-term plans, it creates the necessary first step in the 2022 timeframe to set up for service increases in the 2027 timeframe in order to ultimately achieve the long-term megaregional and statewide rail vision the State has for 2040. For nearly twenty-five years, the Capitol Corridor service has successfully grown to the point that capacity constraints with Union Pacific Railroad's freight rail network have stymied successful Capitol Corridor and Altamont Commuter Express (ACE) commuter rail service expansion. Previous efforts to force capacity improvements within heavily shared rail corridors has met with extreme capital expense for the public, so much so that no successful negotiation was achieved. When the CCJPA evaluated the separation possibilities during the development of the Vision Plan process, the opportunities and efficiencies for both freight and passenger rail became apparent. Not only does this sub-project unravel the extent of present-day freight and passenger rail conflicts, it takes the first step in expanding the Oakland to San Jose corridor by implementing infrastructure solutions to reduce freight and passenger conflicts long-term. In short, this improvement sets the stage for all future Capitol Corridor service expansions as demonstrated in CCJPA's Vision Plan. With this sub-project, not only are the conditions for megaregional and regional travel improved in the short-term but the long-term plans for Capitol Corridor service expansion are unlocked as the bulk of the freight rail service will no longer competing for capacity with the passenger rail, and vice versa.

Statewide Integrated Travel Program (ITP)

Introduction

The California State Transportation Agency (CalSTA) working with and through the CCJPA is leading a multi-agency[4] initiative to research, develop and implement an Integrated Travel Program (ITP) that will enable California residents and visitors to plan and pay for travel anywhere in the state across multiple modes of transportation including bus, metro, light and intercity rail, paratransit, bicycle hire, and ride-hailing services. Research conducted by CalSTA and its partners suggests that this will be accomplished using a single end-user application for mobile phones supported by a robust back-office platform, the latter coordinating – via a suite of APIs[5] – route planning, transit schedules, real-time data supplied by participating public and private transportation operators (PTOs), interfaces with a new generation of innovative Mobility-as-a-Service (MaaS) providers, and collection and settlement of journey payments to respective parties. This 'California Pass' is not intended to replace existing fare payment media in use by PTOs – such as paper tickets, smart cards and mobile apps – but provide a single, unified mechanism by which customers can travel on virtually any mode of transport in the state more easily and conveniently. Based on studies of existing programs in Europe and elsewhere, it is expected that agencies who adopt the ITP travel planning and payment app will see significant benefits including increase in ridership, reduction in fare collection costs, and greater satisfaction among those who utilize California public transportation. Further, the ITP will attempt to integrate with existing state low-income fare programs such that, PTOs permitting, travel discounts could be make available to qualified users.

Scope of Work: ITP Five Year Plan

The ITP will comprise a **five-year plan** divided into multiple phases as detailed in **Table 1**.

Table 1: ITP Five Year Plan

Phase	Activity	Duration	Status
Phase 1	Research European integrated travel schemes & report to CalSTA.	6 months	Completed in September 2017
Phase 2	Research California PTO travel planning & payments, organization of Congress to solicit feedback from participating entities, report to CalSTA with recommendations for Phase 3.	9 months	Commenced in October 2017
Phase 3	Development of pilot scheme with selected PTOs and private entities.	2 years	-
Phase 4	Implementation of pilot with option for inclusion of additional participants, report to CalSTA on pilot outcome and recommendations for wider deployment.	3 years	-

Phases 1 was funded and completed in September 2017, and, following approval by CalSTA and its partners, Phase 2 was funded and commenced in October 2017; it is expected to be completed by July 2018. Pending a successful outcome of Phase 2, Phases 3 and 4 require significantly greater budgets and resources, and cooperation with public and private entities participating in the pilot scheme.

[4] Participating agencies include CalSTA, Caltrans, and the Capitol Corridor Joint Powers Authority.

[5] Application Programming Interfaces.

Phase 3 Description
Subject to CalSTA approval, Phase 3 will comprise the following key objectives:

- Formation of a new entity to manage the ITP initiative;
- Employment of key personnel and consultants for program management;
- Creation of a physical office for the ITP team and resources;
- Design of a pilot program for complete ITP solution testing and evaluation;
- Development of mobile app and back-office platform for travel planning and payments;
- Integration with participating PTOs and private entities for travel and payment data exchange;
- Solution testing, validation, and readiness for pilot deployment.

The rough-order-of-magnitude (ROM) budget for Phase 3 is projected to be **$17.47 million** which can be broken down into the cost centers noted in **Table 2** below.

Table 2: ITP Phase 3 Cost Estimate

Cost Center	Estimate
Staff Costs	$1,747,500
Other Overheads	$371,650
PTO Integration	$1,500,000
Platform Development	$7,698,000
Pilot Prep & Deployment	$3,079,300
Project Contingency	$3,069,300

Phase 3 concludes with a pilot scheme ready for launch with **five** participating PTOs in addition to the three CA IPR services (the Capitol Corridor, the San Joaquins, and the Pacific Surfliner Intercity Passenger Rail services). The participating PTOs suggested in this application are geographically spread across the State, and each has service linkages to the respective CA IPR services. If funded, the five initial PTOs selected for this application are subject to change and substitution with others that, after consideration, provide better characteristics for a pilot launch.

Phase 4 Description
Phase 4 is a three-year pilot during which the ITP solution will be launched and marketed, with rigorous testing andan evaluation program to assess outcomes including, but not limited to, performance and reliability; uptake by travelers; impact on rider transportation usage habits; and effect on agency business operations based on pilot assumptions.

The rough-order-of-magnitude (ROM) budget for Phase 4 is projected to be **$9.87 million** attributed to the following cost centers noted in **Table 3** below.

Table 3: ITP Phase 4 Cost Estimate

Cost Center	Estimate
Staff Costs	$5,259,088
Other Overheads	$800,272
Marketing	$1,736,250
Program Implementation	$2,078,460

Phase 4 concludes with a report to CalSTA and its partners on the pilot's successes and failures, with recommendations for next steps, the positive outcome of which would be expansion to other PTOs and MaaS providers throughout the State of California. Addition of PTOs and MaaS providers across California would be increasingly cost effective as the initial investment would have already lowered the cost barriers of development thus leaving just the incremental costs of incorporating these additional systems into the already developed architecture. As the ITP platform evolves and widens in its application, the value to the end user increases steeply until, as described in the Draft 2018 State Rail Plan and forthcoming State Transit Plan, ITP is ubiquitous across California. Not only are California residents and visitors presented options to plan and pay for their ground transportation needs across the state in the palm of their hand, the lowered cost of fare collection makes all publicly available transportation services more cost effective, it also serves a vast source of data to more efficiently and effectively plan and deliver mobility.

The total ROM budget for Phase 3 and 4 combined is estimated at **$27.34 million** over five years.

Project Benefits
The key benefits of the Northern California Corridor Enhancement Program are:

- **Reduce Greenhouse Gas (GHG) Emissions and Improve Northern and Southern California Air Quality**
  Increases in ridership on Capitol Corridor will reduce vehicle miles traveled on Northern California's congested Interstates 80, 580, 680, and 880, resulting in a direct reduction in GHG emissions and improvements to Northern California's air quality. Additionally, increases in transit usage anticipated via the pilot launch of the ITP solution will reduce GHG emissions statewide. The NCCEP includes four quantifiable components that reduce GHG emissions:
  - **System and Efficiency Improvements that Result in Increased Ridership** by decreasing overall travel time by 13 minutes and upgrading an existing Park & Ride to an intermodal station serving rail, bus, and park & ride. As well, The ITP sub-project would improve the efficiency and connectivity of public transit across California by providing a single, unified mechanism by which customers can travel on multiple modes of transport, providing transit agencies that are a part of the ITP with significant ridership benefits.
  - **Fuel Reductions** by relocating service to a route that decreases locomotive miles traveled.
  - **New/Expanded Service** for both public bus service operated by AC Transit and private shuttle services operated by Stanford University, as well as many private companies.

  As detailed further in **Section D. Project Benefits**, and fully quantified in **Appendix C Summary of Emissions Reductions and Analysis Methods for Capitol Corridor Joint Powers Authority's 2018 Transit and Intercity Rail Capital Program Application,** CCJPA's Northern California Corridor Enhancement Program is expected to decrease 698,337 metric tons in CO_2e emissions over 25 years and 1,465,394 metric tons in CO_2e emissions over 50 years.

- **Increased Ridership based on System and Efficiency Improvements**
  Improvements to service in the Sacramento to Roseville and Oakland to Newark segments of Capitol Corridor, as well as due to implementation of the Statewide Integrated Travel Program, will increase ridership on the entirety of Capitol Corridor between Auburn and San Jose and throughout the other CA IPR services and the linked pilot PTO partners.

  - The Oakland to San Jose Service Expansion Phase 2A Project will reduce travel time between Oakland and Fremont/Newark by 13 minutes, attracting more riders by providing faster rail trips throughout the Bay Area and all along Capitol Corridor and for all public and private bus shuttles utilizing the expanded capacity and bus/rail/park & ride linkage of the new Fremont/Newark Station. This project provides faster rail service and lays the groundwork for much needed additional rail service in a tremendously congested corridor of the Bay Area linking Oakland to Santa Clara and San Jose, and enhancing the East Bay's connection to the Peninsula - supporting a significant and much needed transportation link between Bay Area housing and jobs, currently overtaxed on roadways and existing and expanding BART service.

  - By extending new train services between Sacramento and Roseville, the SR3T project will provide new opportunities for travel connecting the Placer County region with metropolitan centers in Sacramento, San Francisco, the East Bay, and San Jose and other destinations in Silicon Valley. These new train services will provide passengers with a safe, reliable and comfortable alternative to automobile travel in the I-80 corridor between Sacramento and Roseville and beyond. The need for increased IPR service between Sacramento and Roseville stems from several factors, including high and increasing travel demand on I-80 and local roads, changing population demographics, and a prevalence of accidents in the I-80 corridor. The SR3T Ph2 and SR51 pre-construction work will lay the foundation for a second funded phase of service frequency expansion of the Capitol Corridor IPR service as well as prioritize Sacramento Regional Transit fixed route and demand-response services through the critically congested SR51 choke-point by utilization of a HOV lane.

  - The ITP will become the launching phase for a statewide program to integrate travel starting with trip planning, trip selection, trip payment and execution, and trip completion. The stage will then set for sharply boosting further GHG reductions beyond those stated here as incremental additions of publicly accessible mobility choices are added to ITP at a marginal cost. Literature from similar deployments using even earlier back-end and consumer facing technology indicates that ridership increases can generally range from 3% to 5%, with some as high as 11%[6]. Many of these are in more public transit robust European and Asian markets. As expected, the use of the smartphone further transforms and modernizes those already documented ITP deployments, something researchers could not utilize at the time of reporting in 2009. Based on research in CalSTA's Phase 1 of the ITP, European operators are seeing a second shift with integration via the smartphone and have identified that at least a 3%-5% increase is conceptually feasible – as of early 2017, smart-phone ownership was in excess of 75%.

[6] http://www.urbantransportgroup.org/system/files/general-docs/integratedticketingreportFINALOct09.pdf

For the purposes of this application, we are conservatively estimating a 2% permanent gain in ridership on an annual basis for any pilot ITP participant.

- **Coordination and Integration with State Rail and Transit Operators**
  The Draft 2018 California State Rail Plan, a key element of the State's overall Transportation Plan 20240, aims to capture an increasing percentage of California's travel demand by rail. Objectives include unified rail networks and connecting passenger rail to other transportation modes.

  - Phase 2A of OKJ-SJC to reroute Capitol Corridor's service between Oakland and Newark will create a connection to Dumbarton Express Bus service at the foot of the Dumbarton Bridge in Alameda County, currently operated by AC Transit at a location also served by a wide variety of employer operated bus shuttles. The San Mateo County Transit District (SamTrans) approved the final Dumbarton Corridor Transportation Study in December 2017, and should that project result in future increases to express bus service or the potential realization of rail service, as supported by the Draft 2018 State Rail Plan, Capitol Corridor will be ready to connect with future increases in service to the Peninsula as well as future California High-Speed Rail Service along the Peninsula. The Oakland to San Jose project will also provide key service differentiation and reduce redundancy with the Bay Area Rapid Transit District's (BART) current extension to Silicon Valley, which will begin service to Santa Clara County starting in 2018 with the opening of the Milpitas and Berryessa BART Stations. Rerouting Capitol Corridor service away from BART's alignment avoids duplication of services, investments, and redundancy; differentiates the Capitol Corridor as the faster/express rail service with BART and connecting transit as the more frequent transit service option; and enhances transportation connections across the bay between the East Bay and the Peninsula. Additionally, rerouting Capitol Corridor's service between Oakland and Newark will take the necessary first step in allowing for the future increases in service to San Jose which are necessary to support and achieve the Transportation Agency of Monterey County's (TAMC) and the State Rail Plan's Salinas Rail Extension. The freight rail improvements also take a significant step forward in enhancing freight rail service performance and efficiency consistent with the Draft 2018 State Rail Plan, the Metropolitan Transportation Commission's (MTC) Goods Movement Plan, and Alameda County Transportation Commission's (Alameda CTC) Goods Movement Plan and Rail Strategy Plan. As mentioned previously, Phase 2A of the Oakland to San Jose project also establishes a significant separation for freight and passenger rail and lays the longer-term groundwork for subsequent planned capital improvements identified in the Capitol Corridor Vision Implementation Plan.

  - SR3T Phase 2 supports these goals, in particular by offering interregional rail services that will connect with existing and future regional transit operations within Sacramento and Placer Counties creating, for example, the possibility of passengers to travel from location in Placer County to the Bay Area, entirely by public transit. The necessary pre-construction work of the SR3T Phase 2 and SR 51 will set up for a host of future SB1 and other funding applications that will fund the expansion of Capitol Corridor expansion and Sacramento RT service improvement consistent with the Draft 2018 State Rail Plan and the working direction of the Statewide Transit Plan.

- The ITP is, by its nature, perhaps the most integrated and coordinated statewide effort as detailed in both the Draft 2018 State Rail Plan and working discussions of the Statewide Transit Plan.

- **Improve Safety**
  Capitol Corridor is committed to upgrading its rail operations in such a way that improves safety for users and non-users of their rail services, and the projects proposed in the NCCEP considers and addresses necessary safety components of the project.

  - The OKJ-SJC Phase 2 project includes upgrades to track, wayside signals including Positive Train Control, and at-grade crossing protection and upgrades of track that will improve safety for the operation of CCJPA trains. New safety fencing along the entire segment of upgraded track on 17 miles of the Mulford Line (Coast Subdivision) will further increase public safety. The re-routing of freight trains and the construction of an additional passing siding between Oakland and Newark will reduce the number of potential train conflicting movements, increasing both efficiency and safety for passenger trains. The rerouting of rail freight traffic off the Coast Subdivision and onto the Niles Subdivision will remove freight movements from the Centerville line reducing the number of vehicle/train conflicts at grade-crossings within the City of Fremont.

  - The full implementation of the SR3T Project will improve safety by reducing vehicle accidents in the I-80 Corridor between Sacramento and Roseville. I-80 experiences a large number of accidents in a typical week, and with more vehicles on I-80 as population and job opportunities increase over the next several years, the potential for accidents increases. Poor weather conditions (rain, wind, and dense Central Valley fog) also adversely affect the reliability of highway travel times, and rain and wind can make the roads dangerously slick, increasing accident rates. The California Highway Patrol publishes an annual summary of accident data for state highways. The provision of reliable and safe alternative travel, which will reduce the number of vehicles on I-80, will potentially reduce the accident rate and improve traffic safety. The widening of SR 51 will upgrade the route to modern Caltrans standards and permit safe transit travel time improvements as well as also provide for separated safe (and healthy) bicycle travel.

  - The ITP pilot project will greatly improve customer knowledge, ease, and confidence in using connecting public transit systems and provide the basis to expand into additional layers of privately and public/private partnership provided accessible transportation options.

- **Enhance Economic Vitality by Separating Passenger and Freight Rail Operations**
  - The Oakland to San Jose segment of Capitol Corridor involves a vital route in the Bay Area transportation network for both passenger and freight rail operations, and OKJ-SJC Phase 2 seeks to build the necessary infrastructure for both freight and Capitol Corridor passenger operations to be run far more efficiently, thus better serving their respective markets – a key goal in both the Draft 2018 State Rail Plan and the upcoming Alameda County Rail Strategy Study. Currently, both passenger operations in Alameda County and freight rail services heading from the Port of Oakland to the San Joaquin Valley run on lengthier routes to get to their destinations, reducing capacity overall and creating a passenger and freight rail conflict in Fremont, California, where both rail services must cross over to continue to their intended destinations. Separating freight and passenger rail

in Alameda County will improve network utilization of both services, and will support economic vitality by facilitating more efficient goods movement from the Port of Oakland heading east to destinations throughout the United States. In turn, this will support economic vitality in and beyond the Bay Area as this significant segment of Capitol Corridor links the economic centers throughout the Bay Area with key economic, political, and population sectors throughout the Northern California Megaregion north to Sacramento and Placer Counties.

- The SR3T Ph 2 Project preserves freight corridor capacity while also building the capacity to expand passenger rail service largely on its own track that runs in parallel to the existing freight service tracks supporting existing and future freight train service growth. CCJPA operates IPR service between the San Jose Diridon Station and Auburn. For the vast majority of its length, including the segment between Sacramento and Roseville, Capitol Corridor trains run over the privately-owned UPRR tracks. This segment of the UPRR operations is a vital link in their system. Two major railroad junctions are located in Sacramento, at Haggin and Elvas. These junctions connect UPRR north/south mainlines with the east/west transcontinental mainline. Another major railroad junction is located in Roseville, just east of the Davis yard; this junction also connects major east/west and north/south mainline routes. In addition to the main tracks, the Sacramento to Roseville corridor also includes the J.R. Davis Yard in Roseville. This facility is UPRR's main classification yard for Northern California and is where freight traffic destined to or originating from Northern California and Oregon is gathered and distributed. It is also a major locomotive, railcar and equipment maintenance and repair facility. Numerous rail-served industries connect with the mainline, including a major industrial/commercial facility at McClellan Park. Adding a third main track for IPR service between Sacramento and Roseville will improve the operations along this corridor. Other infrastructure improvements that would be necessary to accommodate the increased IPR service, such as separate bridge overcrossings and under crossings, will also maximize efficient use of the existing rail corridor and reduce potential conflicts between freight and IPR service. The SR3T project will reduce the inherent conflicts between freight and passenger operations, due to train speed differences and dispatching priorities, which will reduce delays in the corridor and allow UPRR to operate its freight services in a more efficient and safe manner. The new third track is designed to ensure that UPRR can increase its freight capacity in the future.

Project Location

Project Maps
A map noting the project limits of the Northern California Corridor Enhancement Program with focused maps of the specific subprojects can be found in **Figures 1 through 6**.

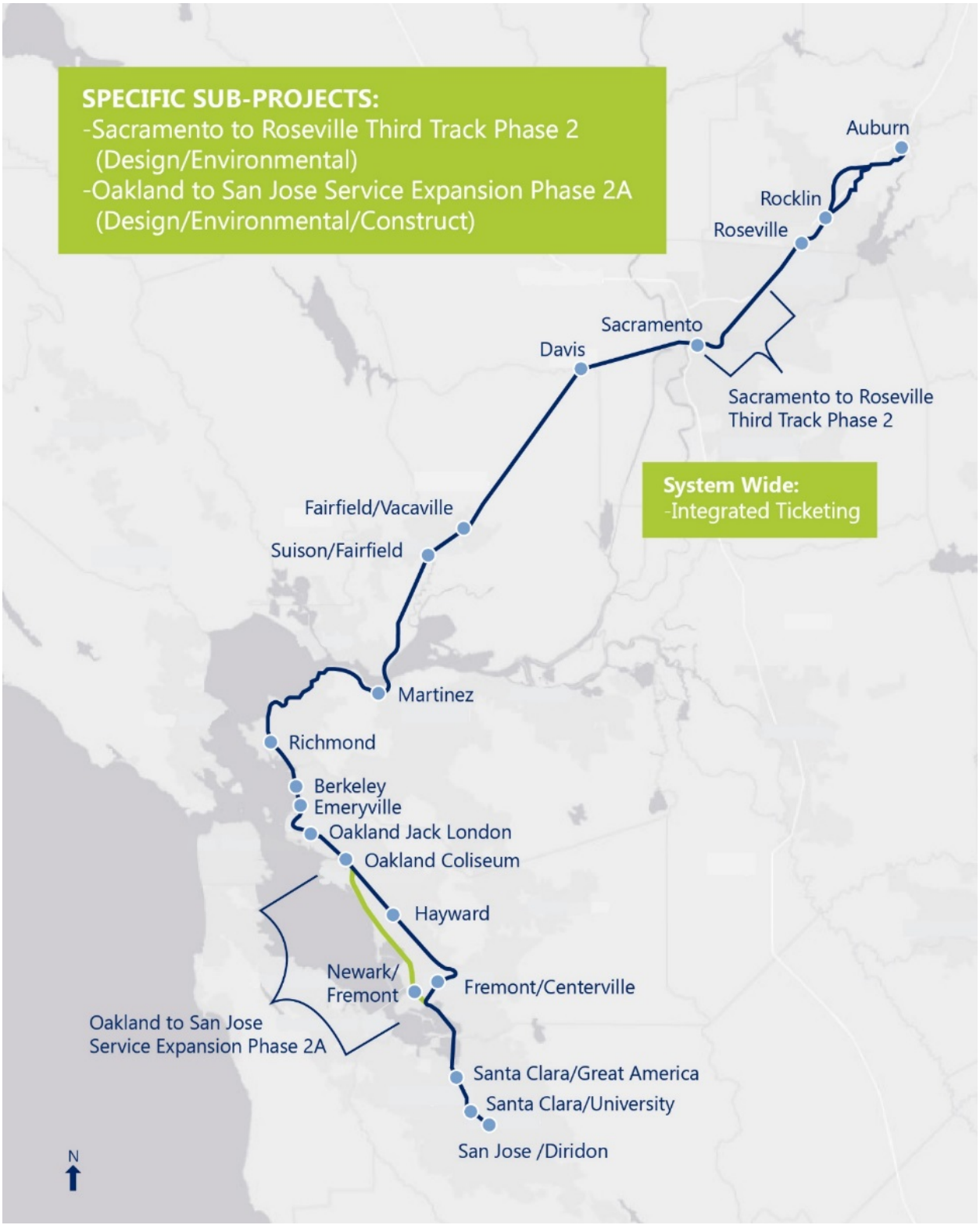
Disadvantaged Communities
The nature of passenger rail and transit travel is that such systems are open to all patrons. Rail differs by local area transit in that specific stations are served and access to stations is completed by all modes of travel, varying by community, station amenities, station-serving modes, and costs to access stations by mode (e.g., parking fees, transit costs, secure bicycle parking, etc.). In contrast, transit services stop within a community based on published frequencies and headways which can much more easily change to serve a variety of needs than can passenger rail service at rail stations. The presence of a rail station inside, adjacent to, or within less than a mile or several miles of a disadvantaged community has some bearing on the choice to utilize the Capitol Corridor or any other passenger rail service, but the far larger

determining factor is the nature of the trip itself which is often times the only option to making an timely intercity trip beyond the automobile. Thus, it is the distance of the trip from any community and the options of travel between the trip origin and destination point that must be recognized as critical elements of the projects in this application. Presence of a station and proximity of a station to a disadvantaged community does not have the same blanket affect that a bus transit stop would have, with its far shorter travel distances. That said, as required, stations and their proximity to disadvantaged communities is shown, however the reader should understand the role trip distance plays in passenger rail. In fact, a larger part of the Capitol Corridor patronage is comprised of people who cannot afford to live in closer proximity to their work and thus Capitol Corridor is their bridge to greater home affordability and access to higher wage jobs.

The NCCEP includes subprojects that benefit 2 stations directly within a disadvantaged and low-income community, with SR3T Phase 2 eventually benefitting the Sacramento Station and OKJ-SJC Phase 2A providing faster service to the area around the Coliseum Station. Additionally, by reducing VMT through increased ridership, the NCCEP project will contribute to reductions of criteria pollutant levels at and within ½ mile of all stations, including those located in disadvantaged communities, as well as those communities which the right-of-way passes. Maps of those stations are provided in **Appendix A**, as well as maps of all of the stations along Capitol Corridor which each has the potential to provide enhanced service to disadvantaged and low-income communities, and which will each be benefitted by the NCCEP. Stations within a half mile of a disadvantaged and/or low-income community are noted with an asterisk.

The development of the ITP will explore the options to use existing state databases for low-income assistance and, through the integration of an existing, vetted process of income eligibility, be able pass on the provision of transportation through an account-based relationship with those databases. With this layer of integration, low-income persons would have the possibility of being sold a lower-cost transportation trip supplied via the ITP, presuming that participating PTOs would be agreeable to inclusion of that provision. The ITP will pursue this feature, but it will not be possible unless PTOs agreed to providing such discounted travel based on inclusion in an existing statewide low-income program. Disadvantaged/Low Income Community Maps for the overall ITP project and the individual transit agencies participating in the project are provided in **Appendix A.**

Figure 1: Northern California Corridor Enhancement Program Project Map



Source: HNTB 2017

Figure 2: Sacramento to Roseville Third Track Phase 2 Project Map

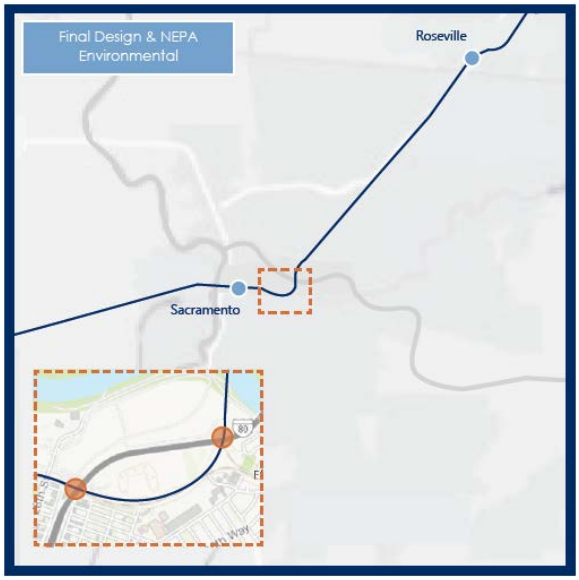
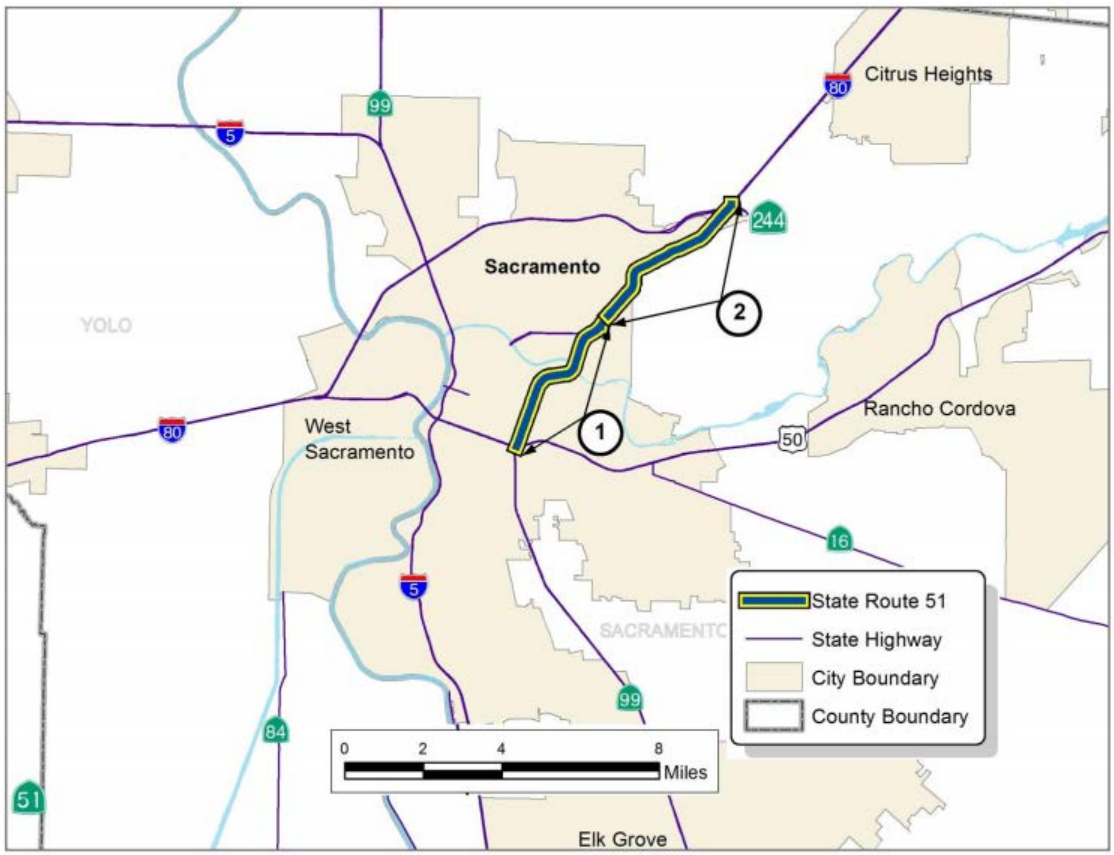


Figure 3: Oakland to San Jose Service Expansion Phase 2A Project Map

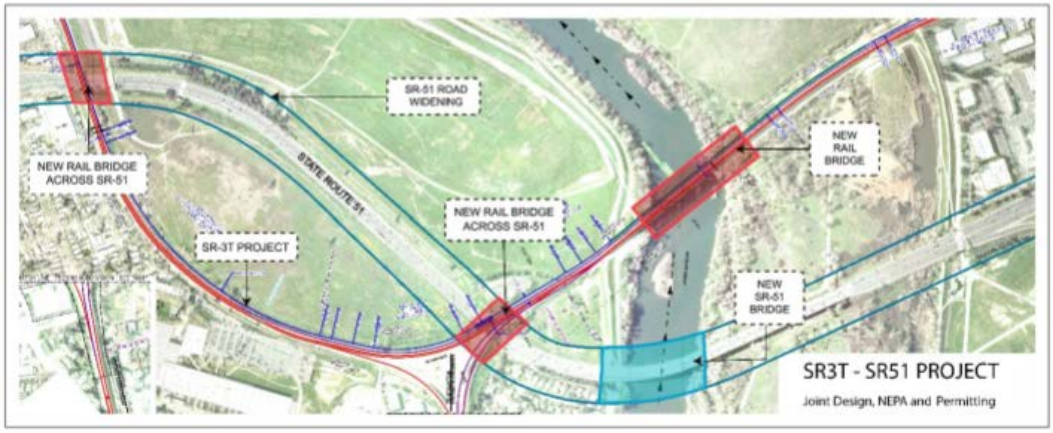
Source: HNTB 2017

Figure 4: State Route (SR) 51 Route Segmentation Map



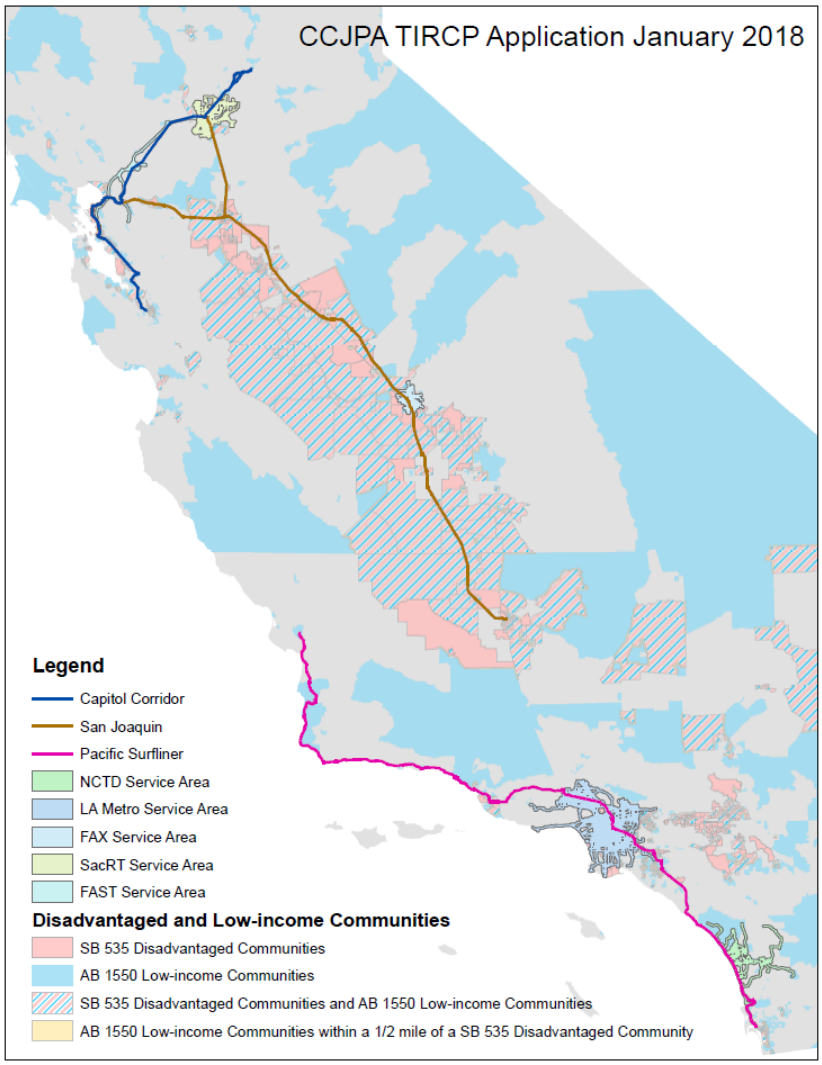
Source: Caltrans 2015

Figure 5: State Route (SR) 51 and SR3T Improvement Project Map



Source: HDR 2017

Figure 6: Statewide Integrated Travel Program Project Map



Source: CCJPA 2018

Project Mode
This project primarily serves Intercity Rail and its feeder bus services, but also provides additional enhancements to Local Bus, Bus Rapid Transit, Commuter Bus, Light Rail, and Heavy Rail services.

Multi-Agency Coordination
CCJPA is working with many State agencies to coordinate the projects included in the Northern California Corridor Enhancement Program, including the California State Transportation Agency (CalSTA) and the California Department of Transportation (Caltrans), as well as many regional and local agencies described below.

- **Sacramento to Roseville Third Track Phase 2 & SR 51 Widening Projects**
  CCJPA is working to coordinate the SR3T project with Caltrans District 3's State Route 51 project, as there are project components that overlap. Coordination during the environmental clearance, design, and construction phases of the bridge components of these projects will achieve cost efficiencies beneficial to both projects. Additionally, as each agency is eligible for different sources of funding, coordinating components of these projects seeking to achieve multi-modal benefits will unlock funding opportunities seeking to support multi-modal enhancements in congested corridors. Future coordination may also include Sacramento Regional Transit (RT), as there are aspects of the SR51 project with the potential to benefit bus operations.

- **Oakland to San Jose Service Expansion Phase 2A Project**
  CCJPA has been and will continue meeting regularly with the Alameda County Transportation Commission (Alameda CTC) to coordinate efforts on the Oakland to San Jose Phase 2A Project with Alameda CTC's efforts around their Goods Movement Plan and the impending Alameda County Rail Strategy Study, expected in Spring 2018. Additionally, CCJPA and Alameda CTC are working with AC Transit, the City of Fremont, the City of Newark, and Caltrans District 4 to coordinate planning around the new intermodal Fremont/Newark Capitol Corridor Station with existing express public and private bus service to the Peninsula. CCJPA is committed to working with any and all other interested parties as plans develop around the Dumbarton Transportation Corridor, particularly with SamTrans, Caltrain, and private companies who may be interested in providing needed support to this important new multi-modal station.

- **Statewide Integrated Travel Program (ITP)**
  The Statewide ITP will involve extensive coordination with the selected five PTOs that will work with the CA IPR network. By its nature, the project will require shared access to data and financial transactions in a secure manner to allow for an integrated travel application developed at the state level to support the pilot program. The transit agencies selected in this application are example participants in the pilot program and these agencies have not committed to participate. However, they do represent the scale and linked transit services that connect with a broad representation of geographic locations suitable to test the functionality and performance of the ITP. The coordination will be extensive and unprecedented at a statewide level, and mirror a role played by the State with the coordination required with the interoperable California FastTrak toll road program[7]. In addition, the State will use existing legislative authority to establish coordination and integration.

[7] https://www.thetollroads.com/accounts/fastrak/california

Green House Gas (GHG) Reductions
As detailed further in **Section D. Project Benefits**, and fully quantified in **Appendix C Summary of Emissions Reductions and Analysis Methods for Capitol Corridor Joint Powers Authority's 2018 Transit and Intercity Rail Capital Program Application,** CCJPA's Northern California Corridor Enhancement Program is expected to decrease **698,337 metric tons** in CO_2e emissions over 25 years and **1,465,394 metric tons** in CO_2e emissions over 50 years.

Funding
CCJPA is requesting **$107,339,720** million in TIRCP funds to with a proposed match of **$206,601,535** million in local, regional, state, and federal funds in support of the Northern California Corridor Enhancement Program. Projected funding amounts have been identified in an effort to achieve parity with other SB1 funding programs, eligibility, local and regional sources of funding, and with reasoned shares of cost equity between modes of transportation included in this application (and with any future funding applications). **Table 4** describes the matching funds proposed for each of the Northern California Corridor Enhancement Program subprojects.

Table 4: Proposed Funding for Northern California Corridor Enhancement Program Projects

Project:	Sacramento to Roseville Third Track Phase 2 & SR 51 Widening	Oakland to San Jose Service Expansion Phase 2A	System wide Integrated Travel Project	**Total by Source**
Phase(s):	Design & Environmental	Environmental, Design & Construction	Development and Implementation	
Fund Sources				
Transit and Intercity Rail Capital Program	**$29,000,000**	**$51,000,000**	**$27,339,720**	**$107,339,720**
Other State GHG Funds	TBD	$0	$0	$0
Other State Non-GHG Funds	$15,900,000	$83,701,535	$0	$99,601,535
Federal Funds	TBD	$10,000,000	$0	$10,000,000
Regional Funds	TBD	$61,000,000	$0	$61,000,000
Local Funds	TBD	$40,000,000	$0	$40,000,000
Total by Project	**$44,900,000**	**$245,701,535**	**$27,339,720**	**$317,941,255**

Agency Point of Contact
Jim Allison
Manager of Planning
Capitol Corridor Joint Powers Authority
300 Lakeside Drive, 14th Floor East
Oakland, CA 94612
Phone: 510.464.6994
JimA@capitolcorridor.org

B. Project Costs & Funding

Sacramento to Roseville Third Track (SR3T) Phase 2 and State Route (SR) 51 Widening Projects

The cost estimate for the environmental and engineering phases of SR3T Phase 2 is $28.5 million, with the cost estimate for the PA&ED and PS&E phases of the SR51 Project at $57.4 million, totaling an overall cost of $85.9 million for preconstruction work. Committed funding for these phases has been identified at $4 million from State Rail Assistance (SRA) for SR3T and $11.9 million from State Regional Transportation Improvement Program (STIP/RTIP) funds and Regional Surface Transportation Program/Surface Transportation Block Grant (RSTP/STBG) funds for SR51, with a total funding commitment of $15.9 million to both projects. **TIRCP funds are requested in support of these projects in the amount of $29 million**, and CCJPA is committed to supporting Caltrans as it seeks to fill the $41 million funding gap in the PS&E phase. The detailed Project Costs, Funding (by source), and Schedule (by fiscal year) for the preconstruction work for the Sacramento to Roseville Third Track Project (SR3T) Phase 2 and State Route (SR) 51 Widening Project can be found in **Table 6**.

As these projects progress, CCJPA and Caltrans will continue to work together to maximize mutual project benefits in order to coordinate and pursue funding sources each agency is eligible for in support of jointly developing a multi-modal corridor solution through Sacramento. Due to the multi-modal nature of the projects and their potential to serve rail, transit, and active transportation in addition to highway improvements, CCJPA and Caltrans are looking to seek Solutions for Congested Corridors (SCC) funding in support of construction in future programming rounds, beginning with the next SCC Call for Projects in 2020. Caltrans is also seeking State Active Transportation Funds in support of the bike path project element crossing the American River Bridge. Additionally, as Caltrans is currently exploring the potential to provide benefits to Sacramento Regional Transit (RT) buses through their project, both Caltrans and CCJPA are committed to working with Sacramento RT to pursue funding sources available to transit operators in support of this multi-modal project – including Federal funds administered through the Federal Transit Administration (FTA), and State funds administered both through the State and through SACOG as the local MPO. Potential future State transit sources to be explored includes Low Carbon Transit Operations Program (LCTOP) funds which support transit projects that reduce GHG reductions.

Oakland to San Jose Service Expansion Project (OKJ-SJC) Phase 2A

The total cost estimate for OKJ-SJC Phase 2A is $246 million. CCJPA is implementing the core elements of the project, which include all necessary upgrades to swap passenger and freight operations on the Coast and Niles Subdivisions, as well as basic rail station amenities at the new Fremont/Newark Station, totaling $202 million. CCJPA is working with project partners to fund and implement the scalable elements of the new station, a parking garage and elevated bus connection on SR84, totaling $44 million.

A total of $130 in funds is committed to advancing OKJ-SJC Phase 2A. Committed funding for the project has been identified at $29 million from the State in SRA funding and STIP Interregional (STIP/ITIP) funding. Local and regional funds are committed in the amount of $101 million, with $40 million from Alameda CTC[8] and $61 million from the Metropolitan Transportation Commission's (MTC) Regional Measure 3 (RM3). RM3 is subject to voter approval in June 2018, and includes a $90 million line item for Capitol Corridor[9] (remaining RM3 funds will be used to progress future phases of OKJ-SJC). **TIRCP funds are requested in support of this project in the amount of $51 million**. CCJPA, in coordination with Alameda CTC, plans to pursue other sources of funds to fill the $60 million funding gap remaining if $51 million in TIRCP funds are awarded. These sources include State Trade Corridors Enhancement Program and Solutions for Congested Corridors funds in the amount of $50 million, as well

[8] https://www.alamedactc.org/files/managed/Document/12934/2014_Transportation_Expenditure_Plan.pdf
[9] https://mtc.ca.gov/sites/default/files/Final_RM3_Expenditure_Plan.pdf

as $10 million in Federal funding. CCJPA is currently seeking potential partnerships and funding support from private partners benefitting from enhanced multimodal rail and transit service where private shuttles are currently operated. The detailed Project Costs, Funding (by source), and Schedule (by fiscal year) for the Oakland to San Jose Service Expansion Project (Oak-SJC) Phase 2A can be found in **Table 7**.

Statewide Integrated Travel Program

Phase 1 of the ITP was funded and completed in September 2017, and Phase 2 was funded and commenced in October 2017 with an expected completion date of July 2018. Pending a successful outcome of Phase 2, Phases 3 and 4 require significantly greater budgets and resources, and cooperation with public and private entities participating in the pilot scheme.

The rough-order-of-magnitude (ROM) budget for Phase 3 is projected to be **$17.47 million** and the ROM budget for Phase 4 is projected to be **$9.87 million**, with a combined is estimated at **$27.34 million** over five years. **TIRCP funds are requested in support of this project in the amount of $27,339,820.** The Project Costs, Funding, and Schedule for Phases 3 and 4 of the Integrated Travel Program can be found in **Table 5**.

Table 5: Costs, Funding, and Schedule for Integrated Travel Program (ITP)

ITP PROJECT PHASE:	PHASE 3	PHASE 4	TOTAL
Schedule	**2 years**	**3 years**	**5 years**
Cost	**$17,465,750**	**$9,874,070**	**$27,339,820**
Staff Costs	$1,747,500	$5,259,088	$7,006,588
Other Overheads	$371,650	$800,272	$1,171,922
PTO Integration	$1,500,000	$0	$1,500,000
Platform Development	$7,698,000	$0	$7,698,000
Pilot Prep & Deployment	$3,079,300	$0	$3,079,300
Project Contingency	$3,069,300	$0	$3,069,300
Marketing	$0	$1,736,250	$1,736,250
Program Implementation	$0	$2,078,460	$2,078,460
Funding: TIRCP	**$17,465,750**	**$9,874,070**	**$27,339,820**

Table 6: Costs, Funding, and Schedule for Sacramento to Roseville Third Track Project (SR3T) Phase 2 and State Route (SR) 51 Widening Project (in thousands)

PROJECT COST ESTIMATE BY PHASE	**Prior**	**FY2018**	**FY2019**	**FY2020**	**TOTAL**
Sacramento to Roseville Third Track Phase 2 (CCJPA)					
Environmental	-	$1,000	$900	-	**$1,900**
Preliminary Engineering & Final Design	-	-	$13,300	$13,300	**$26,600**
Subtotal Project Costs	**$-**	**$1,000**	**$14,200**	**$13,300**	**$28,500**
State Route 51 (Capitol City Freeway) Widening Project (Caltrans District 3)					
Environmental (PA&ED)	-	$5,000	-	-	**$5,000**
Preliminary Engineering (PA&ED)	-	$7,400	-	-	**$7,400**
Final Design (PS&E)	-	-	-	$45,000	**$45,000**
Subtotal Project Costs	**$-**	**$12,400**	**$-**	**$45,000**	**$57,400**
TOTAL PROJECT COSTS	**$-**	**$13,400**	**$14,200**	**$58,300**	**$85,900**
PROGRAMMED/COMMITTED FUNDING SOURCES BY APPLICANT					
CCJPA Funding Sources					
CCJPA: Transit and Intercity Rail Capital Program (TIRCP) *PROSPECTIVE*	-	-	$17,200	$11,800	**$29,000**
CCJPA: State Rail Assistance (SRA)	-	$1,000	$1,500	$1,500	**$4,000**
Subtotal CCJPA Funding	**$-**	**$1,000**	**$18,700**	**$13,300**	**$33,000**
Caltrans District 3 Funding Sources					
Caltrans District 3: State Transportation Improvement Program (STIP: RTIP)	-	$7,900	-	-	**$7,900**
Caltrans District 3: Regional Surface Transportation Program (RSTP/STBG)	$4,000	-	-	-	**$4,000**
Subtotal Caltrans District 3 Funding	**$4,000**	**$7,900**	**$-**	**$-**	**$11,900**
TOTAL PROSPECTIVE FUNDING	**$4,000**	**$8,900**	**$18,700**	**$13,300**	**$44,900**

Table 7: Costs, Funding, and Schedule for Oakland to San Jose Service Expansion Project (Oak-SJC) Phase 2A (in thousands)

OAKLAND-SAN JOSE PHASE 2A	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	TOTAL
Project Cost Estimate by Phase							
Environmental	$800	$1,600	$1,700	-	-	-	**$4,100**
Design	-	$9,800	$10,100	$10,400	-	-	**$30,300**
Right-of-Way	-	-	-	$1,100	-	-	**$1,100**
Construction	-	-	-	$68,100	$70,100	$72,300	**$210,500**
TOTAL PROJECT COSTS	**$800**	**$11,400**	**$11,800**	**$79,600**	**$70,100**	**$72,300**	**$246,000**
Committed Funding Sources							
State							
STIP Interregional (STIP: ITIP)	-	-	-		$20,000		**$20,000**
State Rail Assistance (SRA)	$500	$1,500	$2,000	$2,500	$2,500	-	**$9,000**
Regional							
RM3	-	$3,500	$3,300	$19,600	$14,100	$20,500	**$61,000**
Local							
Alameda CTC Local Funding	$300	$1,400	$1,500	$10,000	$10,000	$16,800	**$40,000**
Prospective Funding Sources							
Federal							
Consolidated Rail Infrastructure and Safety Improvements (CRISI)	-	$5,000	$5,000	-	-	-	**$10,000**
State							
Transit and Intercity Rail Capital Program (TIRCP)	-	-	-	$20,000	$11,000	$20,000	**$51,000**
Solutions for Congested Corridors (SCC)	-	-	-	$20,000			**$20,000**
Trade Corridor Enhancement Program (TCEP)	-	-	-	$7,500	$12,500	$15,000	**$35,000**
TOTAL PROSPECTIVE FUNDING	**$800**	**$11,400**	**$11,800**	**$79,600**	**$70,100**	**$72,300**	**$246,000**

C. Eligibility

Using the CARB quantification methodology, the Northern California Corridor Enhancement Program's project elements funded through this application will achieve a greenhouse gas emissions reduction of **698,337 metric tons** in CO_2e emissions over 25 years and **1,465,394 metric tons** in CO_2e emissions over 50 years.

CCJPA's NCCEP project elements included in this application are eligible for TIRCP funding as they involve:

1. Expansion, enhancement, and improvement of the entire Capitol Corridor with implementation of service improvements in key segments that will enhance connections to existing and potential future transit systems, particularly around the Dumbarton Corridor, as well as system wide improvements in support of integrated travel with benefits to the entire statewide rail network;
2. CCJPA's intercity passenger rail projects included in this application advance activities that will decrease travel times by 13 minutes in the Oakland to San Jose segment, as well as ultimately increase service levels, particularly in the Sacramento to Roseville segment.
3. CCJPA is supporting CalSTA's efforts to enhance statewide integration of rail, transit, and future publicly-accessible ground transportation modes by pursuing the Statewide Integrated Travel Program.

D. Project Benefits

The Capitol Corridor Joint Powers Authority (CCJPA) is submitting a single funding application for the Northern California Corridor Enhancement Program (NCCEP) for the TIRCP program. NCCEP includes intercity passenger rail projects that the CCJPA can advance in the FY19-23 timeframe in support of achieving 2040 goals included in CCJPA's Vision Plan and the Draft 2018 State Rail Plan. The following specific subprojects and system wide corridor project will enhance Capitol Corridor service along its entire rail corridor spanning from Roseville to San Jose:

1. Sacramento to Roseville Third Track Project (SR3T) Phase 2 and State Route (SR) 51 Widening Project: Design and Environmental Phases
2. Oakland to San Jose Service Expansion (OKJ-SJC) Phase 2A Project: Design, Environmental, and Construction Phases
3. Development and Implementation of Statewide Integrated Travel Program (ITP)

The NCCEP suite of projects will not only enhance the CCJPA operations, but will lay the necessary foundation for achieving elements of longer term, multimodal infrastructure projects in support of the Northern California and State Rail Network. The implementation of these partnerships and the development of these projects will result in increased ridership on intercity passenger services and local transit services, reduced greenhouse gas emissions in Northern California, and throughout the entire state, and provide both significant time and cost savings in the development of several major intermodal transit projects in the region. The ITP will be the basis for a statewide transformation in how publicly accessible transportation modes can be organized for ease of use, overcoming informational and purchasing barriers that exist today.

Expected Benefits and Metrics for Tracking and Reporting Progress
CCJPA intends to provide quarterly reports consistent with the California State Transportation Agency's (CalSTA) requirements upon award of a Transit and Intercity Rail Capital Program (TIRCP) grant. Consistent with the California Air Resources Board's (CARB) Funding Guidelines, CCJPA will provide quarterly reports upon award and implementation of a TIRCP funding allocation, as well as annual reports on Project Outcomes once operations begin on the new Oakland to San Jose alignment and implementation of the Integrated Travel Program (ITP), which itself will be generating metrics and reportable data that is germane to its very function.

Quarterly reports will include any necessary updates on all the metrics provided in this application, including but not limited to total project cost, total GGRF funds awarded in each reporting cycle, estimated total project GHG emission reductions, indicated benefits to AB 1550 populations (disadvantaged communities, low-income communities, and low-income households), and estimated project co-benefits and indicators including:

- VMT reductions (miles)
- Criteria Air Pollution Reductions (tons)
- Fuel Use Reductions (gallons)

Upon delivery and operation of the new Oakland to San Jose alignment and implementation of the Integrated Travel Program (ITP), Capitol Corridor will utilize the following metrics to measure the quantified benefits expected through the NCCEP:

- **Capital Improvements that Result in New or Expanded Transit Service or Increase Mode Share on Existing Transit Service (*Increases in Capitol Corridor Ridership, Public Bus Service Operated by AC Transit, Private Shuttle Services, and PTOs participating in ITP*)**

- Days of operation per year (days/year) based on evaluation of service schedule.
- Average daily ridership (unlinked trips/day) as follows:
  - Capitol Corridor ridership calculated during Annual Performance Reports.
  - AC Transit ridership
  - Private Shuttle ridership (to the extent it is available)
  - Participating PTO ridership from ITP

Primary Evaluation Criteria

Greenhouse Gas Emissions (GHG) Reduction
Based on CARB's GHG emissions evaluation tool, the NCCEP is expected to reduce **698,337 metric tons** in CO_2e emissions over 25 years and **1,465,394 metric tons** in CO_2e emissions over 50 years. Increases in ridership on Capitol Corridor will reduce vehicle miles traveled on Northern California's congested Interstates 80, 580, 680, and 880, resulting in a direct reduction in greenhouse gas emissions and improvements to Northern California's air quality. While not quantified in our analysis, use of renewable diesel fuel in Capitol Corridor service, a fueling shift program that CCJPA is now leading in partnership with CARB, will directly reduce "well to wheels" GHG emissions. Increases in transit usage anticipated via the pilot launch of the ITP solution will reduce greenhouse gas emissions statewide.

Table 8 provides an overview of the GHG Reductions and TIRCP Primary Evaluation Criteria for the Northern California Corridor Enhancement Program, including subtotals of reductions by each project element in the NCCEP[10]. While not included in our overall reporting numbers, for informational purposes, **Table 9** provides an overview of the GHG Reductions and TIRCP Primary Evaluation Criteria for the Northern California Corridor Enhancement Program, including subtotals of reductions by each project element in the NCCEP, inclusive of the freight fuel reductions.

A copy of the complete CARB evaluation model used to calculate this data is included in both pdf and excel form as **Appendix C**. The supporting memo discussing the methodology and specific reductions of each project included in the NCCEP is included as **Appendix C.**

[10] The NCCEP funding request includes monies for final design of the SR3T/SR51 sub-project. Since the TIRCP funding request does not extend to construction, future emission reductions achieved by the SR3T/SR51 sub-project are not included in the cost effectiveness calculation for the NCCEP. Accordingly, the GHG reductions and TIRCP primary evaluation criteria reported for the NCCEP are conservative.

Table 8: GHG Reductions and TIRCP Primary Evaluation Criteria for the Northern California Corridor Enhancement Program

Result[1]	**25-Year UL**	**50-Year UL[2]**
CO_2e reduction ($MTCO_2e$)		
Sacramento to Roseville Third Track Phase 2	-[3]	-[3]
San Jose to Oakland Phase 2A	107,888	286,982
Integrated Travel Program	590,449	1,178,412
Total Northern California Enhancement Program	*698,337*	*1,465,394*
TIRCP Primary Evaluation Criteria		
$/$CO_2e$ reduction	$154	$73
CO_2e reduction/$	0.00651	0.01365

Notes
[1] Because no additional funds from other CCI Programs would be requested, reductions from total CCI funds and TIRCP funds are the same.
[2] The ARB Calculator only allows lifetime GHG reductions to be quantified through a final year of 2050. Accordingly, GHG reductions from the calculator were scaled to capture emission benefits under a 50-year UL, which extends to 2073 (refer to Attachment B of **Appendix C**).
[3] Reductions achieved by the SR3T/SR51 sub-project are not included in the analysis because the requested TIRCP funds do not extend to construction for the sub-project.
CCI = California Climate Investment
GHG = greenhouse gases
$MTCO_2e$ = metric tons carbon dioxide equivalent
TIRCP = Transit and Intercity Rail Capital Program
UL = useful life

Table 9: GHG Reductions and TIRCP Primary Evaluation Criteria for the OKJ-SJC Phase 2A Sub-Project Inclusive of Freight Fuel Reductions

Result[1]	25-Year UL	50-Year UL[2]
CO_2e reduction ($MTCO_2e$)		
Passenger service components (see Table 7 of **Appendix C**)	107,888	286,982
Fuel reduction (freight)	1,107	2,409
Total Oakland to San Jose Phase 2A Sub-Project with freight benefit	*108,995*	*289,390*
TIRCP Primary Evaluation Criteria		
$/$MTCO_2e$ reduction	$468	$176
$MTCO_2e$ reduction/$	0.002137	0.00567

Notes
[1] Because no additional funds from other CCI Programs would be requested, reductions from total CCI funds and TIRCP funds are the same.
[2] The ARB Calculator only allows lifetime GHG reductions to be quantified through a final year of 2050. Accordingly, GHG reductions from the calculator were scaled to capture emission benefits under a 50-year UL, which extends to 2073 (refer to Attachment B of **Appendix C**).
CCI = California Climate Investment
GHG = greenhouse gases
$MTCO_2e$ = metric tons carbon dioxide equivalent
TIRCP = Transit and Intercity Rail Capital Program
UL = useful life

Increase Ridership

Improvements to service in the Sacramento to Roseville and Oakland to San Jose segments of Capitol Corridor, as well as due to implementation of the Statewide Integrated Travel Program, will increase ridership on the entirety of Capitol Corridor between Auburn and San Jose as well as across the state in the participating pilot ITP locations.

- The Oakland to San Jose Service Expansion Phase 2A Project will reduce travel time between Oakland and Fremont/Newark by 13 minutes, attracting more riders by providing faster rail trips throughout the Bay Area and all along Capitol Corridor. Additionally, the implementation of a new intermodal Capitol Corridor Station at Fremont/Newark will create a connection between Northern California intercity passenger rail in the East Bay and express bus service and private shuttles to the Peninsula, resulting in increased ridership for both rail and transit services.

- Funding for the pre-construction phases of SR3T Ph2 and SR 51 widening, which could accommodate more rapid Sacramento RT bus service, will set the stage for funding construction, which will result in increased ridership for Capitol Corridor and Sacramento RT service. The need for increased IPR service between Sacramento and Roseville stems from several factors, including high and increasing travel demand on I-80 and local roads, changing population demographics, and a prevalence of accidents in the I-80 corridor. Population growth is continuing in the region and will continue to place demands on limited roadway capacity. While freeway operation treatments, such as ramp metering, HOV lanes, arterial street signal coordination, and other "smart" technologies will help accommodate the increasing demand on these facilities, developing additional alternatives to automobile transport, both within the region and within the greater Northern California area, is a major element of the long-term solution. The SR3T project, in coordination with the SR51 project, will significantly contribute to the goals of relieving traffic congestion, improving regional air quality, and increasing the capacity of the I-80 corridor. The SR3T project will increase the number of trains within the existing UPRR right-of-way, with no requirement for new land or additional rights-of-way. In addition, the capacity of IPR service may eliminate the need for adding one additional lane on the I-80 corridor to accommodate the same number of people in automobiles. The SR3T Phase 2 project sets CCJPA on the path toward meeting these needs and sets the stage for remaining round trips until the ultimate goal of nine additional (ten total) round trips are achieved.

- The ITP will become the launching phase for a statewide program to integrate travel starting with trip planning, trip selection, trip payment and execution, and trip completion. As previously referenced, literature from similar deployments using even earlier back-end and consumer facing technology (research compiled in 2009) indicates that ridership increases can generally range from 3% to 5%, with some as high as 11%. Many of these are in more public transit robust European and Asian markets. As expected, the use of the smartphone further transforms and modernizes those already documented ITP deployments, something researchers could not use at the time of reporting in 2009. Based on research in CalSTA's Phase 1 of the ITP, European operators are seeing a second shift with integration via the smartphone and so at least a 3%-5% increase is conceptually feasible – as of early 2017, smart-phone ownership was in excess of 75%. For the purposes of this application, we are conservatively estimating a 2% permanent gain in ridership on an annual basis for any pilot ITP participant.

Integration with State Rail and Transit Operations

The Draft 2018 State Rail Plan and the developing Statewide Transit Plan, key elements of the State's overall Transportation Plan 20240, aim to capture an increasing percentage of California's travel demand

by rail and both directly support in concept or in very clear language the projects described in this application for CCJPA's NCCEP. Objectives include unified rail networks and connecting passenger rail to other transportation modes and service expansion to/from Roseville is mentioned in the draft State Rail Plan as are the steps to separate passenger and freight rail in the Oakland to Newark area.

- The improvements included in the Oakland to Newark area directly unlock future service expansions and are vital to the realization of the Draft 2018 State Rail Plan in addition to being core first actions in the CCJPA Vision Implementation Plan[11]. Rerouting Capitol Corridor's service between Oakland and Newark will create a connection to Dumbarton Express Bus service at the foot of the Dumbarton Bridge in Alameda County, currently operated by AC Transit, as well as a wide variety of employer operated bus shuttles. The San Mateo County Transit District (SamTrans) approved the final Dumbarton Corridor Transportation Study in December 2017, and should that project result in future increases to express bus service or the potential realization of rail service, as supported by the Draft 2018 State Rail Plan, Capitol Corridor will be ready to connect with future increases in service to the Peninsula as well as future California High-Speed Rail Service along the Peninsula. The Oakland to San Jose project will also provide key service differentiation and reduce redundancy with the Bay Area Rapid Transit District's (BART) current extension to Silicon Valley, providing service to Santa Clara County starting in 2018 with the opening of the Milpitas and Berryessa BART Stations. Rerouting Capitol Corridor service away from BART's alignment avoids duplication of services and investments and redundancy, and differentiates Capitol Corridor as the faster/express service with BART and connecting transit as the more frequent service option, and enhances connections between the East Bay and the Peninsula. Additionally, rerouting Capitol Corridor's service between Oakland and San Jose will take the necessary first step in allowing for the future increases in service serving San Jose which are necessary to support and achieve the Transportation Agency of Monterey County's (TAMC) and the Draft 2018 State Rail Plan's Salinas Rail Extension. The freight rail improvements also take a significant step forward in enhancing freight rail service performance and efficiency consistent with the Draft 2018 State Rail Plan, the Metropolitan Transportation Commission's (MTC) Goods Movement Plan, and Alameda County Transportation Commission's (Alameda CTC) Goods Movement Plan and Rail Strategy Plan.

- SR3T Phase 2 supports the Draft 2018 State Rail Plan's goals, in particular by offering interregional rail services that will connect with existing and future regional transit operations within Sacramento and Placer Counties creating, for example, the possibility of passengers to travel from location in Placer County to the Bay Area entirely by public transit.

- The Integrated Travel Program (ITP) is also specifically described in the objectives of both the draft 2018 State Rail Plan and emerging Statewide Transit Plan. Further, the objective is authorized in existing state code. This project is as pure a match for statewide objectives as is likely to be seen. CCJPA is applying for these TIRCP funds to support this project at a regional level with the express role as a partner to CalSTA in sharing these ITP statewide objectives.

[11] https://www.capitolcorridor.org/wp-content/uploads/2016/12/CCVIP-FINAL-REPORT.pdf

Improve Safety

Capitol Corridor is committed to upgrading its rail operations in such a way that improves safety for users and non-users of their rail services, and the projects proposed in the NCCEP consider and address necessary safety components of the project.

- The Oakland to San Jose project includes upgrades to track, wayside signals including Positive Train Control, and at-grade crossing protection that will improve safety for the operation of CCJPA trains. New safety fencing along the entire segment of upgraded track on 17 miles of the Mulford Line (Coast Subdivision) will further increase public safety. The re-routing of freight trains and the construction of an additional passing siding will reduce the number of potential train conflicting movements, increasing both efficiency and safety for passenger trains. The rerouting of rail freight traffic off the Coast Subdivision and onto the Niles Subdivision will remove freight movements from the Centerville line reducing the number of vehicle/train conflicts at grade-crossings within the City of Fremont.

- The full implementation of the SR3T Project after the future construction phase will improve safety by reducing vehicle accidents in the I-80 Corridor between Sacramento and Roseville. I-80 experiences a large number of accidents in a typical week, and with more vehicles on I-80 as population and job opportunities increase over the next several years, the potential for accidents increases. Poor weather conditions (rain, wind, and dense Central Valley fog) also adversely affect the reliability of highway travel times, and rain and wind can make the roads dangerously slick, increasing accident rates. The provision of reliable and safe alternative travel, which will reduce the number of vehicles on I-80, will potentially reduce the accident rate and improve traffic safety. Additionally, the widening of SR 51 will upgrade the route to modern Caltrans standards and permit safe transit travel time improvements as well as also provide for separated safe (and healthy) bicycle travel.

- The ITP pilot project will greatly improve customer knowledge, ease, and confidence in using and connecting to public transit systems, improving safety on rail and transit, and will provide the basis to expand into additional layers of privately and public/private partnership-provided accessible transportation options.

Secondary Evaluation Criteria

Implementation of Sustainable Communities' Strategies

- The Metropolitan Transportation Commission's (MTC) Plan Bay Area 2040 (PBA 2040), the Regional Transportation Plan and Sustainable Communities Strategy for the San Francisco Bay Area 2017–2040, includes several strategies that are supported by the Bay Area elements of CCJPA's NCCEP: support focused growth and reduce greenhouse gas emissions, expand transportation on the Peninsula and within Santa Clara County, and support transportation projects that provide access to jobs[12]. Additionally, Plan Bay Area 2040 is the Bay Area's first regional plan with dedicated discretionary revenue allocated toward goods movement to implement the recommendations of the Regional Goods Movement Plan. MTC has indicated that the portion of this application that falls within their jurisdiction is consistent with their Sustainable Communities Strategy (see **Appendix B** for the MTC documentation).

[12] http://2040.planbayarea.org/cdn/farfuture/u_7TKELkH2s3AAiOhCyh9Q9QlWEZIdYcJzi2QDCZuIs/1510696833/sites/default/files/2017-11/Final_Plan_Bay_Area_2040.pdf

- SB 375 of 2008 requires Metropolitan Planning Organizations such as the Sacramento Area Council of Governments (SACOG) to include a "sustainable communities' strategy" (SCS) as part of their Regional Transportation Plans, in order to reduce GHG emissions within the region to meet goals set by the California Air Resources Board. The SR3T Project is consistent with the MTP/SCS adopted by SACOG in 2016. This Project will therefore help the region meet its SB375 requirements and GHG reduction goals. SR3T will support the implementation of sustainable communities' strategies by 1. Project will reduce vehicle miles travelled by automobiles through the growth of alternative rail services 2. Will expand the existing rail system and enhance the connectivity with regional and inter-regional transit systems and by recuing overall emissions, in addition to the GHG reductions will contribute to health benefits as a result of improved regional air quality[13].

- The ITP objectives are consistent with all MPOs and RTPA Regional Transportation Plans on a statewide basis.

Benefits to Disadvantaged Communities, Low-Income Communities, and Low-Income Households
Multiple Capitol Corridor stations are directly within or located within close proximity to disadvantaged and/or low-income communities and these communities all along Capitol Corridor's service area will benefit from projects in the NCCEP. As just one example, areas around the Oakland Coliseum intermodal station will benefit from a faster intercity passenger rail service to and from high-growth job centers that will ultimately increase the economic vitality of an area with high unemployment levels. As a result of providing faster service from the East Bay to Silicon Valley, vehicles along the entire corridor will be removed, alleviating traffic congestion along the 5th and 7th most congested Bay Area interstates. This will help reduce levels of greenhouse gas emissions and multiple other sources of air pollution that disproportionately burden disadvantaged and low-income communities. This situation will repeat itself across the entire Capitol Corridor route and the communities it serves, including the more focused benefit to come from the ST3T Ph2 and SR 51 implementation after construction (in future funding applications) as Capitol Corridor directly serves the Sacramento station located within a Disadvantaged Community.

Though, presence of a passenger rail station within or in proximity to a disadvantaged or low-income community, or low-income households, is not, on its own, a proxy for a benefit to those communities or households. The distance of a passenger rail trip made and the fact that the automobile is often the only other mode of travel between the more distant origin and destination points is equally a factor – with access to/from a passenger rail station being a contributing factor for those communities and households. By reducing VMT through increased ridership, the project will contribute to reductions of critical pollutant levels both in proximity to the station, those communities which the right-of-way passes through, and, for communities that are much further afield than either stations or the rail right-of-way would suggest.

In addition to GHG reductions, criteria pollutants that affect health will be reduced both by VMT reduction and by the use of renewable diesel fuel in the operations of the Capitol Corridor. Criteria pollutants with localized impacts, such as PM 10 and PM 2.5, will benefit communities in close proximity to the train route but also from VMT reduced through those communities. Criteria pollutants subject to transport, such as ozone precursors, will benefit all communities downwind of the pollutant source, be it a Capitol Corridor train or VMT reduced due to taking the Capitol Corridor. In this manner, it is not just

[13] https://www.sacog.org/sites/main/files/file-attachments/mtpscs_complete.pdf

disadvantaged communities in proximity to Capitol Corridor service that have a positive benefit – the benefit accrues much further than the maps shown in this application will suggest. As well, use of renewable diesel coupled with a Tier 4 engine, which will be utilized in Capitol Corridor operations, is an improvement on criteria pollutants of all types over the petrol diesel that is utilized largely at present – and this will have localized benefits as well as benefits further afield depending on the nature of the criteria pollutants.

When expanded as a concept statewide, the ITP will have direct impact in numerous communities for all the CA IPR services, their stations, and the transportation services they connect with. In all circumstances, there are direct benefits to disadvantaged communities, low-income communities, and low-income households by the improvements included in this application. As with the physical improvements, these benefits are expected to reach many of the communities across California, again depending on the criteria pollutant reduced – a local or more transported air quality benefit. Additionally, as part of the solution architecture for ITP, the opportunity to provide steep transportation discounts to qualifying low-income individuals is conceptually possible. The state maintains databases of households qualified for housing and/or energy assistance for those significantly below median State incomes. As part of implementation of the ITP, a program element will be to explore if these databases can also be utilized to offer transportation discounts via the ITP.

Project Priorities
CCJPA has developed each of these project elements with partners including Caltrans Districts 3 and 4, the Alameda CTC, and AC Transit, in addition to our state IPR partners, and regional MPOs MTC and SACOG. In addition, State ITP partners have conducted outreach on the ITP project in order to prepare for being pilot transit agencies. The extensive outreach was required to develop project priorities, strategies, funding plans, and conceptual design features in order to develop this application. The implementation of these projects will build on mutual coordination efforts should these project elements be funded with TIRCP and other funding sources identified in this application. CCJPA has existing funding agreements with CalSTA/Caltrans to develop the prior phases of ITP which are the basis for the current funding application.

Geographic Equity
With Capitol Corridor's service alignment rerouted alongside the Mulford Line Coast Subdivision, the new Fremont/Newark intermodal station will create a connection to existing express bus service expanding Capitol Corridor's reach, providing enhanced access to communities and jobs across the Dumbarton Bridge on the Peninsula for residents of the East Bay and Sacramento region. In turn, residents from the Peninsula and cities such as Menlo Park and East Palo Alto will gain access to a station that can link them to other major transit hubs throughout the East Bay and North to Sacramento. The service and mobility enhancements that will be set up by the linked SR3T Ph2 and SR51 pre-construction activities will be realized when the construction phases are completed and service is improved across multiple modes. The communities of Roseville as well as Sacramento and Citrus Heights will benefit from CCJPA working with partners at SACOG, Roseville, Sacramento, Sacramento RT, and Caltrans District 3 to present a corridor-wide multi-modal solution. The ITP project will extend benefits throughout the State of California and thus is, by its nature, will provide an ideal example of geographic equity.

Consistency with Sustainable Communities' Strategy
As Capitol Corridor service spans the most significant and highly utilized travel corridor connecting the Northern California Megaregion, elements of the NCCEP cross many boundaries and span multiple MPO jurisdictions. MTC has issued a determination that the Oakland-San Jose subproject of CCJPA's NCCEP application is consistent with Plan Bay Area 2040, the region's Sustainable Communities Strategy. As

detailed further in the above discussion on **Implementation of Sustainable Communities' Strategies**, CCJPA's NCCEP is also consistent with SACOG's Sustainable Communities Strategy.

Freight Benefits

- The Oakland to San Jose segment of Capitol Corridor involves a vital route in the Bay Area transportation network for both passenger and freight rail operations, and the Oakland to San Jose Service Enhancement Project seeks to build the necessary infrastructure for both freight and Capitol Corridor passenger operations to be run far more efficiently, thus better serving their respective markets – a key goal in both the Draft 2018 State Rail Plan and the upcoming Alameda County Rail Strategy Study. Currently, both passenger operations in Alameda County and freight rail services heading from the Port of Oakland to the San Joaquin Valley run on lengthier routes to get to their destinations, reducing capacity overall and creating a passenger and freight rail conflict in Fremont, California, where both rail services must cross over to continue to their intended destinations. Separating freight and passenger rail in Alameda County will improve network utilization of both services, and will support economic vitality by facilitating more efficient goods movement from the Port of Oakland heading east to destinations throughout the United States.

- The SR3T Ph 2 Project preserves freight corridor capacity while also building the capacity to expand passenger rail service largely on its own track that runs in parallel to the existing freight service tracks supporting existing and future freight train service growth. Adding a third main track for IPR service between Sacramento and Roseville will improve freight and passenger rail operations along this corridor. The SR3T project will reduce the inherent conflicts between freight and passenger operations, due to train speed differences and dispatching priorities, which will then reduce delays in the corridor and allow UPRR to operate its freight services in a more efficient and safe manner. The new third track is designed to ensure that UPRR can increase its freight capacity in the future. Freight rail benefits for all pre-construction activities of the SR3T Phase 2 project will be realized when construction phases are funded and completed. The UPRR has worked with CCJPA in a manner of the SR3T Ph 2 project to ensure freight rail services would not be compromised by the expansion of additional passenger rail service to/from Roseville to points beyond.

Non-State Supplemental Funding Commitments

CCJPA's OKJ-SJC Phase 2A Project has significant commitments in partnerships and funding from local and regional agencies in support of getting the project through the pre-construction phases. The Metropolitan Transportation Commission's (MTC) Regional Measure 3 (RM3) will be on the ballot in 9 Bay Area counties in June 2018, and includes a $90 million dedication for Capitol Corridor improvements between Oakland and San Jose, with $61 million identified by CCJPA as in support of OKJ-SJC Phase 2A (remaining RM3 funds will be used to progress future phases of OKJ-SJC). Additionally, CCJPA is working with Alameda CTC, a key project partner, to secure a commitment of $40 million in local funds in support of OKJ-SJC Phase 2A. CCJPA is working with project partners on OKJ-SJC Phase 2A and SR3T Phase 2 to explore potential funding commitments for its transit partners from Federal sources, including funds administered to transit agencies through the Federal Transit Administration (FTA). CCJPA is working with the Cities of Newark and Fremont to identify sources related to Transit-Oriented Development elements for which cities are eligible applicants. Additionally, CCJPA is currently seeking potential partnerships and funding support from private partners benefitting

from enhanced multimodal rail and transit service where private shuttles are currently operated. A detailed discussion of all funding commitments and potential funding sources for each project in the NCCEP, including both state and non-state sources, can be found in **Section B. Project Costs & Funding.**

Multi-Modal Integration

The SR3T project's integration and coordination with Caltrans District 3's State Route 51 project will achieve cost and funding efficiencies beneficial to both projects, and will achieve multi-modal benefits for several modes of travel: rail, auto, transit, and bicycle and pedestrian. While passenger rail travel between Sacramento and Roseville will be increased by SR3T, and auto travel will be enhanced by the widening of SR51, there is also potential for a component of SR51 to benefit transit as Caltrans explores its ability to allow Sacramento RT to operate buses on the shoulder of the newly widened freeway. Additionally, a bicycle and pedestrian lane will be included on the bridge crossing the American River. Capitol Corridor's service expansion project between Oakland to San Jose will ensure it is more user-friendly by integrating the rail service with an existing bus hub providing access to the Peninsula via existing Dumbarton Express Service as well as private shuttle service utilized by companies in Santa Clara and San Mateo Counties. The City of Fremont is also working to build out bicycle lanes in the Ardenwood area connecting to the existing Park & Ride at Ardenwood, which will provide additional bicycle and pedestrian connections to the future multi-modal Ardenwood Transit Center. The ITP project is multi-modal as well, with the basis of the project to improve utilization of both rail and transit modes in the initial pilot phase, but with implications for future rollout steps after the pilot program to have additional multi-modal integration for all publicly accessible land-based transport options (for example, car share, bike share, ride-sharing) in the future.

Financial Plan for Expansion of Service

While the projects identified in the NCCEP enhance service and set up for future phases of projects of which will create service increases, specifically between Sacramento and Roseville and Oakland and San Jose, they do not at this time create the need for increases to operational budgets in support of service increases or expansion. CCJPA is committed to ensuring it's future operations are financially viable, and will plan its operations budget accordingly in the future at such a time as it is necessary to do so – generally with the annual Business Plan Update presented to CalSTA.

Estimated Useful Life of Project

The physical infrastructure improvements constructed as part of NCCEP are generally assets with a thirty-year useful life. In many cases this can be extended through capital maintenance programs.

Public and Private Benefits

CCJPA operates its intercity passenger services service between the San Jose Diridon Station and Auburn. For the vast majority of its length, including the segment between Sacramento and Roseville, Capitol Corridor trains run over the privately-owned UPRR tracks. This segment of the UPRR operations is a vital link in their system, which provides freight rail services throughout the country. These rail routes provide a critical connection for California and the nation's goods movement system and have a significant contribution to the economic vitality of California and the U.S. Economy as a whole.

The physical improvements provided by the SR3T Project and the Oakland to San Jose Service Enhancement Project will allow for the separation of passenger and freight rail operations. This will result in reduced conflicts between passenger and freight trains. This, in turn, will promote safer, more efficient operations for both passenger and freight operations. The improvements provided by these projects will help ensure that UPRR freight services continue to support goods movement and the

economic growth of the region, and will allow for increased efficiency and movement of passengers along Capitol Corridor's route.

The Fremont/Newark station proposed in this application will provide direct vertical circulation between modes, Capitol Corridor, Park & Ride, and numerous private employer shuttles that provide complementary and much needed additional service to public transit. Due to the location of the bus stop in the median of SR 84, the travel time for all shuttles that presently serve the existing Ardenwood park & ride facility will be significantly reduced – and this has direct benefits to provide employer provided shuttle operators. While much of this information is not available due to its private nature, as of 2015, based on surveys conducted by MTC and BACEI, there were eleven (11) employer shuttle services each with multiple bus services operating on the Dumbarton Corridor. The CCJPA has only been able to obtain data for the Stanford shuttle service and did include the private benefits of this more rapid service connection in our benefits analysis, however these benefits are likely to be at least 10 times greater than documented herein.

E. Project Impacts

Capitol Corridor connects to many other transit and rail systems providing service throughout the state, and creates the rail backbone of the Northern California Megaregion. As seen in **Figure 7**, Capitol Corridor connects to 5 existing rail systems including the Altamont Corridor Express (ACE), Bay Area Rapid Transit District (BART), Caltrain, Coast Starlight, and San Joaquins, with future connections planned to Sonoma-Marin Area Transit (SMART) and emerging California High-Speed Rail service. CCJPA, supported by CalSTA and Caltrans, took the lead in summer 2017 to activate the coordinated planning efforts of the rail operators and planning agencies in the Northern California Megaregion to better support planning and integration of the Northern California Rail network. With the success of the first Megaregional workshop, and the identification of a needed governance structure to better organize efforts, megaregional rail planning and coordination efforts are continuing to develop under the guidance of State leadership. The initiation of projects in this application and other TIRCP applications from Northern California rail and transit agencies will accelerate the need to continue megaregional discussions. CCJPA is committed to working with peer rail agencies in a continuing (and perhaps accelerated) forum of interaction and future joint project submittals moving forward.

CCJPA's NCCEP takes the essential first step in achieving regional, interregional, and statewide projects, and provides needed service and capacity enhancements to the regional and statewide rail and transit network. The following projects in particular are supported or enhanced by the project elements in CCJPA's NCCEP:

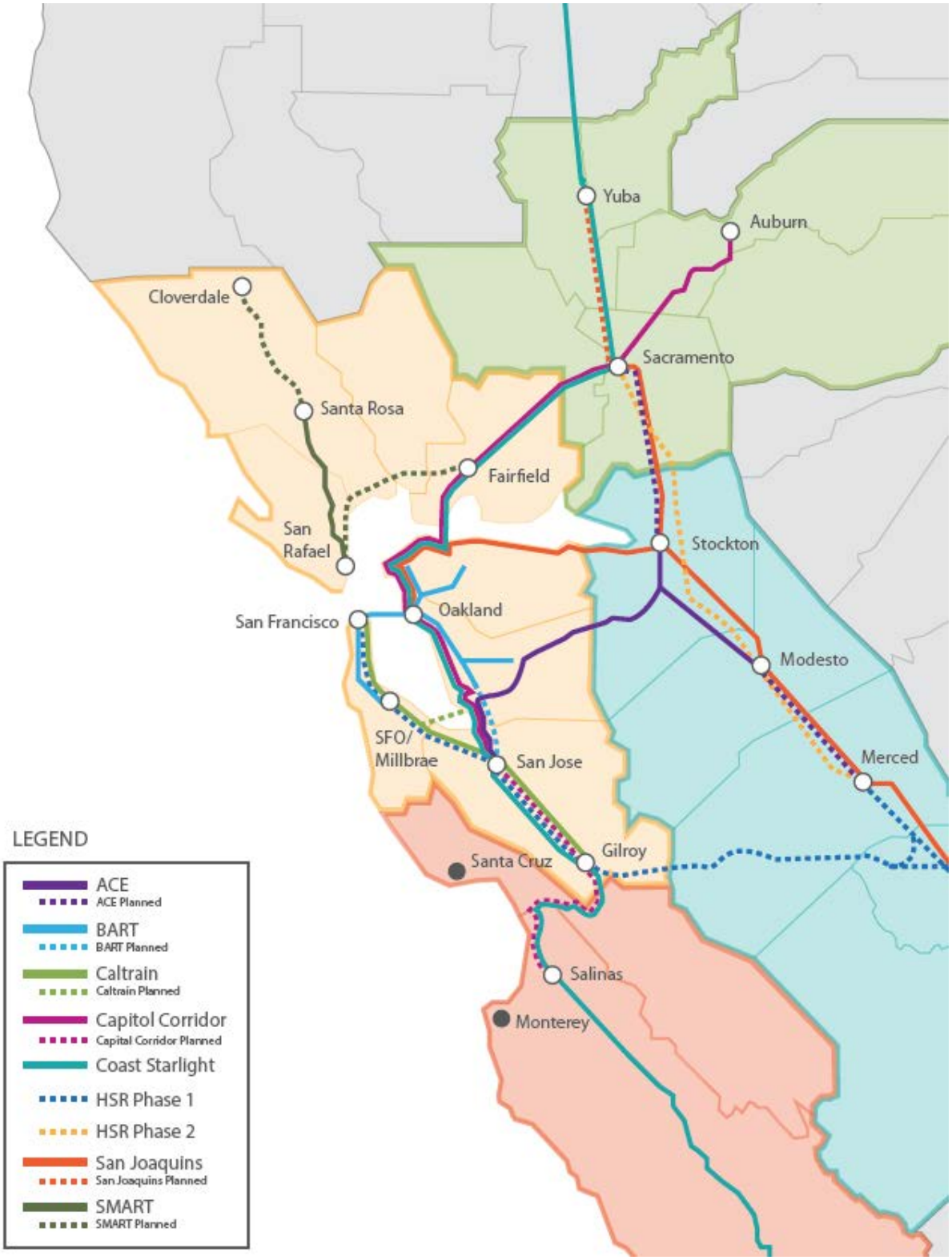
- **Transportation Agency of Monterey County (TAMC): Salinas Rail Extension**
  TAMC Salinas Rail Extension proposes to extend rail service South from Gilroy, serving new stations at Watsonville Junction (Pajaro), Castroville, and Salinas. The project received environmental clearance on the Salinas Rail Extension in 2006 and is currently in the design phase and seeking construction funding to support the project. TAMC is proposing that, with full electrification and redeployment of their diesel fleet, Caltrain operate service to Salinas in the 2022-2027 timeframe, in line with the goals of the draft 2018 State Rail Plan. After future phases of the OKJ-SJC project are complete, and Capitol Corridor service between Oakland and San Jose has increased, TAMC anticipates Capitol Corridor operating rail service to Salinas.

- **San Mateo County Transit District (SamTrans): Dumbarton Transportation Corridor Study**
  The SamTrans Board recently approved the Dumbarton Corridor Transportation Study (DTCS), which proposed options for transitioning the Ardenwood Park & Ride into an intermodal transit center to serve future increased bus and/or rail service on the Dumbarton Corridor. CCJPA's proposed new station in Newark/Fremont aligns with SamTrans and project partners efforts and helps to facilitate a transfer point for riders traveling between the East Bay and the Peninsula.

- **Santa Clara Valley Transportation Authority (VTA): BART to Silicon Valley**
  Phase 1 of BART to Silicon Valley will open in 2018 with service extending beyond Fremont to the new Milpitas and Berryessa BART Stations in Santa Clara County. BART to Silicon Valley Phase II will extend service further into San Jose and Santa Clara, with service to new stations at Alum Rock, Downtown San Jose, Diridon, and Santa Clara.

- **Various Localized Transit Mobility Applications: Statewide**
  The prevalence of smartphones is prompting numerous transit agencies across the state to develop their own ticketing mobility solutions. While these are of benefit locally, the manner of how people travel does not consistently align with the jurisdictions of the local host transit agency. Thus, a multitude of individualized transit agencies with mobility applications each with their own development costs does not build upon providing greater functionality across regions, megaregions, or the state. Outreach and pursuit of the Statewide ITP is a unique opportunity to consolidate and realize economies of scale across the state and, in the end, provide a more flexible travel tool that is integrated across jurisdictions. This point is made to demonstrate that there are opportunities to focus perhaps many initiatives and potentially expand the scope and reach of the ITP project or modify the funding approach if coordination efforts prove successful statewide in the near-term future.

Figure 7: Existing and Planned Megaregional Rail Map



Source: HNTB 2017

Primary Evaluation Criteria

Greenhouse Gas Emissions (GHG) Reduction

CCJPA's NCCEP will support increased connections between rail and express and private bus service at the new Fremont/Newark Station, thereby increasing ridership, reducing VMTs, and directly reducing GHGs on these project partners services, including Dumbarton Express Bus operated by AC Transit. These GHG reduction benefits are quantified in the CARB evaluation model included and complete discussion of methodology included as **Appendix C.** Additionally, CCJPA's NCCEP provides the necessary first step in achieving TAMC's Salinas Rail Extension, and provides significant enhancements and complementary service to VTA's BART extension to Silicon Valley, with each project having their own GHG reductions benefits that can be seen in their TIRCP applications.

Increase Ridership

As detailed above in this section, CCJPA's NCCEP project provides the necessary first step in enhancing the capacity between the East Bay and the South Bay, supporting a regional and statewide rail and transit network, and achieving many of the service and ridership goals in the Draft 2018 State Rail Plan, MTC's PBA 2040, and Alameda CTC's Countywide Transportation, Transit, and Rail, Plans. OKJ-SJC will enhance linkages to other transit services, particularly those serving the Peninsula, and the new intermodal Fremont/Newark Station will provide increased ridership opportunities to Dumbarton Express Bus and private corporate shuttles. Additionally, by providing key differentiation between Capitol Corridor service as a faster express link between cities, and BART service as a lower-cost transit option serving more stops in between cities, Capitol Corridor will attract choice riders who may otherwise utilize BART as it extends service into Santa Clara County. It is likely that if Capitol Corridor were to remain on a similar route to BART as VTA extends BART service to Silicon Valley, the existing Hayward and Fremont Stations would see a decrease in ridership. An impact of the OKJ-SJC project is that these existing Hayward and Fremont Capitol Corridor Stations will be no longer be served by Capitol Corridor, and they will retain transit access to Santa Clara San Jose via VTA's BART extension beginning service to Milpitas and Berryessa in 2018. These two Capitol Corridor stations will be replaced by the new Fremont/Newark Station at the foot of the Dumbarton Bridge, providing enhanced connections to the Peninsula, as further discussed in the section below.

Integration with State Rail and Transit Operations

As detailed above, CCJPA's NCCEP project provides the necessary first step in enhancing the connection and capacity between the East Bay and the South Bay, supporting a regional and statewide rail and transit network, and achieving many of the service and ridership goals in the Draft 2018 State Rail Plan; MTC's PBA 2040 and Goods Movement Plan; and Alameda CTC's Countywide Transportation, Transit, Rail, and Goods Movement Plans. The new Fremont/Newark station will provide enhanced multimodal connections between rail, express bus, and private shuttles, creating an enhanced linkage from Capitol Corridor to Caltrain service and future High-Speed Rail along the Peninsula. Capitol Corridor connects to many other transit and rail systems providing service throughout the state and creates the rail backbone of the Northern California Megaregion, discussed in further detail in the **Multi-Modal Integration** section below. CCJPA is committed to continuing its participation in the Northern California Megaregion efforts as they continue to develop under the leadership of State direction and organization.

Improve Safety
CCJPA is committed to coordinating with other projects to ensure any and all impacts between projects include and address the necessary safety components of the projects. The full implementation of the SR3T Project after the future construction phase will improve safety by reducing vehicle accidents in the I-80 Corridor between Sacramento and Roseville. Additionally, the widening of SR 51 will upgrade the route to modern Caltrans standards and permit safe transit travel time improvements as well as also provide for separated safe (and healthy) bicycle travel. The ITP pilot project will greatly improve customer knowledge, ease, and confidence in using and connecting to other participating public transit systems, improving safety on rail and transit.

Secondary Evaluation Criteria

Implementation of Sustainable Communities' Strategies
MTC's Plan Bay Area 2040 identifies that a robust, multimodal transportation network is needed to support the ever-increasing jobs and population growth in the Bay Area, while decreasing congestion and environmental impacts in our region. PBA 2040 estimates that Alameda and Santa Clara counties will add 1.2 million residents and 625,000 jobs between 2010 and 2040, accounting for 52% of the nine-county Bay Area's population growth and 49% of the region's job growth over 30 years[14]. PBA 2040 in particular recommends actions that expand regional economic development capacity while increasing pathways to middle-wage jobs and preserving infrastructure Capitol Corridor provides a vital link between population and job centers in the East Bay and South Bay, will enhance existing and expanding BART service, and will support future service increases and potential extensions south of San Jose to Salinas, increasing much-needed transportation services to and through the East and South Bays.

Benefits to Disadvantaged Communities, Low-Income Communities, and Low-Income Households
With complementary service to BART projected with the OKJ-SJC project, increased capacity on BART would provide disadvantaged and low-income communities with the benefit of opting for the more economical transit option of BART to and from high-growth job centers like San Jose. As discussed further in **Section F, Disadvantaged Communities, Low-Income Communities, and Low-Income Households,** the ITP project has the potential to provide low-income persons with the possibility of being sold a lower-cost transportation trip based on participating operator agreements on other services. Additionally, as OKJ-SJC is a necessary precursor for TAMC's Salinas Rail Extension, the project will support the addition of much needed rail service in Monterey County, providing rail service to the disadvantaged and/or low-income communities served by the potential new rail stations south of San Jose at Watsonville Junction (Pajaro), Castroville, and Salinas.

Project Priorities
CCJPA has developed each of the NCCEP project elements with partners including Caltrans Districts 3 and 4, the Alameda CTC, and AC Transit, in addition to our state IPR partners, and regional MPOs MTC and SACOG. CCJPA's coordination with Caltrans District 3 seeks to identify cost and funding efficiencies between SR3T and the SR51 Widening Projects. CCJPA is working with Alameda CTC to ensure the OKJ-SJC project is in alignment with Alameda's Rail Strategy Study and to support negotiations with UPRR. In addition, State ITP partners have conducted outreach on the ITP project to get prepared for being pilot transit agencies, and CalSTA/Caltrans are committed to developing and implementing Phases 3 and 4 as a key Statewide priority supported in the draft 2018 State Rail Plan.

[14] http://2040.planbayarea.org/cdn/farfuture/u_7TKELkH2s3AAiOhCyh9Q9QlWEZIdYcJzi2QDCZuIs/1510696833/sites/default/files/2017-11/Final_Plan_Bay_Area_2040.pdf

Geographic Equity

As described further throughout this section, Capitol Corridor connects to many other transit and rail systems providing service throughout the state, and creates the rail backbone of the Northern California Megaregion. With Capitol Corridor's service alignment rerouted alongside the Mulford Line Coast Subdivision, the new Fremont/Newark intermodal station will create a connection to existing express bus service expanding Capitol Corridor's reach, providing enhanced access to communities and jobs across the Dumbarton Bridge on the Peninsula for residents of the East Bay and Sacramento region. In turn, residents from the Peninsula and cities such as Menlo Park and East Palo Alto will gain access to a station that can link them to other major transit hubs throughout the East Bay and North to Sacramento. The service and mobility enhancements that will be set up by the linked SR3T Ph2 and SR51 pre-construction activities will be realized when the construction phases are completed and service is improved across multiple modes. The communities of Roseville as well as Sacramento and Citrus Heights will benefit from CCJPA working with partners at SACOG, Roseville, Sacramento, Sacramento RT, and Caltrans District 3 to present a corridor-wide multi-modal solution. The ITP project will extend benefits throughout the State of California and thus is, by its nature, an ideal example of providing geographic equity.

Consistency with Sustainable Communities' Strategy

MTC has issued a determination that the OKJ-OJC project in CCJPA's NCCEP application is consistent with Plan Bay Area 2040 (PBA 2040), the Bay Area's Sustainable Communities Strategy (SCS). Other elements of the NCCEP project, including SR3T and the ITP project, are outside of the scope and jurisdiction of MTC, though are consistent with SACOG's SCS and the draft 2018 State Rail Plan, respectively.

Freight Benefits

As discussed in detail in **Section D, Project Benefits**, OKJ-SJC seeks to build the necessary infrastructure for both freight and Capitol Corridor passenger operations to be run far more efficiently, thus better serving their respective markets – a key goal in both the Draft 2018 State Rail Plan, MTC and Alameda CTC's Goods Movement Plans, and the upcoming Alameda County Rail Strategy Study. Currently, both passenger operations in Alameda County and freight rail services heading from the Port of Oakland to the San Joaquin Valley run on lengthier routes to get to their destinations, reducing capacity overall and creating a passenger and freight rail conflict in Fremont, California, where both rail services must cross over to continue to their intended destinations. Separating freight and passenger rail in Alameda County will improve network utilization of both services, and will support economic vitality by facilitating more efficient goods movement from the Port of Oakland heading east to destinations throughout the United States. The SR3T Ph 2 Project also creates freight benefits by preserving freight corridor capacity while also building the capacity to expand passenger rail service largely on its own track that runs in parallel to the existing freight service tracks supporting existing and future freight train service growth. The SR3T project will reduce the inherent conflicts between freight and passenger operations, due to train speed differences and dispatching priorities, which will then reduce delays in the corridor and allow UPRR to operate its freight services in a more efficient and safe manner. The new third track is designed to ensure that UPRR can increase its freight capacity in the future. The UPRR has worked with CCJPA in a manner of the SR3T Ph 2 project to ensure freight rail services would not be compromised by the expansion of additional passenger rail service to/from Roseville to points beyond.

Non-State Supplemental Funding Commitments

CCJPA is committed to supporting partner projects through the NCCEP, including the SR51 Widening project and scalable elements of the new Fremont/Newark Station as part of the OKJ-SJC Phase 2A Project. CCJPA is coordinating closely with Caltrans, District 3, and in the future plans to work with

Sacramento RT, to explore potential funding commitments for its transit partners from Federal sources, including funds administered to transit agencies through the Federal Transit Administration (FTA). Additionally, CCJPA is working with key project partners on OKJ-SJC to identify those Federal, regional, and local transit funding sources available to eligible transit planning and agency applicants, including Alameda CTC and AC Transit. CCJPA is also working with the City of Fremont and the City of Newark to identify sources related to Transit-Oriented Development elements for which cities are eligible applicants. CCJPA is also seeking potential partnerships and funding support from private partners benefitting from enhanced multimodal rail and transit service where private shuttles are currently operated.

Multi-Modal Integration

Capitol Corridor connects to many modes of transportation, including: the Oakland International Airport via the Oakland Airport Connector at the Coliseum Station; 5 existing rail systems including the Altamont Corridor Express (ACE), Bay Area Rapid Transit District (BART), Caltrain, Coast Starlight, and San Joaquins, with future connections planned to Sonoma-Marin Area Transit (SMART) and emerging California High-Speed Rail service; light rail services in major hubs including SacRT in Sacramento, VTA in San Jose, and MUNI in San Francisco; connecting Amtrak bus service to San Francisco, Eureka, Chico and Redding, South Lake Tahoe, and Reno, NV; local bus services throughout Northern California; and ferry service to San Francisco at Oakland Jack London Square. As detailed further in **Section D, Project Benefits**, the SR3T project's integration and coordination with Caltrans District 3's State Route 51 project will achieve cost and funding efficiencies beneficial to both projects, and will achieve multi-modal benefits for several modes of travel: rail, auto, transit, and bicycle and pedestrian. Capitol Corridor's service expansion between Oakland to San Jose will ensure it is more user-friendly by integrating the rail service with an existing bus hub providing access to the Peninsula via existing Dumbarton Express Service as well as private shuttle service utilized by companies in Santa Clara and San Mateo Counties. The City of Fremont is also working to build out bicycle lanes in the Ardenwood area connecting to the existing Park & Ride at Ardenwood, which will provide additional bicycle and pedestrian connections to the future multi-modal Ardenwood Transit Center. The ITP project is intrinsically multi-modal, with the basis of the project to improve utilization of both rail and transit modes in the initial pilot phase, but with implications for future rollout steps after the pilot program to have additional multi-modal integration for all publicly accessible land-based transport options (car share, bike share, ride-sharing) in the future.

Financial Plan for Expansion of Service

While the projects identified in the NCCEP, and the partner projects it supports, enhance service and set up for future phases of projects which will create service increases, they do not at this time create the need for increases to operational budgets in support of service increases or expansion. Should the need for a financial plan for projects impacted by CCJPA's NCCEP arise, CCJPA will work with partners to ensure fiscal viability of those projects.

F. Disadvantaged Communities, Low-Income Communities, and Low-Income Households

AB 1550 and SB 535 Populations

Capitol Corridor, and therefore the projects funded through this application, serve AB 1550 communities according to the California Air Resources Board's (CARB) Funding Guidelines following three criteria which evaluate benefits to those communities:

1A. The project is at least partially located within the boundaries of a disadvantaged community census tract.

1B. The project is at least partially located within the boundaries of a low-income community census tract.

1C. The project is located outside of a disadvantaged community but within ½ mile of a disadvantaged community and within a low-income community census tract.

By the strictest interpretation of the criteria as they are written, CCJPA's NCCEP will provide direct benefits to 2 stations in disadvantaged and low-income communities: the Sacramento Station in Sacramento (census tract number 6067005301) and the Oakland Coliseum Station in Oakland (census tract number 6001408900) as shown in **Figure 8**.

Figure 8: Capitol Corridor Stations within Disadvantaged and/or Low-Income Communities

However, the criteria are not an ideal match for the distance based nature of intercity passenger rail travel. The basic nature of the project is not associated with the physical improvements to track and station but to the overall service that it improves, which serves a wide range of communities across Northern California. Thus, the project affects the entire service corridor and all disadvantaged and non-disadvantaged communities and low-income and all other income communities that have reasonable means of access **and** that have need to take an intercity trip between origin and destination points **and** select the Capitol Corridor as a mode of choice for that trip. VMT reduced regardless of the community where that VMT and criteria pollutants were removed from will benefit **all** communities. However, because proximity can be expected to have some greater correlation to the nature of the service area, just along the Capitol Corridor, the following disadvantaged and low-income census tracts are likely to be most positively affected – however, this does not begin to include all other census tracts which are points of VMT and thus criteria pollutant reduction:

6061021802; 60601020300; 6061020401; 6061021103; 6061021108; 6061020901; 6061020908; 6067007422; 6067007416; 6067007429; 6067007414; 6067007416; 6067007414; 6067007423; 6067007403; 6067007424; 6067007301; 6067007413; 6067006202; 6067006300; 6067005502;

6067005402; 6067005301; 6113010101; 6113010102; 6113010203; 6113010602; 6113010608; 6113010501; 6095252707; 6095252611; 6095252607; 6095252402; 6095252502; 6013320001; 6013316000; 6013316000; 6013358000; 6013359102; 6013359102; 6013392200; 6013365002; 6013376000; 6013377000; 6013376000; 6013379000; 6013380000; 6013381000; 6013382000; 6001420400; 6001422000; 6001425104; 6001401700; 6001402200; 6001403300; 6001406000; 6001406100; 6001407300; 6001408800; 6001408900; 6001409400; 6001409300; 6001409200; 6001432501; 6001432600; 6001433104; 6001433200; 6001433700; 6001435601; 6001436300; 6001436800; 6001436602; 6001437500; 6001437701; 6001437701; 6001438204; 6001438203; 6001440301; 6001440200; 6001440200; 6001444601; 6001444302; 6085504602; 6085505202

An analysis has been compiled in a statewide map found in **Appendix A** for the ITP since the benefits would accrue to an extensive number of disadvantaged and low-income communities across California. As stated before, the goal of the ITP is not to eliminate existing PTO trip planning and fare payments, but build on and integrate with those systems with web- and app-based service delivery to the consumer. With smartphones (as well as internet access) being a key delivery interface for the integration, the proliferation of smart-phones could be concern for disadvantaged and low-income populations. However, there is strong evidence to suggest that these concerns are dwindling as they are increasingly addressed by the existing market. As cited in a January 2017 Pew Research article[15];

> "Smartphones are nearly ubiquitous among younger adults, with 92% of 18- to 29-year-olds owning one. But growth in smartphone ownership over the past year has been especially pronounced among Americans 50 and older. Nearly three-quarters (74%) of Americans ages 50-64 are now smartphone owners (a 16-percentage-point increase compared with 2015), as are 42% of those 65 and older (up 12 points from 2015). There has also been a 12-point increase in smartphone ownership among households earning less than $30,000 per year: 64% of these lower-income Americans now own a smartphone."

Addresses Important Need for a Community or Household

Optimizing faster service between Oakland and Silicon Valley will help bridge the connection for low-income and high unemployment communities to the employment booming cities that are Santa Clara and San Jose. Additional service will also give commuters on Interstate 580 and 880 the opportunity to opt out of driving in congested corridors, arriving in Santa Clara and San Jose faster and removing automobiles from the congested highways. Furthermore, Capitol Corridor's addition of the new Fremont/Newark station will allow for transit connections to the Dumbarton Express Bus service, resulting in enhanced service between the East Bay and Peninsula for disadvantaged and low-income communities near the new station and in East Palo Alto.

The Capitol Corridor's proposed Coast subdivision shift with the new Fremont/Newark station will remove a somewhat geographically duplicative service to BART that exists today, particularly as BART extends to Santa Clara County beginning in 2018. At present the present location of Capitol Corridor as a shared station at Oakland Coliseum continues a very similar service alignment for Hayward and even Fremont. With BART expansion to Warm Springs and eventually San Jose, the shift to the Coast subdivision will provide a key differentiation to the choice rider who can have a faster travel time between East Bay locations and Silicon Valley on the Capitol Corridor service but a much less frequent service than BART provides today and in the future. This will create greater capacity on an already overcrowded Bay Area transit system, which provides a different level of service at a lower cost point, and provide greater public travel choice for the Bay Area commuters, serving as the basis for future

[15] http://www.pewresearch.org/fact-tank/2017/01/12/evolution-of-technology/

differentiation of the BART and Capitol Corridor service with connections with High-Speed Rail at Diridon station.

Presently all of Capitol Corridor's stations along the future alignment between Oakland and San Jose have scored diesel pollution levels higher than the 80th percentile in the state according to CalEnviroScreen 3.0. This is significant as the average of these scores is depicting an overall score that falls in the 90th percentile. Traffic congestion emissions have also been measured and show that exhaust fumes are greatest near Fremont/Newark and Santa Clara Great America station. Rerouting the service alignment along the Mulford Coast Subdivision is projected to increase ridership and reduce automobiles along interstates that run through the communities affected by strong levels of congestion. This is a positive impact that will consequently help with health conditions that are triggered by air pollution, such as asthma.

Project Benefits

Freight rail and Capitol Corridor and ACE passenger rail, at present, run in conflicting directions through the Centerville area of Fremont. ACE will continue to run through this section, however, Capitol Corridor and UPRR freight trains would be-rerouted to train subdivisions that more directly and efficiently serve their respective customers, thus saving fuel, reducing emissions, and improving operating metrics. Capitol Corridor passengers will see faster travel times to the Silicon Valley job market and improve connections for public and private buses that serve the job centers located on the Peninsula via the SR 84 corridor. Ridership growth, reduced operating costs, reduced VMT, and lowered GHG and criteria pollutant emissions for all communities are expected to ensue as a result of better/faster connections between key housing and job centers.

For the SR3T Ph 2 and SR 51 widening, after construction is funded, there would be additional VMT savings via more Capitol Corridor service frequency and via a better performing Sacramento RT who can operate via HOV lanes in the widened SR 51. Additionally, safe bicycle access would be improved at a key American River crossing thus promoting more bicycle travel and VMT reduction. These VMT savings would come with direct benefits to modal choices for work and leisure based trips for the Roseville, Citrus Heights, and Sacramento areas as well as to communities beyond, including Capitol Corridor stations serving the Bay Area job centers.

As well, the development of the ITP will explore the options to use existing state databases for low-income assistance and, through the integration of an existing vetted process of income eligibility, be able pass on the provision of transportation through an account-based relationship with those databases. With this layer of integration, low-income persons would have the possibility of being sold a lower-cost transportation trip supplied via the ITP presuming that participating PTOs would be agreeable to inclusion of that provision. The ITP will pursue this feature but it would not be possible unless PTOs agreed to providing such discounted travel based on inclusion in an existing statewide low-income program.

Similar to the GHG analysis, selected criteria pollutant co-benefits16 that would be achieved by the OKJ-SJC Phase 2A and the ITP sub-projects were quantified using the ARB Calculator. **Table 10** summarizes reductions of ozone precursors—reactive organic gases (ROG) and nitrogen oxides (NOx)—particulate matter less than 2.5 microns in diameter (PM2.5), and DPM under both the 25-year and 50-year UL assumptions. Reductions are shown by sub-project, as well as for the entire NCCEP. **Table 11** summarizes criteria pollutant and DPM reductions inclusive of the freight service benefits.

[16] The ARB calculator does not estimate carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), or lead reductions.

Table 10: Selected Criteria Pollutant and DPM Co-Benefits Achieved by the Northern California Enhancement Program (tons)

Project	25-Year Useful Life				50-Year Useful Life[1]			
	Criteria Pollutants			DPM	Criteria Pollutants			DPM
	ROG	NOx	PM2.5		ROG	NOx	PM2.5	
SR3T/SR51	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]
OKJ-SJC Phase 2A[3]	10	114	5	6	20	223	9	12
ITP	19	89	2	10	39	176	4	21
Total (NCCEP)	*29*	*203*	*7*	*16*	*59*	*400*	*14*	*33*

Notes
[1] The ARB Calculator only allows lifetime emissions impacts to be quantified through a final year of 2050. Accordingly, results from the calculator were scaled to capture emission benefits under a 50-year UL, which extends to 2073 (refer to Attachment B of **Appendix C**).
[2] Reductions achieved by the SR3T/SR51sub-project are not included in the analysis because the requested TIRCP funds do not extend to construction for the sub-project.
[3] The ARB Calculator does not account for criteria pollutant or DPM benefits achieved by renewable diesel. Accordingly, emissions from rerouting Capitol Corridor service and reducing fuel consumption are calculated using emission factors for diesel fuel, which are higher than emission factors for renewable diesel. The criteria pollutant benefits calculated for Capitol Corridor fuel savings may therefore be slightly overstated.
ITP = integrated travel program
ROG = reactive organic gases
NOx = nitrogen oxides
PM2.5 = particulate matter less than 2.5 microns in diameter
DPM = diesel particulate matter

Table 11: Selected Criteria Pollutant and DPM Co-Benefits by the Northern California Enhancement Program Inclusive of Freight Benefits (tons)

Project	**25-Year Useful Life**				**50-Year Useful Life[1]**			
	Criteria Pollutants			DPM	Criteria Pollutants			DPM
	ROG	NOx	PM2.5		ROG	NOx	PM2.5	
SR3T/SR51	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]
OKJ-SJC Phase 2A[3]	22	342	13	14	50	758	28	32
ITP	19	89	2	10	39	176	4	21
Total (NCCEP)	*42*	*431*	*15*	*25*	*88*	*935*	*32*	*52*

Notes
[1] The ARB Calculator only allows lifetime emissions impacts to be quantified through a final year of 2050. Accordingly, results from the calculator were scaled to capture emission benefits under a 50-year UL, which extends to 2073 (refer to Attachment B of **Appendix C**).
[2] Reductions achieved by the SR3T/SR51 sub-project are not included in the analysis because the requested TIRCP funds do not extend to construction for the sub-project.
[3] The ARB Calculator does not account for criteria pollutant or DPM benefits achieved by renewable diesel. Accordingly, emissions from rerouting Capitol Corridor service and reducing fuel consumption are calculated using emission factors for diesel fuel, which are higher than emission factors for renewable diesel. The criteria pollutant benefits calculated for Capitol Corridor fuel savings may therefore be slightly overstated.
ITP = integrated travel program
ROG = reactive organic gases
NOx = nitrogen oxides
PM2.5 = particulate matter less than 2.5 microns in diameter
DPM = diesel particulate matter

All criteria pollutants and DPM are associated with some form of health risk (e.g., asthma, asphyxiation). Negative health effects associated with emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorological and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). Ozone precursors (ROG and NOx) affect air quality on a regional scale, whereas PM2.5 and DPM can have direct and localized effects. Exposure to ozone can aggravate respiratory and cardiovascular disease, impair cardiopulmonary function, and irritate the eyes. Exposure to PM2.5 and DPM can reduce lung function, aggregative respiratory diseases, increase cancer risk, and reduce visibility (California Air Resources Board 2005).

Implementation of the NCCEP would reduce criteria pollutant and DPM emissions from both reductions in passenger vehicle miles traveled (VMT) and locomotive fuel combustion. Passenger vehicles emit criteria pollutants as vehicle exhaust and re-suspend fugitive dust on local roadways. Passenger VMT savings achieved by increased transit ridership would reduce regional criteria pollutants, including ozone precursors (ROG and NOX), as well as local pollutants like fugitive dust. These emissions benefits would occur throughout northern California and may reduce health effects associated with adverse air quality.

Reducing passenger and freight locomotive miles would likewise reduce regional ozone precursors (ROG and NOX) and also directly impact DPM concentrations along the rail line. Relocating freight rail to the Niles Subdivision would eliminate freight service and associated emissions on the Newark to Niles Junction, which traverses the city of Fremont. Resident and community exposure to DPM, which is a carcinogen, would therefore be reduced along the Newark to Niles Junction. Emissions along the Coast and Niles Subdivisions would continue, with the amount of emissions generated dependent on the frequency of service (trips/day), combusted fuel type (e.g., renewable diesel, diesel), engine control technologies (e.g., Tier 4 engines), and other factors specific to the service provider on each subdivision (i.e., Capitol Corridor vs. Union Pacific).

Ultimately, the NCCEP would result in substantial criteria pollutant and DPM reductions (see **Tables 10 and 11**). The public health improvements that would be achieved by these emission reductions may yield direct and indirect economic co-benefits, including reduced costs of hospitalization and medications, as well as the value placed by individuals on avoiding illness.

G. Project Implementation

Sacramento to Roseville Third Track Phase 2 Project

The SR3T Phase 2 Project will be initiated through an agreement negotiated between CCJPA and Caltrans. The agreement will identify the roles, resources, funding, management and other conditions under which the two agencies will move the project forward. It is anticipated that CCJPA will perform all of the final design on the SR3T project, preparing plans and specifications, cost estimates and project schedule. Caltrans will provide design for the two bridges across SR5. Construction of these two bridges will be subject to coordination and agreement between CCJPA and Caltrans. The analysis and studies necessary for NEPA clearances and permitting for the two respective American River bridges is anticipated to be led by Caltrans. Final permits will be the responsibility of each agency.

Oakland to San Jose Service Expansion Phase 2A Project

Implementation of the Oakland to San Jose Service Expansion Phase 2A Project is dependent on several negotiated agreements with project partners. First and foremost, the project is dependent on negotiated agreement between Alameda CTC and UPRR for the Coast Subdivision as part of Alameda CTC's negotiations with UPRR regarding Alameda County's overall Rail Strategy Plan. The Oakland to San Jose project will then be initiated through an agreement negotiated between CCJPA and Alameda CTC. The CCJPA will prepare the designs, secure necessary entitlements, perform the environmental review and construct the improvements necessary to implement the new re-alignment of the Capitol Corridor service.

CCJPA, with Alameda CTC's support, is committed to implementing the necessary core elements of this project, including rehabilitation of the Mulford Line of the Coast Subdivision, installation of platforms and basic rail station amenities at the new Fremont/Newark Station, and freight mitigation components providing a single-track Industrial Parkway connection as well as a Shinn connection. CCJPA is committed to supporting further development of the new Fremont/Newark Station, including a parking garage and an enhanced express bus connection elevated on SR84, which will be coordinated closely with project partners AC Transit, Caltrans, District 4, the City of Fremont, and the City of Newark. Additionally, CCJPA will continue to explore project partnerships with private supporters and beneficiaries of the project, including local companies operating employee shuttles served by the new station.

Statewide Integrated Travel Program (ITP)

The Integrated Travel Program (ITP) is led by CalSTA and Caltrans, consistent with the Draft 2018 State Rail Plan and the emerging Statewide Transit Plan. CCJPA has been a key project stakeholder providing funding and project management. Phases 1 and 2 have been described elsewhere in this application, but a critical goal of Phase 2 is to develop and define the future governance under which Phases 3 and 4 of the project will proceed. At some point in project development, a separate entity from CCJPA will be required to lead Phases 3 and 4 forward for reasons of project implementation and execution.

If awarded TIRCP funds for this portion of the overall application, CCJPA will initially take on the role of project lead for purposes of funding, contract oversight, risk management, and change order management authority under direction from CalSTA and Caltrans given that the state has legislative authority to enact an integrated travel program. During Phase 2, as described above, a clear governance arrangement will be defined and implemented to transfer project lead from CCJPA to a subsequent entity to lead, implement, and complete Phases 3 and 4 of the pilot program.

Two objectives under continued CCJPA management during Phase 2 that must be accomplished before the new entity transitions to lead this project will be:

- Secure Caltrans authority that the new implementing entity can successfully assume the TIRCP roles and lead the project to completion. When a transition is ready, CCJPA will work with Caltrans to transfer all remaining TIRCP funds and responsibilities to the new entity for this element of this project application.

- Be required to enter into secure data sharing arrangements with the pilot PTOs and also be able to support secure data and financial exchange required by the financial industry – these are roles and responsibilities that the CCJPA is not equipped to manage.

To aid in the course of this transition, CCJPA has procured the services of a skilled consultant to lead the development of this program to date (Phases 1 and now 2). It is anticipated that CCJPA will continue with this consulting arrangement, including supporting the role of the consultant to retain additional staff as needed to conduct the day to day management and execution of project Phases 3 and 4. At a defined point in the governance/project transition, this consulting team will become staff or contracted staff to the new entity charged with all responsibilities to carry forward the work of Phases 3 and 4. The precise nature of how that transfer will transpire is unknown as of this application but it will depend on the formational authority related to the new entity to oversee and implement this project.

H. Project Readiness

Sacramento to Roseville Third Track Phase 2 Project

The preliminary design for the entire SR3T project has been reviewed and is supported by UPRR. Letters of support from UPRR are included in this application. An Environmental Impact Report (EIR) for the project was prepared and adopted by CCJPA in November 2015. CCJPA has entered into an MOU with the City of Roseville to address parking and circulation issues. Final design and construction for the first Phase of the project has been funded and final plans and specifications are being prepared. CCJPA and Caltrans have begun meeting and are developing the cooperative agreement that will allow Phase 2 for the final designs and regulatory reviews for the project to begin.

Oakland to San Jose Service Expansion Phase 2A Project

CCJPA has begun meeting with project partners to develop Memoranda of Understanding (MOUs) to initiate the Oakland to San Jose Service Expansion Phase 2A Project. Regular communication is ongoing with Alameda CTC to support their conversations and negotiations with UPRR regarding the Coast, Niles, and Oakland Subdivisions in Alameda County. A letter of support from UPRR for this project is included in **Appendix B**. CCJPA is currently working with Alameda CTC to prepare a Master Funding Agreement to confirm a local funding commitment of $40 million. CCJPA and Alameda CTC are also looking to regional funding to support the pre-construction elements of the project, including a $90 million allocation committed to the project from MTC's Regional Measure 3, subject to voter approval in June 2018.CCJPA is currently seeking State funding, including in this application, to support construction, with Federal funding sought out with the potential to support a portion of the design phase.

CCJPA is coordinating closely with project partners AC Transit, Caltrans, District 4, the City of Fremont, and the City of Newark to support further development of the new Fremont/Newark Station, including a parking garage and an enhanced express bus connection elevated on SR84. Additionally, CCJPA is committed to exploring project partnerships with private supporters and beneficiaries of the project, including local companies operating employee shuttles served by the new station.

Statewide Integrated Travel Program (ITP)

The ITP is underway at this time, overseen by CalSTA and Caltrans, and requires funding to continue from phase two seamlessly into phase three and four. Integration across travel modes in a manner to be suitable for future statewide integration using five initial pilot projects has not been completed in the United States as of this time. There are only examples in Europe and Asia where integrated travel at the scale California is planning has been undertaken. Based on interviews and documentation of best practices from European operators, a two-year pilot development phase followed by a three-year pilot phase appears feasible. However, since this has not been accomplished in quite this manner before, there is no precise template to follow.

Environmental benefits of this project will accrue after launch and pre-launch marketing of the project is completed – this would occur beginning the start of year three as scheduled currently. While the pilot phase may commence with five transit agencies in addition to the CA IPR services, the incremental cost and complexity of adding additional transit agencies beyond the initial five agencies would be low since the technical data and financial architecture and nature of agreements between the state entity and PTOs could largely be replicated.

The CCJPA and later the new lead entity will work towards the completion of the scope of work as described herein according to the following Scope of Work and timeline. The ITP will comprise a **five-year plan** divided into multiple phases as detailed in **Table 12**.

Table 12: ITP Five-Year Plan

Phase	Activity	Duration	Status
Phase 1	Research of European integrated travel schemes & report to CalSTA.	6 months	Completed in September 2017
Phase 2	Research of California PTO travel planning & payments, organization of Congress to solicit feedback from participating entities, report to CalSTA with recommendations for Phase 3.	9 months	Commenced in October 2017
Phase 3	Development of pilot scheme with selected PTOs and private entities.	2 years	-
Phase 4	Implementation of pilot with option for inclusion of additional participants, report to CalSTA on pilot outcome and recommendations for wider deployment.	3 years	-

Phases 1 was funded and completed in September 2017, and, following approval by CalSTA and its partners, Phase 2 was funded and commenced in October 2017; it is expected to be completed by July 2018. Pending a successful outcome of Phase 2, Phases 3 and 4 required significantly greater budgets and resources, and cooperation with public and private entities participating in the pilot scheme.

Phase 3 Description
Subject to CalSTA approval, Phase 3 will comprise the following key objectives:

- Formation of a new entity to manage the ITP initiative;
- Employment of key personnel and consultants for program management;
- Creation of a physical office for the ITP team and resources;
- Design of a pilot program for complete ITP solution testing and evaluation;
- Development of mobile app and back-office platform for travel planning and payments;
- Integration with participating PTOs for travel and payment data exchange;
- Solution testing, validation, and readiness for pilot deployment.

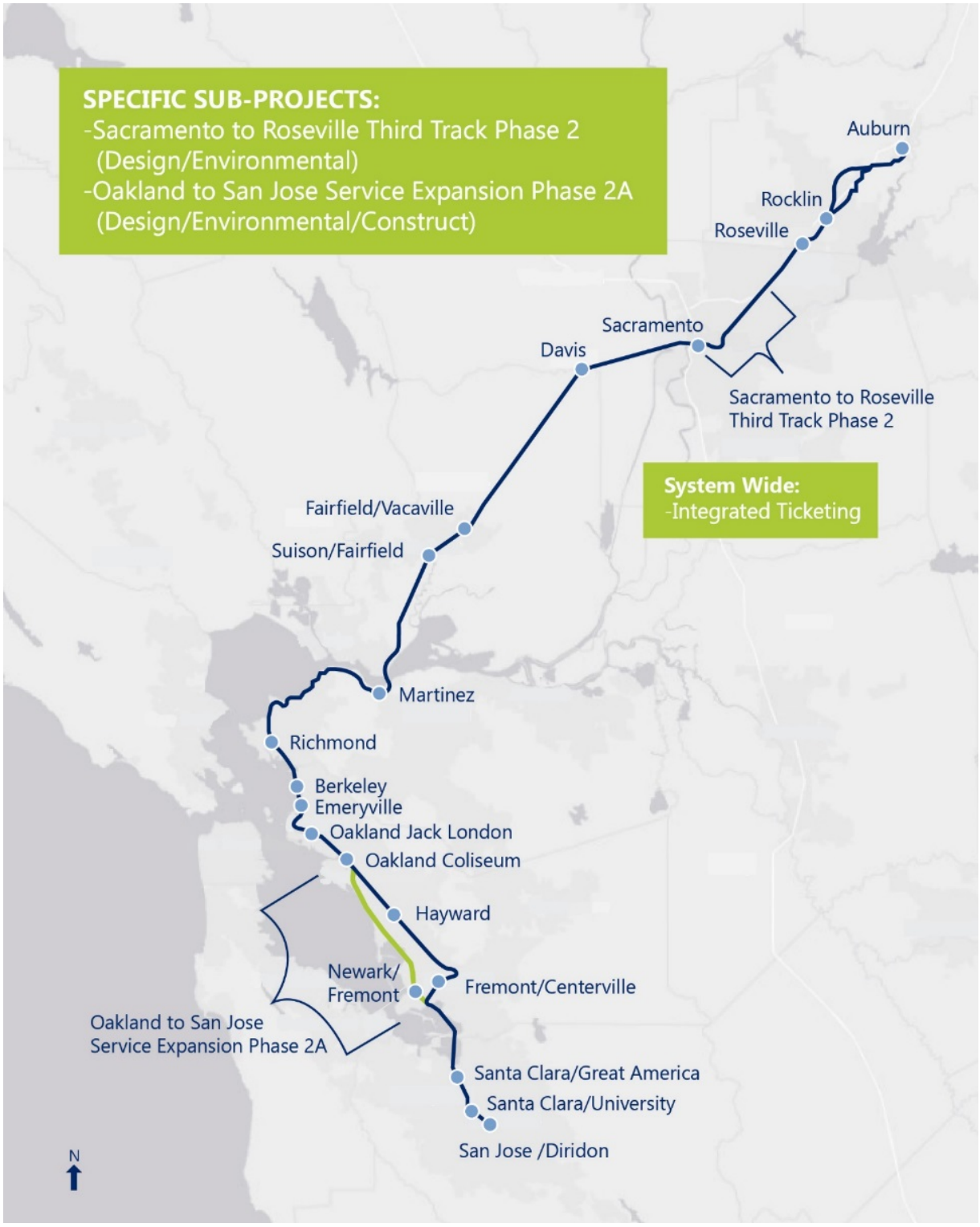
Phase 3 concludes with a pilot scheme ready for launch with **five** participating PTOs in addition to the three CA IPR services (the Capitol Corridor, the San Joaquins, and the Pacific Surfliner Intercity Passenger Rail services). The participating PTOs, suggested in this application, are geographically spread across the State but each has service linkages to the respective CA IPR services. If funded, the five initial PTOs selected for this application are subject to change and substituted with others that, after consideration, provide better characteristics for a pilot launch.

Phase 4 Description
Phase 4 is a three-year pilot during which the ITP solution will be launched and marketed, with a rigorous testing and evaluation program to assess outcomes including but not limited to performance and reliability; uptake by travelers; impact on rider transportation usage habits; and effect on agency business operations based on pilot assumptions.

Phase 4 concludes with a report to CalSTA and its partners on the pilot's successes and failures, with recommendations for next steps, the positive outcome of which would be expansion to other PTOs and MaaS providers throughout the State of California.

STATEMENT OF WORK

Figure 1: Northern California Corridor Enhancement Program Project Map



Source: HNTB 2017

Sacramento to Roseville Third Track (SR3T) Phase 2 Project

i. Project Scope

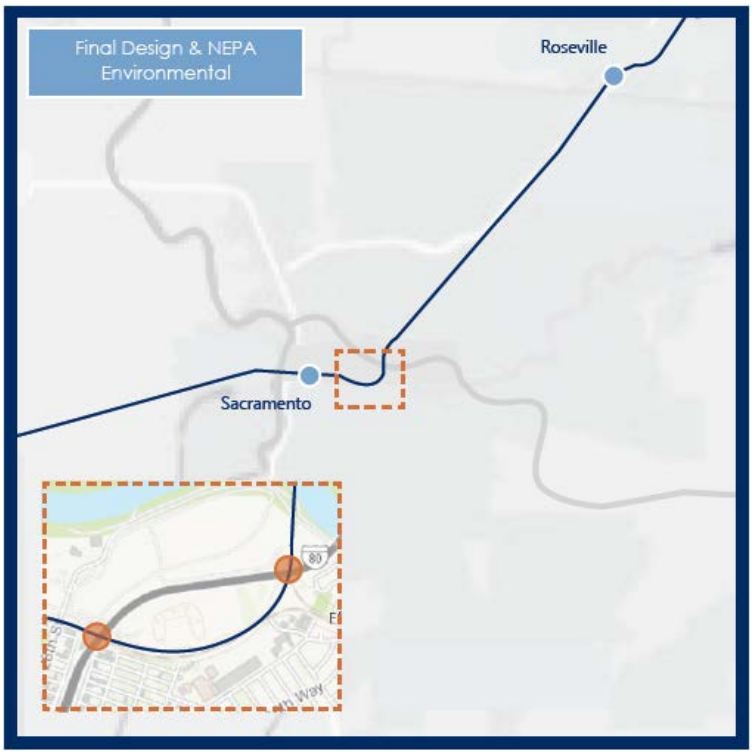
The SR3T Phase 2 element of this application will prepare final design for the SR3T project, including all new track, civil engineering features, signals and eight new rail bridges, including a new rail bridge across the American River. In addition, the Caltrans District 3 will coordinate and share cost with CCJPA in the design of two of the new rail bridges, which cross over SR51, and will need to be extended as a result of the SR51 widening project.

In addition, due to the proximity and related impacts of the two new bridges across the American River, CCJPA and Caltrans will cooperate and share in the cost of the required studies and analysis to comply with NEPA and to support regulatory permits for the two new structures. Each agency will be responsible for securing the permits for their respective projects.

Final work products will be biddable 100% construction plans and specifications for the remaining SR3T project, which will be the basis for construction of the complete project under Phase 3; complete construction plans for the construction of two new rail bridges across SR51 to be completed by jointly by Caltrans and CCJPA to be included with the SR3T final plan set; and all analysis, studies and submittals required for NEPA clearances and for the permits required for construction of the two new bridges across the American River to be jointly completed by CCJPA and Caltrans.

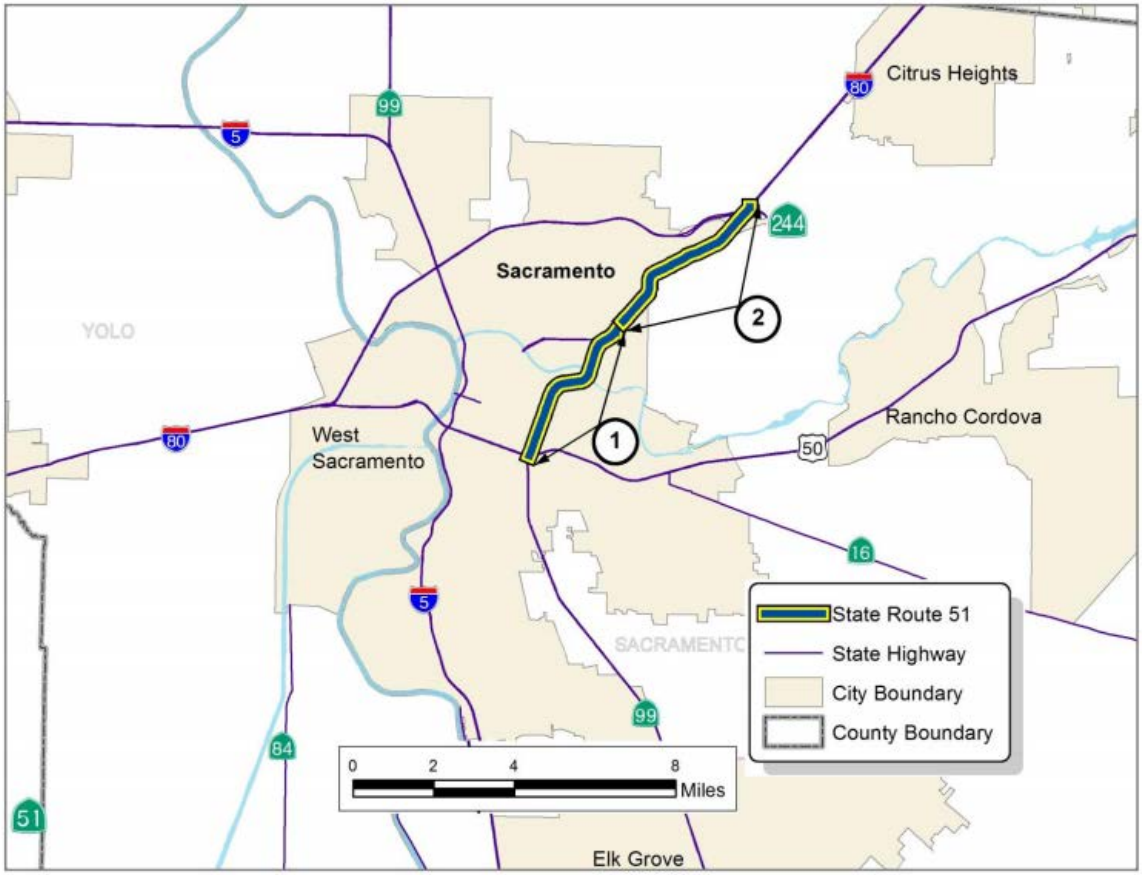
Project maps for the SR3T Phase 2 and SR51 Widening Project can be found in **Figures 2, 3**, **and 4**. A KML map can be found in **Appendix E**. Disadvantaged community maps can be found in **Appendix A**.

Figure 2: Sacramento to Roseville Third Track Phase 2 Project Map



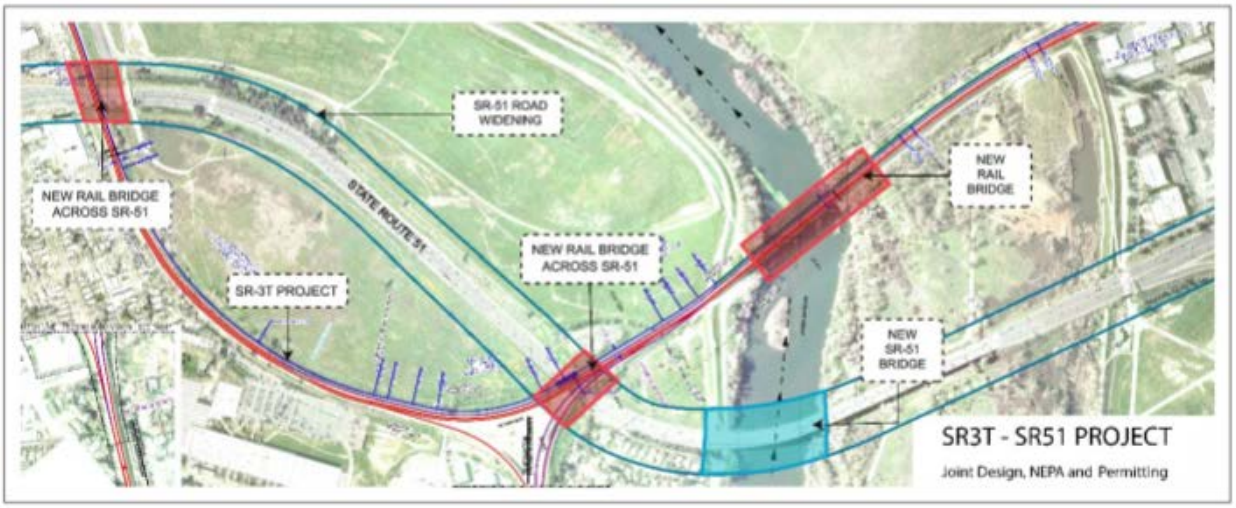
Source: HNTB 2017

Figure 3: State Route (SR) 51 Route Segmentation Map



Source: Caltrans 2015

Figure 4: State Route (SR) 51 and SR3T Improvement Project Map



Source: HDR 2017

ii. Project Costs

Table 1: Project Cost Estimate for Sacramento to Roseville Third Track Phase 2 and State Route 51 Widening Projects (in thousands)

PROJECT COST ESTIMATE BY PHASE	Prior	FY2018	FY2019	FY2020	TOTAL
Sacramento to Roseville Third Track Phase 2 (CCJPA)					
Environmental	-	$1,000	$900	-	$1,900
Preliminary Engineering & Final Design	-	-	$13,300	$13,300	$26,600
Subtotal Project Costs	**$-**	**$1,000**	**$14,200**	**$13,300**	**$28,500**
State Route 51 (Capitol City Freeway) Widening Project (Caltrans District 3)					
Environmental (PA&ED)	-	$5,000	-	-	$5,000
Preliminary Engineering (PA&ED)	-	$7,400	-	-	$7,400
Final Design (PS&E)	-	-	-	$45,000	$45,000
Subtotal Project Costs	**$-**	**$12,400**	**$-**	**$45,000**	**$57,400**
TOTAL PROJECT COSTS	**$-**	**$13,400**	**$14,200**	**$58,300**	**$85,900**

iii. Project Schedule

The schedule for the environmental phase (including PA&ED) is FY18 and FY19 and the schedule for the design phase (included PS&E) is FY20.

iv. Funding Sources

Table 2: Project Funding for Sacramento to Roseville Third Track Phase 2 and State Route 51 Widening Projects (in thousands)

PROGRAMMED/COMMITTED FUNDING SOURCES BY APPLICANT	Prior	FY2018	FY2019	FY2020	TOTAL
CCJPA Funding Sources					
CCJPA: Transit and Intercity Rail Capital Program (TIRCP)	-	-	$17,200	$11,800	$29,000
CCJPA: State Rail Assistance (SRA)	-	$1,000	$1,500	$1,500	$2,500
Subtotal CCJPA Funding	**$-**	**$1,000**	**$18,700**	**$13,300**	**$31,500**
Caltrans District 3 Funding Sources					
Caltrans District 3: State Transportation Improvement Program (STIP: RTIP)	-	$7,900	-	-	$7,900
Caltrans District 3: Regional Surface Transportation Program (RSTP/STBG)	$4,000	-	-	-	$4,000
Subtotal Caltrans District 3 Funding	**$4,000**	**$7,900**	**$-**	**$-**	**$11,900**
TOTAL PROSPECTIVE FUNDING	**$4,000**	**$8,900**	**$18,700**	**$13,300**	**$44,900**

v. Scalable Project Elements

This application focuses on funding the environmental and design phases only of the SR3T and SR 51 Widening Projects, and as they are already narrowly focused, are not scalable.

Oakland to San Jose Service Expansion (OKJ-SJC) Phase 2A Project

i. Project Scope

CCJPA is proposing a project to re-align their service route from its existing Union Pacific Railroad (UPRR) Niles Subdivision line to the UPRR Coast Subdivision with adjustments to stations served with the service realignment in Alameda County. The Oakland to San Jose Service Enhancement Project Phase 2A will prepare the designs, secure necessary entitlements, perform the environmental review and construct the improvements necessary to implement the new re-alignment of the Capitol Corridor service. The project will consist of the following elements:

- CCJPA will take the lead in negotiating and entering into all agreements with project partners, including Alameda County Transportation Commission (Alameda CTC), Alameda-Contra Costa Transit District (AC Transit), Caltrans District 3, the City of Fremont, and the City of Newark, for all completion of the project elements.
- Subject to agreement with project partners, project will perform all studies and analysis, and public outreach necessary to complete all required Environmental Studies and Clearances, and permits, including mitigation for the entire project. Agreements and entitlements from local municipalities, regulators, and other agencies will be acquired. In addition, all necessary right-of-way, easements, or rights of entry from private parties will be acquired as necessary.

- Plans and specifications suitable for final bid and construction of project elements will be prepared for each element of the overall project. Work will apply to the following project elements:
    - Upgrading the UPRR Coast Subdivision between Melrose (MP. 89) and MP 98.7 including track replacement and rehabilitation, subgrade and civil work, new signaling, and fencing. The project will also construct a new controlled passing siding between the Highway 92 (MP.2206) undercrossing and Baumberg Avenue (MP.23) in Hayward.
    - Construction of a new CCJPA station on the Coast Subdivision to serve Fremont and Newark. CCJPA will construct a new platform at the below grade elevation of the main track and up to two vertical access elements to connect with surface facilities, including elevators. Surface improvements will include transit and passenger drop-off space, ticketing and passenger information facilities, and bicycle and pedestrian access.
    - Subject to further agreement (s) with CCJPA, current transit operations will be relocated to an elevated SR 84 median bus expressway (SR 84 is elevated crossing above the Coast Subdivision tracks) with direct vertical access to the new passenger rail station. A new two-story parking lot, located at the Ardenwood Park & Ride, adjacent to the new platform, will be developed.
    - Required rail freight mitigation measures will include a construction of a rail new connection between the Niles and Oakland Subdivisions at Industrial Parkway (MP24.0) and a new connection at Shinn (MP30.1), all of which will allow UPRR freight trains, currently using the Coast Subdivision to be re-routed. These improvements are also incremental projects as part of the overall regional rail planning for Alameda County and the Dumbarton Rail Corridor Project.

A project map for the OKJ-SJC Project can be found in **Figure 5**. A KML map can be found in **Appendix E**. Disadvantaged community maps can be found in **Appendix A**.

Figure 5: Oakland to San Jose Service Expansion Phase 2A Project Map

Source: HNTB 2017

ii. Project Costs

Table 3: Project Cost Estimate for Oakland to San Jose Service Expansion Phase 2 A Project (in thousands)

Project Cost Estimate by Phase	***FY2018***	***FY2019***	***FY2020***	***FY2021***	***FY2022***	***FY2023***	***TOTAL***
Environmental	$800	$1,600	$1,700	-	-	-	$4,100
Design	-	$9,800	$10,100	$10,400	-	-	$30,300
Right-of-Way	-	-	-	$1,100	-	-	$1,100
Construction	-	-	-	$68,100	$70,100	$72,300	$210,500
TOTAL PROJECT COSTS	**$800**	**$11,400**	**$11,800**	**$79,600**	**$70,100**	**$72,300**	**$246,000**

iii. Project Schedule

The schedule for the environmental phase of the OKJ-SJC Phase 2A project is FY18 to FY20. The design phase is FY19 to FY21. Any needed Right-of-Way (ROW) acquisition needs will be pursued in FY21, and construction will begin in FY21. The project is expected to be complete in FY23.

iv. Funding Sources

Table 4: Project Funding for Oakland to San Jose Service Expansion Phase 2 A Project (in thousands)

Prospective Funding Sources	***FY2018***	***FY2019***	***FY2020***	***FY2021***	***FY2022***	***FY2023***	***TOTAL***
Federal							
Consolidated Rail Infrastructure and Safety Improvements (CRISI)	-	$5,000	$5,000	-	-	-	$10,000
State							
State Transportation Improvement Program (STIP: ITIP) *	-	-	-	-	$20,000	-	$20,000
Transit and Intercity Rail Capital Program (TIRCP)	-	-	-	$20,000	$11,000	$20,000	$51,000
Solutions for Congested Corridors (SCC)	-	-	-	$20,000		-	$20,000
Trade Corridor Enhancement Program (TCEP)	-	-	-	$7,500	$12,500	$15,000	$35,000
State Rail Assistance (SRA)*	$500	$1,500	$2,000	$2,500	$2,500	-	$9,000
Regional							
RM3*	-	$3,500	$3,300	$19,600	$14,100	$20,500	$61,000
Local							
Alameda CTC Local Funding*	$300	$1,400	$1,500	$10,000	$10,000	$16,800	$40,000
TOTAL PROSPECTIVE FUNDING	**$800**	**$11,400**	**$11,800**	**$79,600**	**$70,100**	**$72,300**	**$246,000**

*****Committed funds

v. Scalable Project Elements

Implementation of specific elements of the new Fremont/Newark Station are scalable depending on available funding.

CCJPA, with Alameda CTC's support, is committed to implementing the necessary core elements of this project, including rehabilitation of the Mulford Line of the Coast Subdivision, installation of platforms and basic rail station amenities at the new Fremont/Newark Station, and freight mitigation components providing a single-track Industrial Parkway connection as well as a Shinn connection.

CCJPA is committed to supporting further development of the new Fremont/Newark Station, including a parking garage and an enhanced express bus connection elevated on SR84, which will be coordinated closely with project partners AC Transit, Caltrans, District 4, the City of Fremont, and the City of Newark. Additionally, CCJPA is committed to exploring project partnerships with private supporters and beneficiaries of the project, including local companies operating employee shuttles served by the new station.

Statewide Integrated Travel Program (ITP)

The California State Transportation Agency (CalSTA) working with and through the CCJPA is leading a multi-agency[17] initiative to research, develop and implement an Integrated Travel Program (ITP) that will enable California residents and visitors to plan and pay for travel anywhere in the state across multiple modes of transportation including bus, metro, light and intercity rail, paratransit, bicycle hire, and ride-hailing services. Research conducted by CalSTA and its partners suggests that this will be accomplished using a single end-user application for mobile phones supported by a sophisticated back-office platform, the latter coordinating – via a suite of APIs[18] – route planning, transit schedules, real-time data supplied by participating public and private transportation operators (PTOs), interfaces with a new generation of innovative Mobility-as-a-Service (MaaS) providers, and collection and settlement of journey payments to respective parties. This 'California Pass' is not intended to replace existing fare payment media in use by PTOs – such as paper tickets, smart cards and mobile apps – but provide a single, unified mechanism by which customers can travel on virtually any mode of transport in the state more easily and conveniently. Based on studies of existing programs in Europe and elsewhere, it is expected that agencies who adopt the ITP travel planning and payment app will see significant benefits including increase in ridership, reduction in fare collection costs, and greater satisfaction among those who utilize California public transportation. As well, the ITP will attempt to integrate with existing state low-income databases such that, if PTOs permitted, travel discounts could be make available to those qualified and managed their ITP account in such a manner to receive a discount.

i. Project Scope

ITP Five Year Plan
The ITP will comprise a **five-year plan** divided into multiple phases as shown in **Table 5**.

[17] Participating agencies include CalSTA, Caltrans, and the Capitol Corridor Joint Powers Authority.

[18] Application Programming Interfaces.

Table 5: ITP Five-Year Plan

Phase	Activity	Duration	Status
Phase 1	Research of European integrated travel schemes & report to CalSTA.	6 months	Completed in September 2017
Phase 2	Research of California PTO travel planning & payments, organization of Congress to solicit feedback from participating entities, report to CalSTA with recommendations for Phase 3.	9 months	Commenced in October 2017
Phase 3	Development of pilot scheme with selected PTOs and private entities.	2 years	-
Phase 4	Implementation of pilot with option for inclusion of additional participants, report to CalSTA on pilot outcome and recommendations for wider deployment.	3 years	-

Phases 1 was funded and completed in September 2017, and, following approval by CalSTA and its partners, Phase 2 was funded and commenced in October 2017; it is expected to be completed by July 2018. Pending a successful outcome of Phase 2, Phases 3 and 4 required significantly greater budgets and resources, and cooperation with public and private entities participating in the pilot scheme.

Phase 3 Description
Subject to CalSTA approval, Phase 3 will comprise the following key objectives:

- Formation of a new entity to manage the ITP initiative;
- Employment of key personnel and consultants for program management;
- Creation of a physical office for the ITP team and resources;
- Design of a pilot program for complete ITP solution testing and evaluation;
- Development of mobile app and back-office platform for travel planning and payments;
- Integration with participating PTOs for travel and payment data exchange;
- Solution testing, validation, and readiness for pilot deployment.

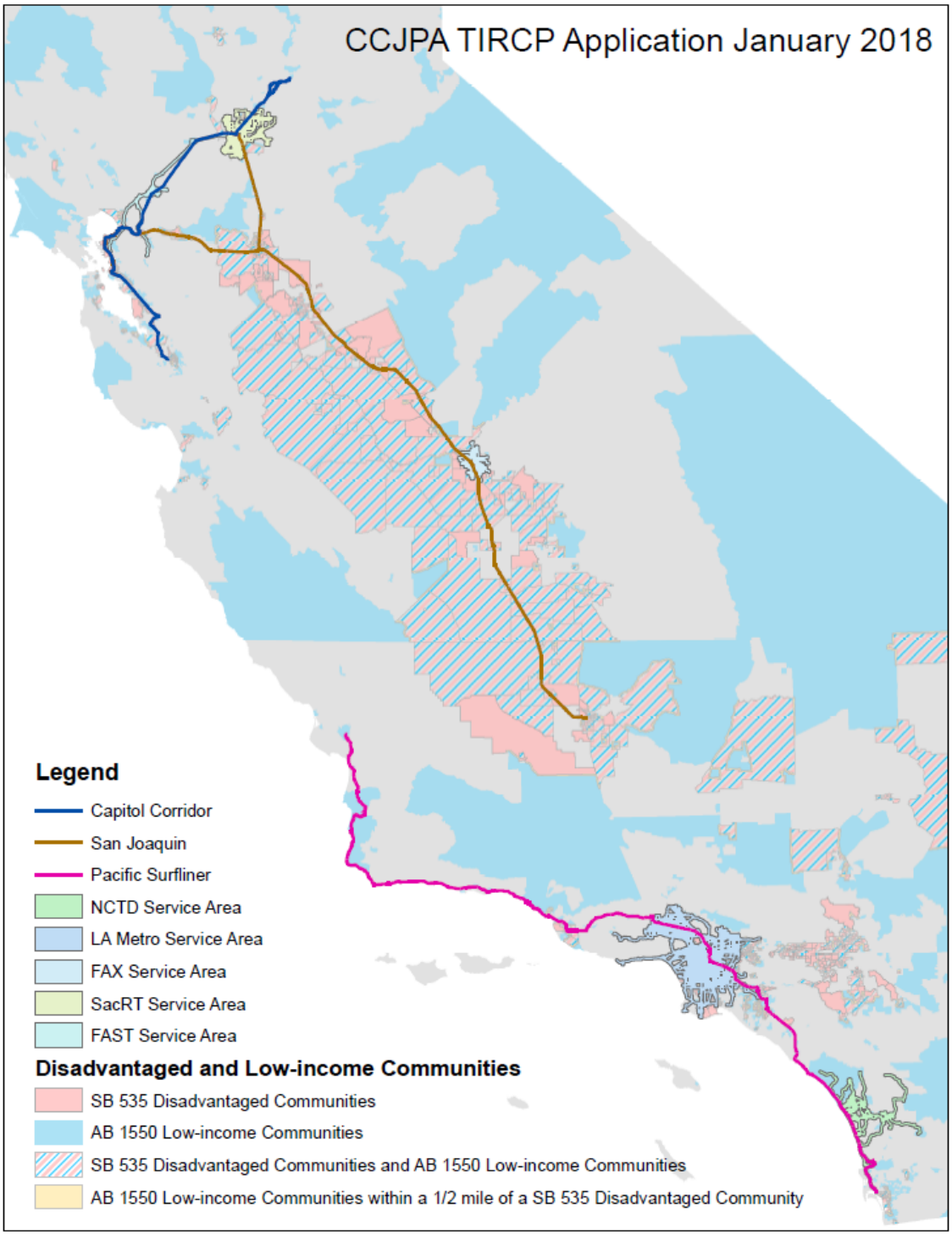
Phase 3 concludes with a pilot scheme ready for launch with **five** participating PTOs in addition to the three CA IPR services (the Capitol Corridor, the San Joaquins, and the Pacific Surfliner Intercity Passenger Rail services). The participating PTOs, suggested in this application, are geographically spread across the State but each has service linkages to the respective CA IPR services. If funded, the five initial PTOs selected for this application are subject to change and substituted with others that, after consideration, provide better characteristics for a pilot launch.

Phase 4 Description
Phase 4 is a three-year pilot during which the ITP solution will be launched and marketed, with a rigorous testing and evaluation program to assess outcomes including but not limited to performance and reliability; uptake by travelers; impact on rider transportation usage habits; and effect on agency business operations based on pilot assumptions.

Phase 4 concludes with a report to CalSTA and its partners on the pilot's successes and failures, with recommendations for next steps, the positive outcome of which would be expansion to other PTOs and MaaS providers throughout the State of California.

A project maps for the ITP Project noting disadvantaged communities served can be found in **Figure 6**. A KML map can be found in **Appendix E.**

Figure 6: Statewide Integrated Travel Program Project Map
Noting Disadvantaged & Low-Income Communities Served



Source: CCJPA

ii. Project Costs

Table 6: ITP Phase 3 and Phase 4 Project Costs

ITP PROJECT PHASE:	PHASE 3	PHASE 4	TOTAL
Schedule	**2 years**	**3 years**	**5 years**
Cost	**$17,465,750**	**$9,874,070**	**$27,339,820**
Staff Costs	$1,747,500	$5,259,088	$7,006,588
Other Overheads	$371,650	$800,272	$1,171,922
PTO Integration	$1,500,000	$0	$1,500,000
Platform Development	$7,698,000	$0	$7,698,000
Pilot Prep & Deployment	$3,079,300	$0	$3,079,300
Project Contingency	$3,069,300	$0	$3,069,300
Marketing	$0	$1,736,250	$1,736,250
Program Implementation	$0	$2,078,460	$2,078,460
Funding: TIRCP	**$17,465,750**	**$9,874,070**	**$27,339,820**

The rough-order-of-magnitude (ROM) budget for Phase 3 is projected to be **$17.47 million**. The rough-order-of-magnitude (ROM) budget for Phase 4 is projected to be **$9.87 million.** The total ROM budget for Phase 3 and 4 combined is estimated at **$27.34 million** over five years. TIRCP funds in the amount of **$27,339,820** are requested in support of this project.

iii. Project Schedule

Phase 1 of the ITP is complete and Phase 2 is nearing completion in July 2018. The project schedule for Phases 3 and 4 the ITP is five years.

iv. Funding Sources

ITP is seeking $27,339,820 in TIRCP funding.

v. Scalable Project Elements

The Statewide Integrated Travel Project (ITP) is designed to be scaled to build from the initial pilot phase of implementation to statewide as funding and cost savings from implementation allows. The core infrastructure design in the ITP pilot phase will establish the statewide standards for adding additional PTOs. For each added PTO, incremental costs drop and benefits of implementation expand with more ridership added as each new PTO is added to the system. The goal of the ITP is to scale the project so that the goals of the Draft 2018 State Rail Plan and emerging Statewide Transit Plan are realized over time. The entity that eventually completes the ITP pilot, after CCJPA's initial TIRCP responsibilities are completed, will be established to carry forward existing statewide legislation for integrating statewide travel.

IV. SUPPORT DOCUMENTATION

APPENDIX A. Low Income Community Service Area Maps

APPENDIX B. Letters of Support

Project Partners

- ☐ Metropolitan Transportation Commission (MTC) Ordinance
- ☐ Union Pacific Railroad (UPRR)
- ☐ Alameda County Transportation Commission (Alameda CTC)
- ☐ AC Transit
- ☐ CalTrain
- ☐ Santa Cruz Metropolitan Transit District (METRO)
- ☐ Solano Transportation Authority
- ☐ Alameda-Contra Costa Transit District (AC Transit)
- ☐ Transportation Agency for Monterey County
- ☐ San Mateo County Transit District (SamTrans)
- ☐ Sacramento Area Council of Governments (SACOG)
- ☐ Placer County Transportation Planning Agency
- ☐ City of Roseville

APPENDIX C. Summary of Emissions Reductions and Analysis Methods for Capitol Corridor Joint Powers Authority's 2018 Transit and Intercity Rail Capital Program Application

APPENDIX D. Project Programming Request (PPR) Form

APPENDIX E. KML File of Transit Routes

APPENDIX A: LOW INCOME COMMUNITY SERVICE AREA MAPS

Figure 1: Capitol Corridor Auburn Station

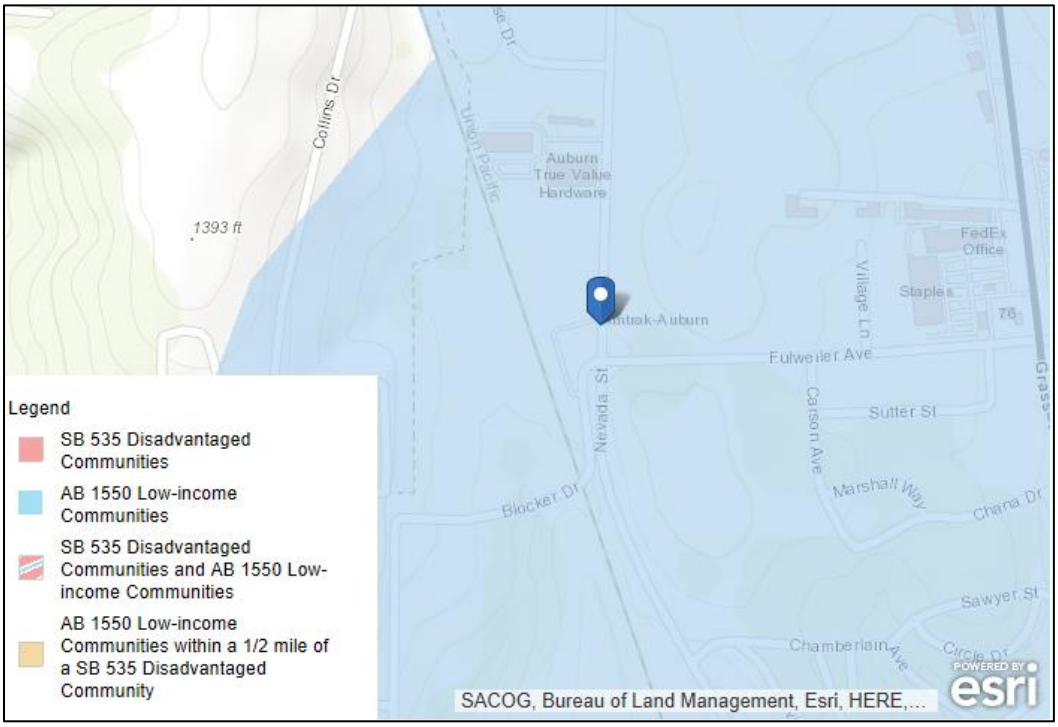


Figure 2: Capitol Corridor Rocklin Station

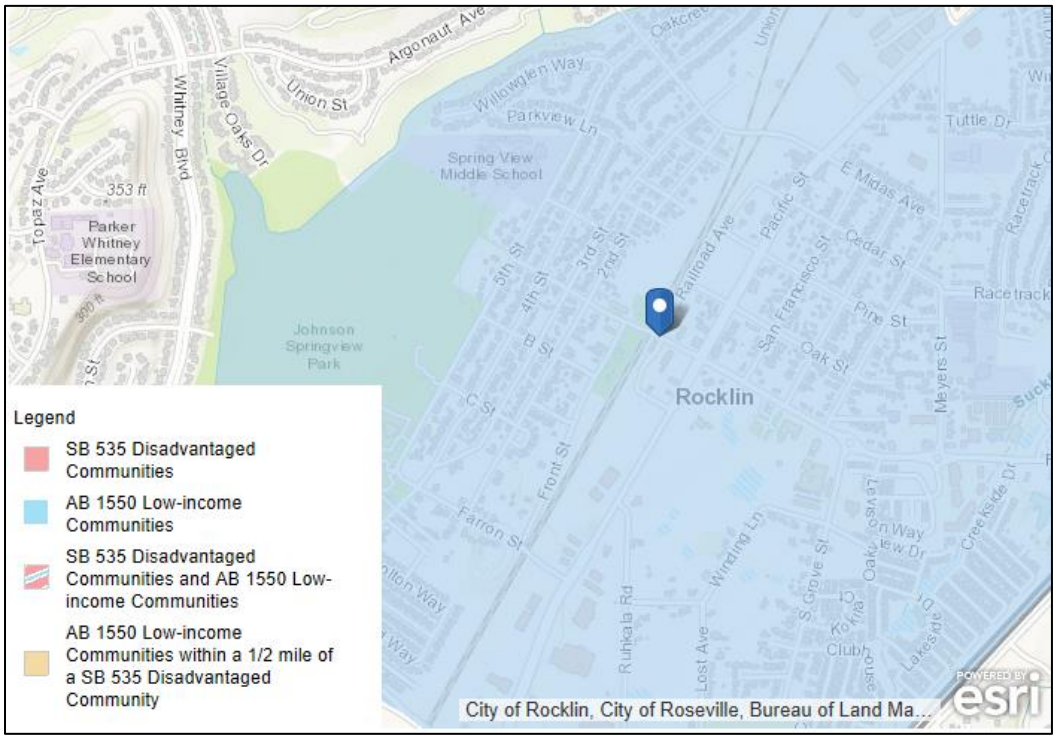


Figure 3: Capitol Corridor Roseville Station

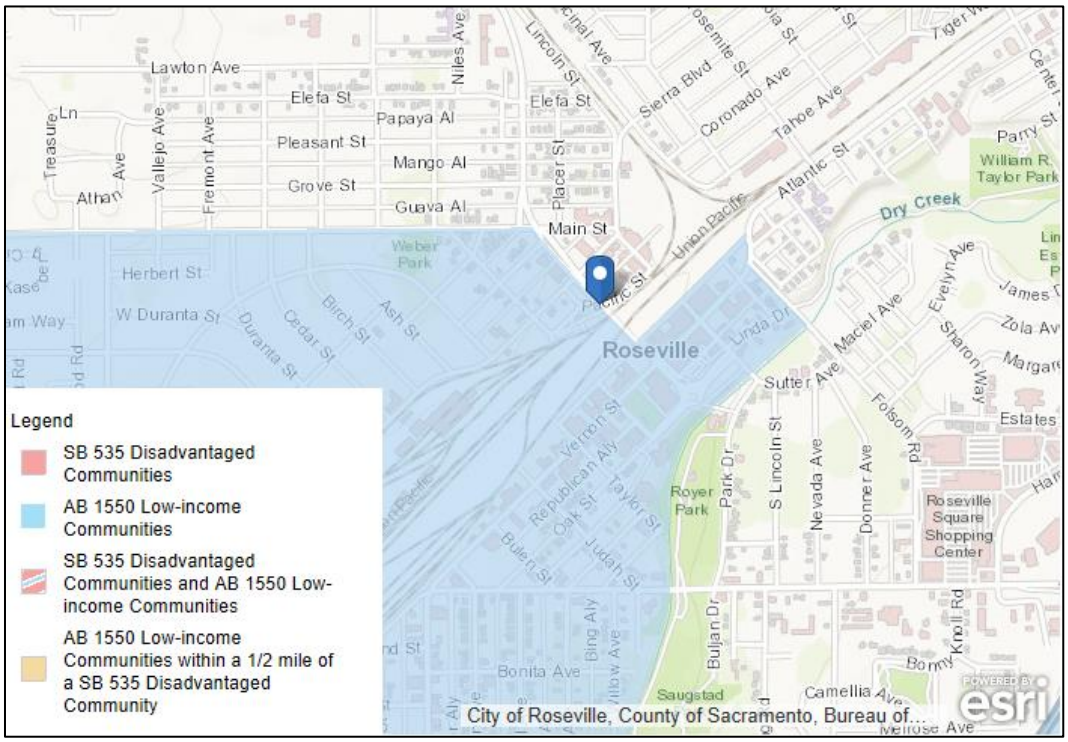


Figure 4: Capitol Corridor Sacramento Station*

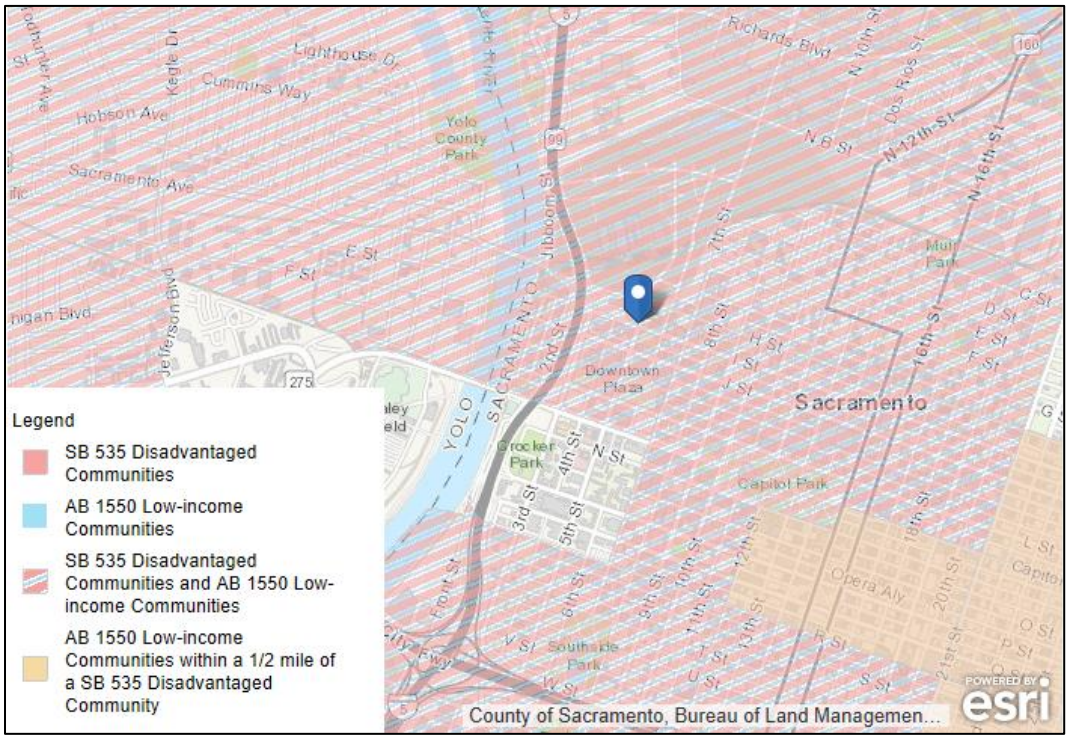


Figure 5: Capitol Corridor Davis Station

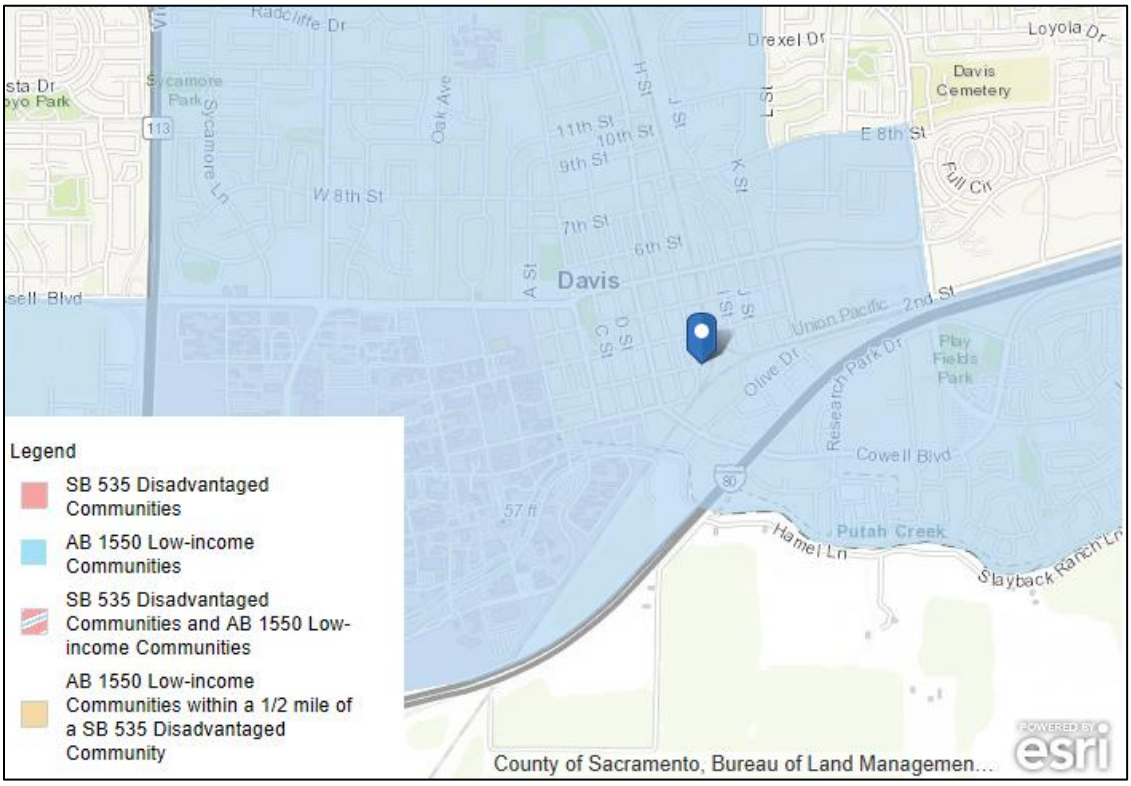


Figure 6: Capitol Corridor Suisun-Fairfield Station

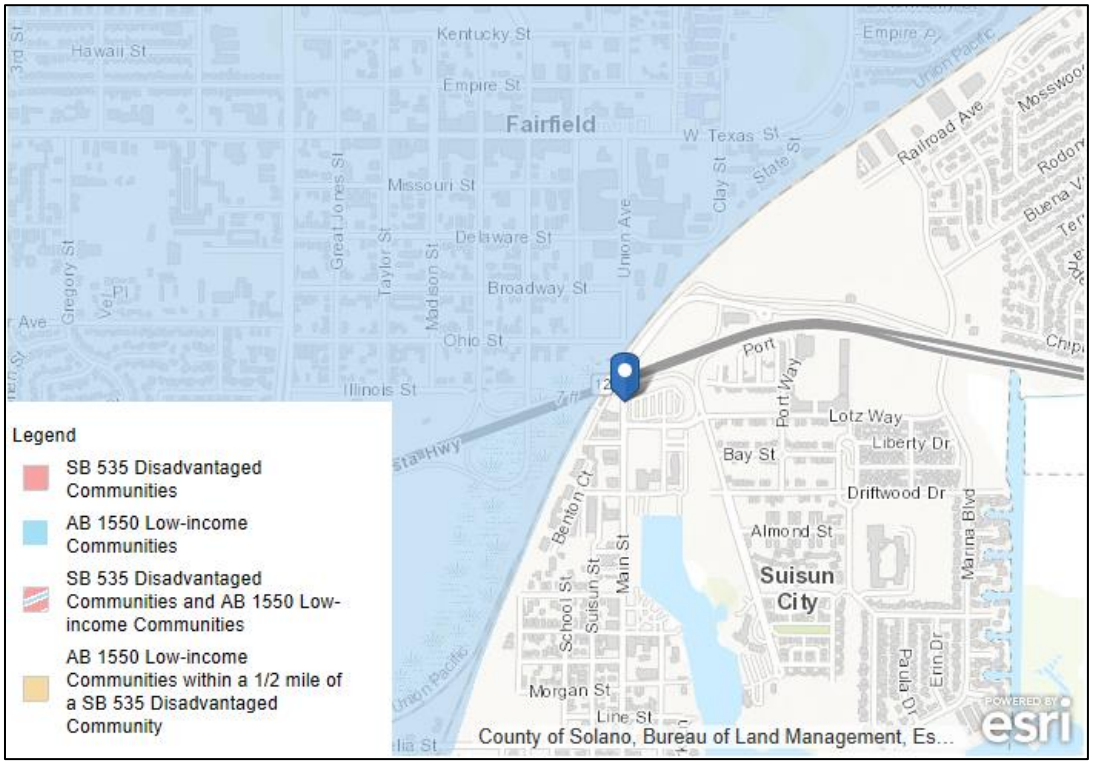


Figure 7: Capitol Corridor Fairfield-Vacaville Station

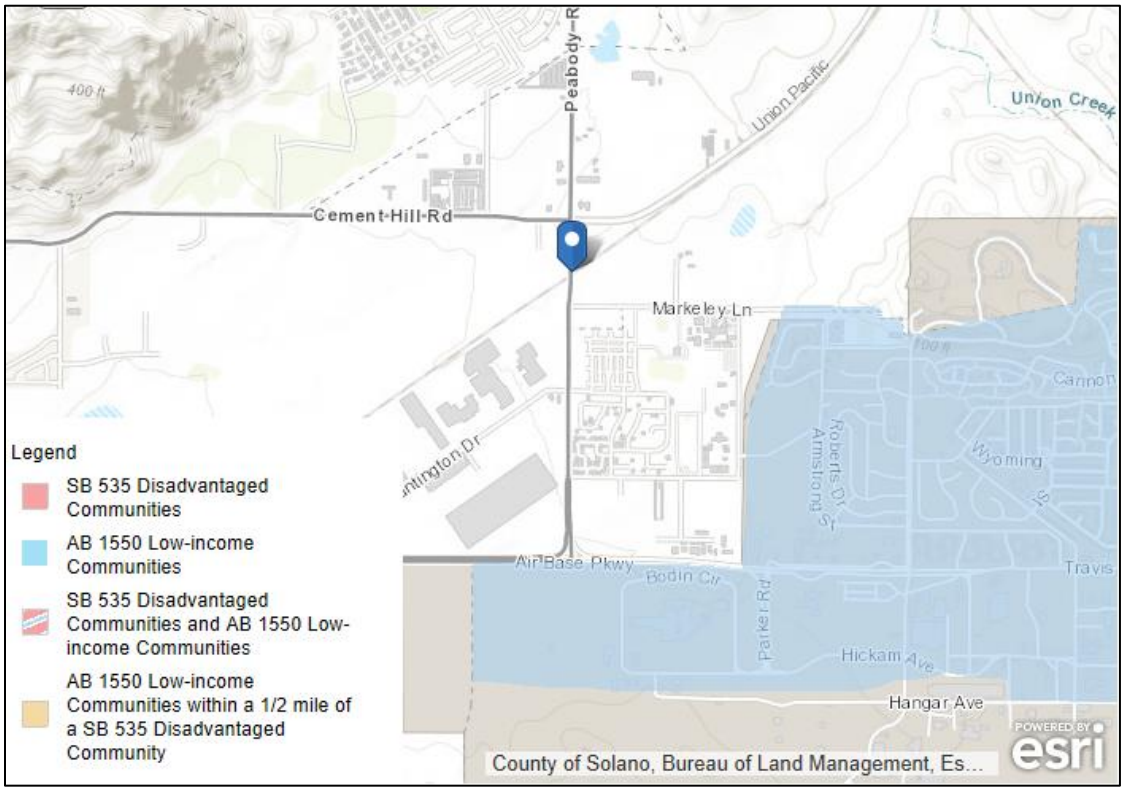


Figure 8: Capitol Corridor Martinez Station

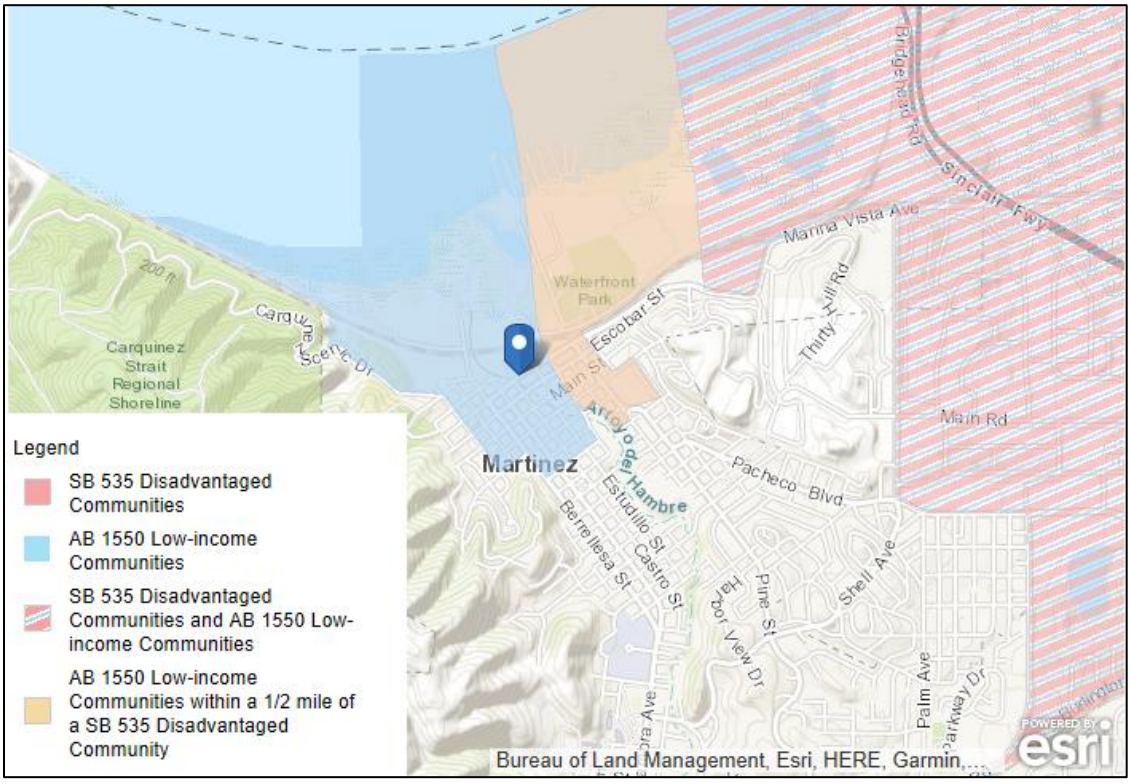


Figure 9: Capitol Corridor Richmond Station

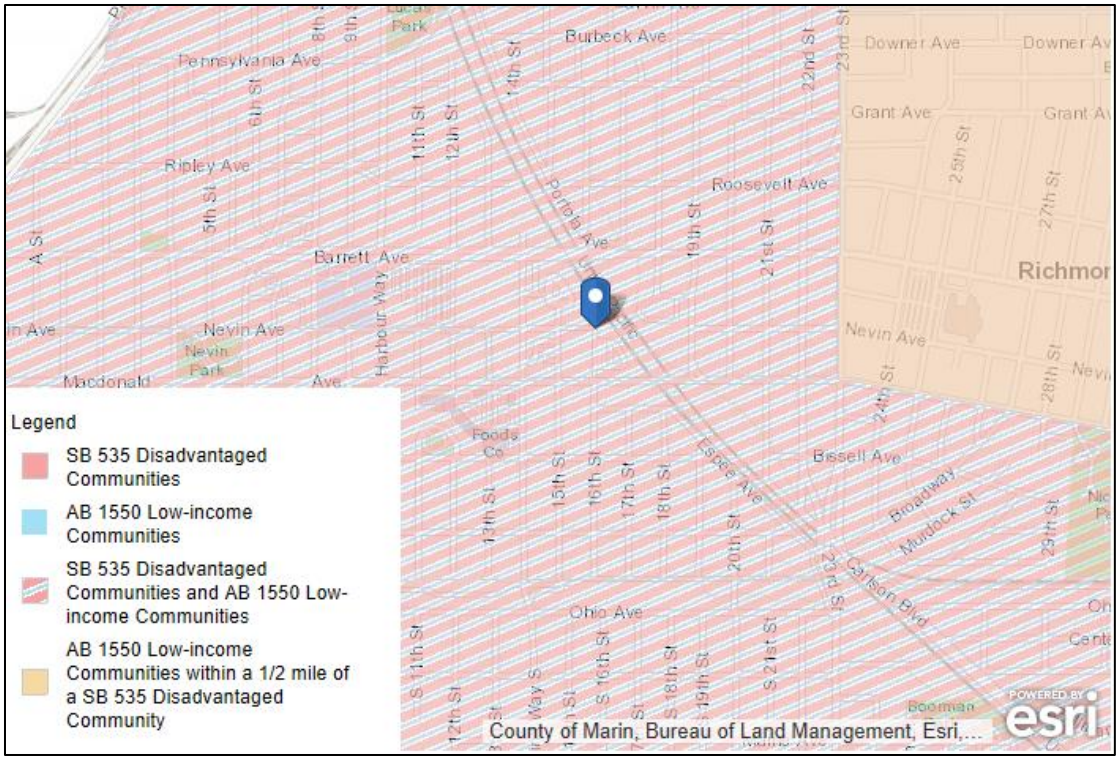


Figure 10: Capitol Corridor Berkeley Station

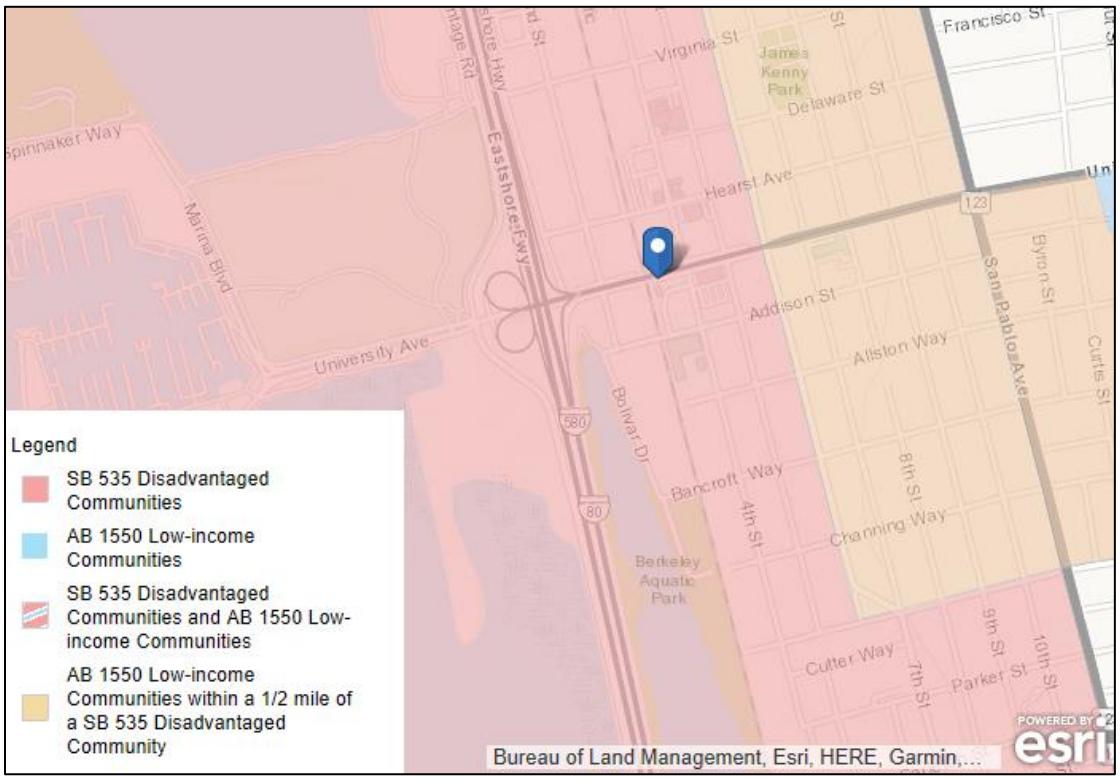


Figure 11: Capitol Corridor Emeryville Station

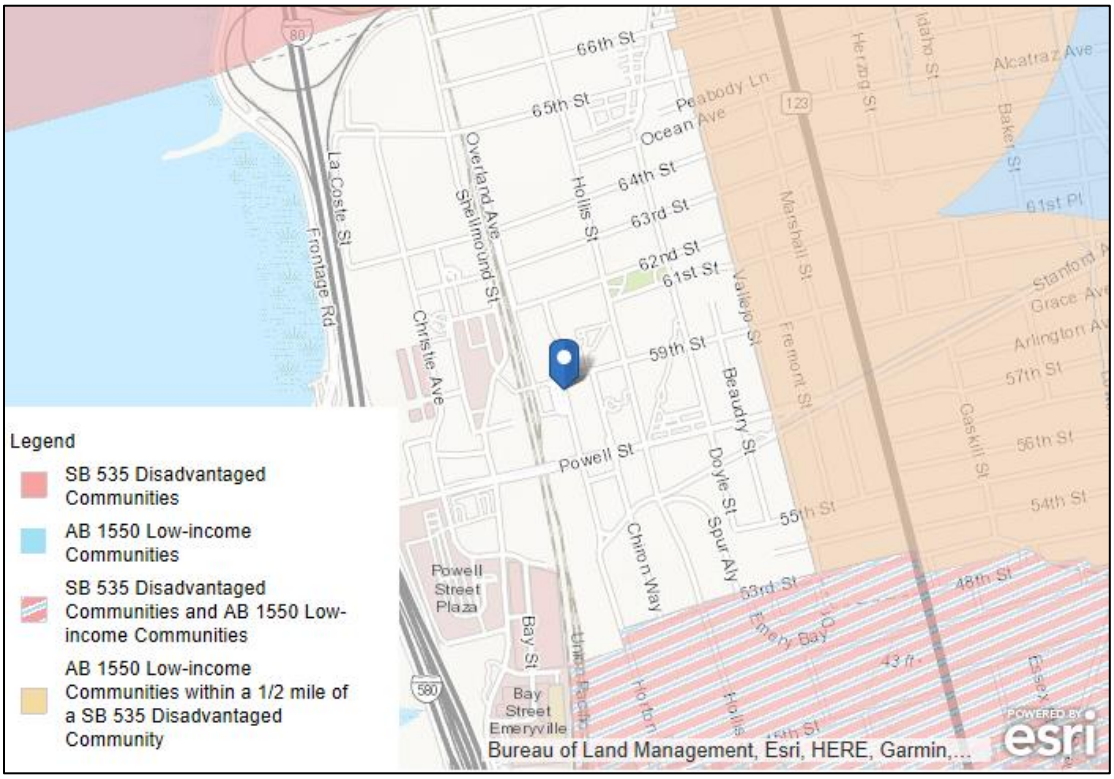


Figure 12: Capitol Corridor Oakland Jack London Station

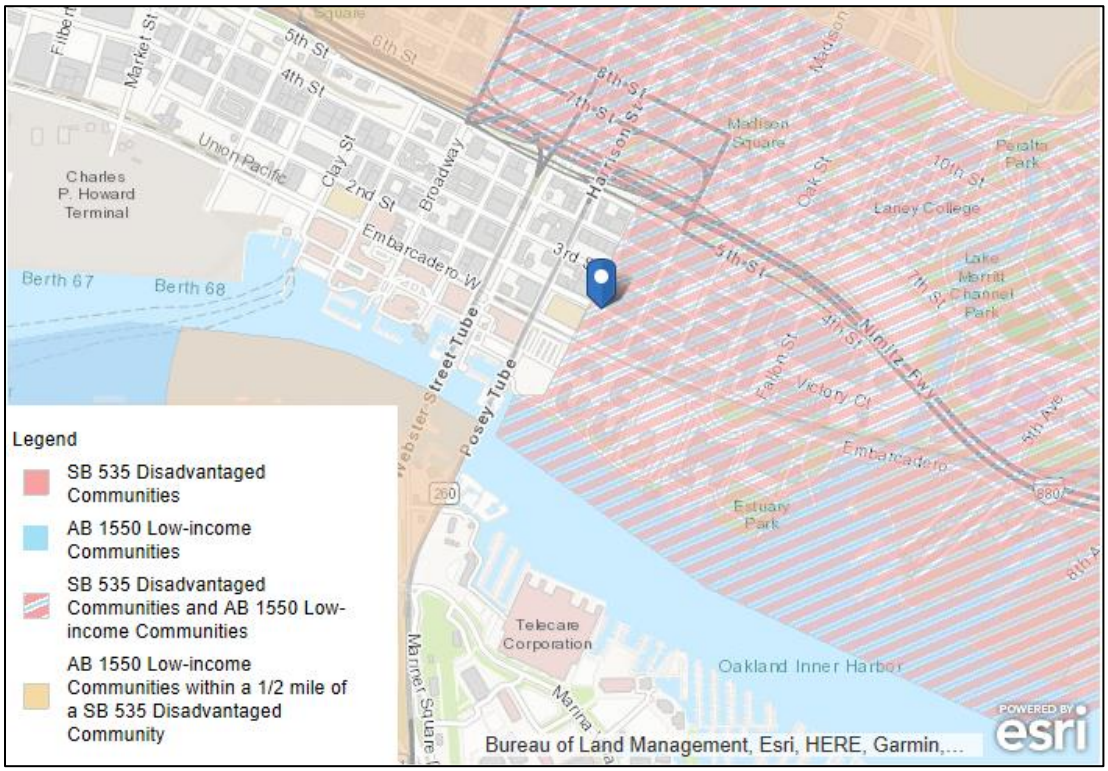


Figure 13: Capitol Corridor Oakland Coliseum Station*

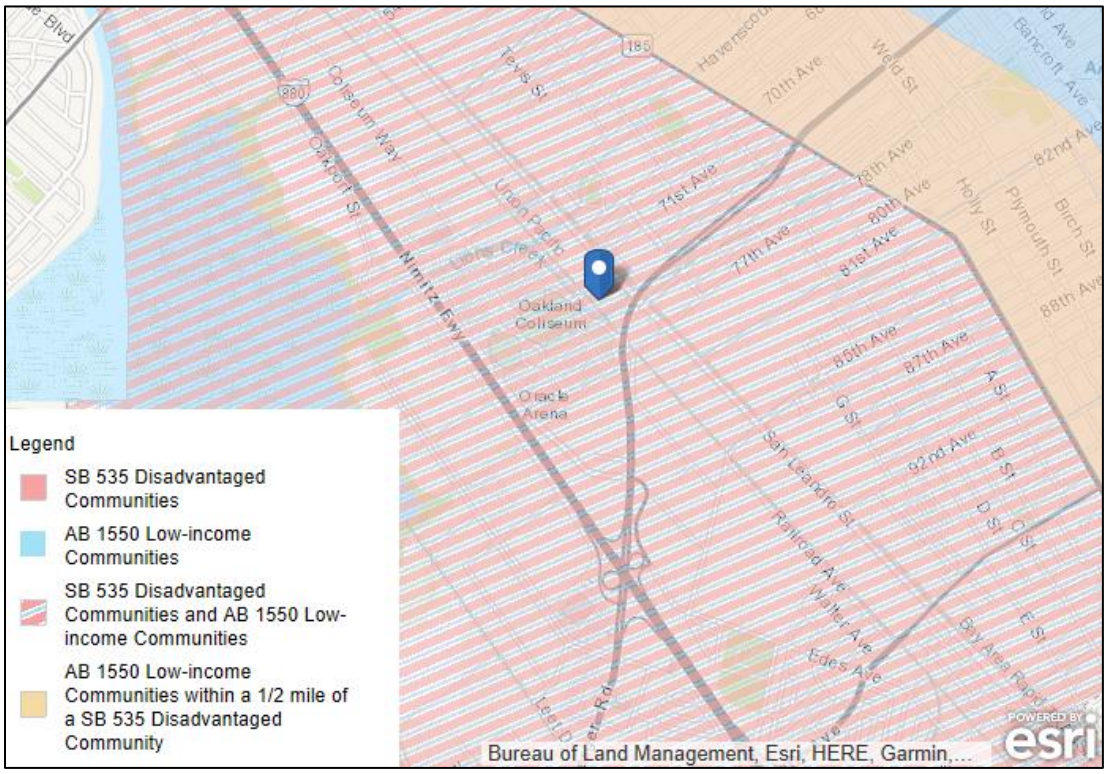


Figure 14: Capitol Corridor PROPOSED Fremont/Newark Station

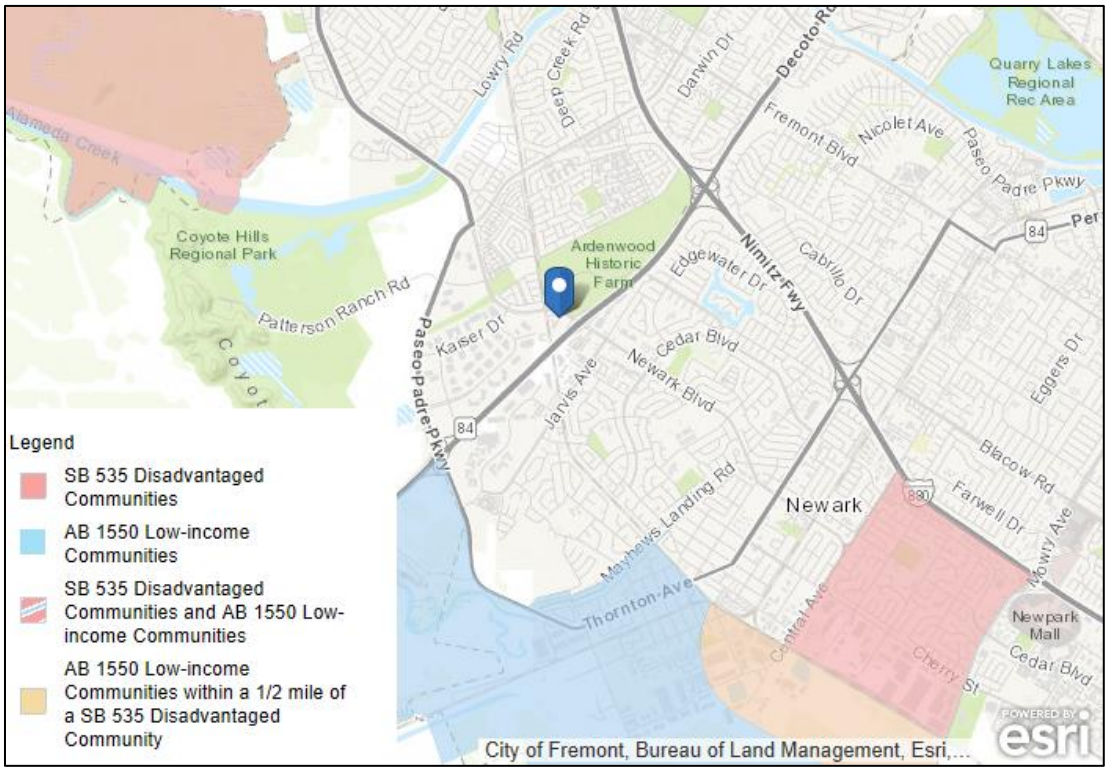


Figure 15: Capitol Corridor Santa Clara Great America Station

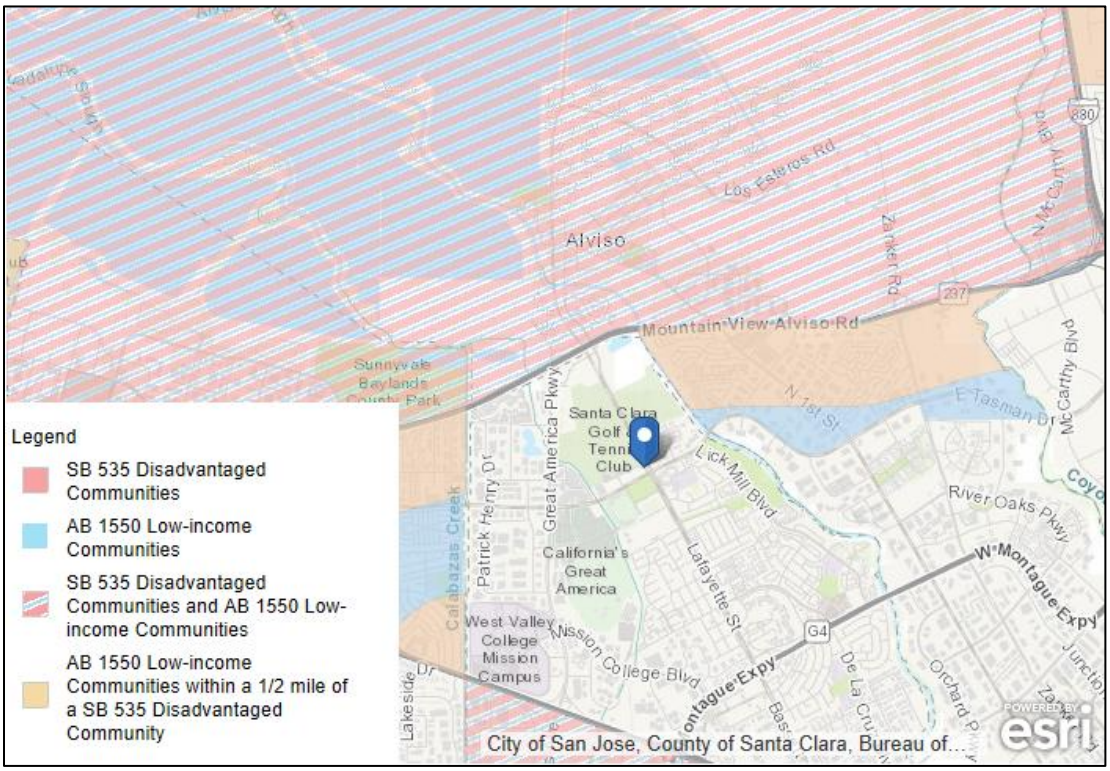


Figure 16: Capitol Corridor Santa Clara University Station

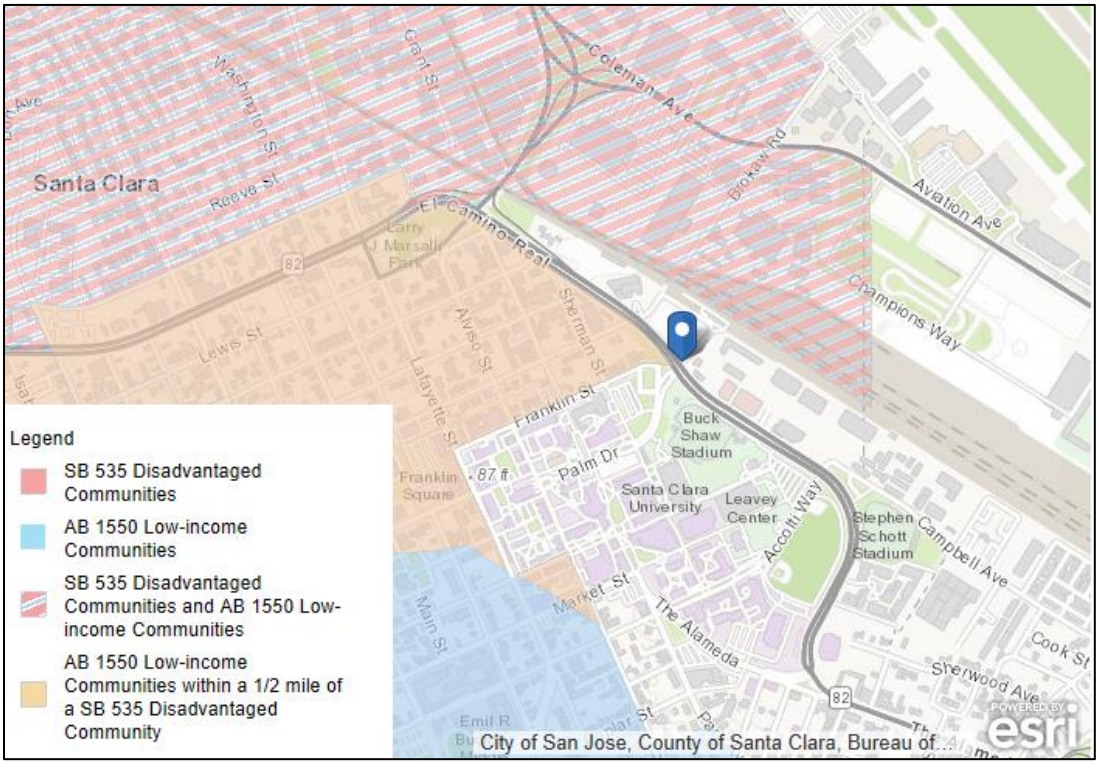


Figure 17: Capitol Corridor San Jose Diridon Station

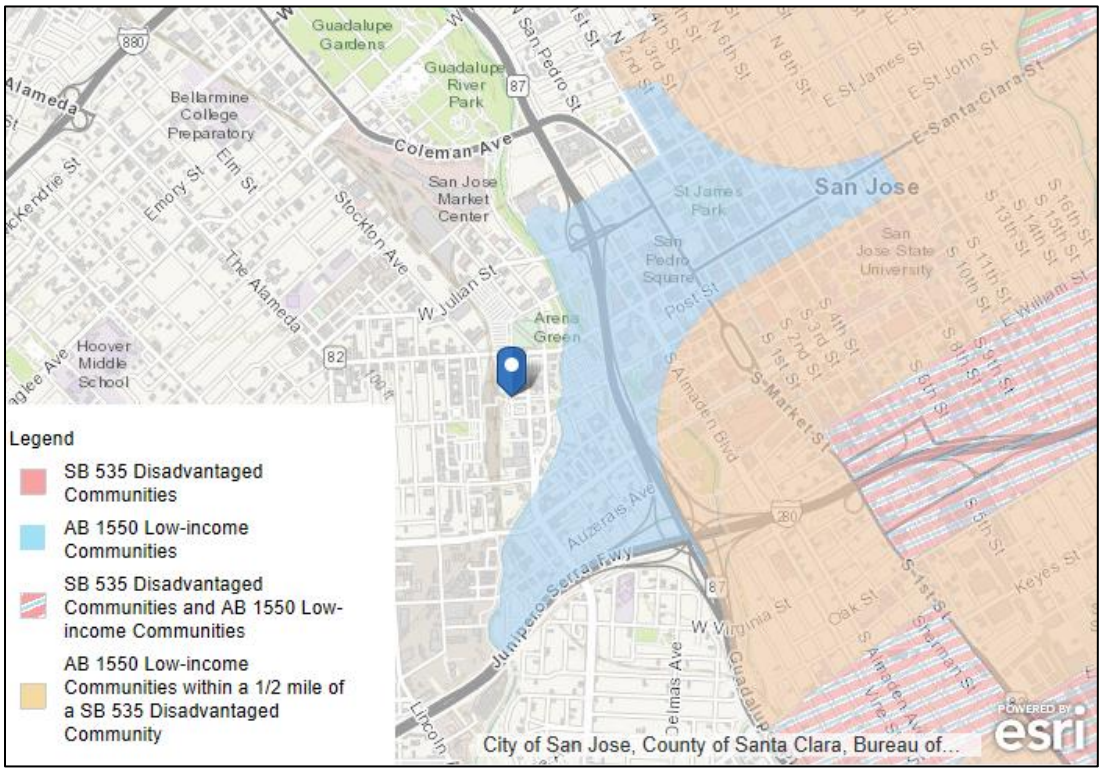


Figure 18: Statewide Integrated Travel Program Project Map
Noting Disadvantaged & Low-Income Communities Served

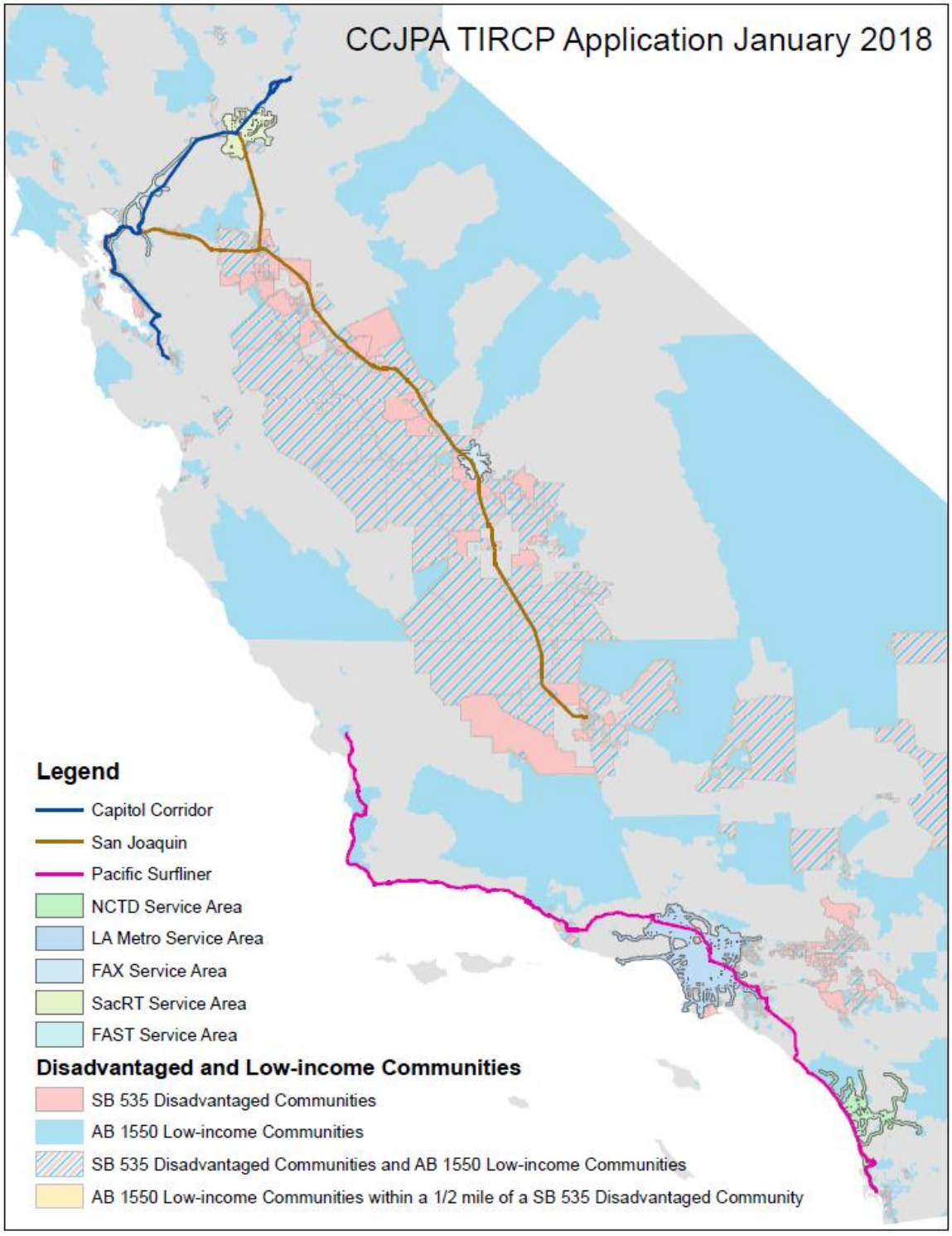


Figure 19: Statewide ITP Participating Agency Map: North Coast Transit District (NCTD)

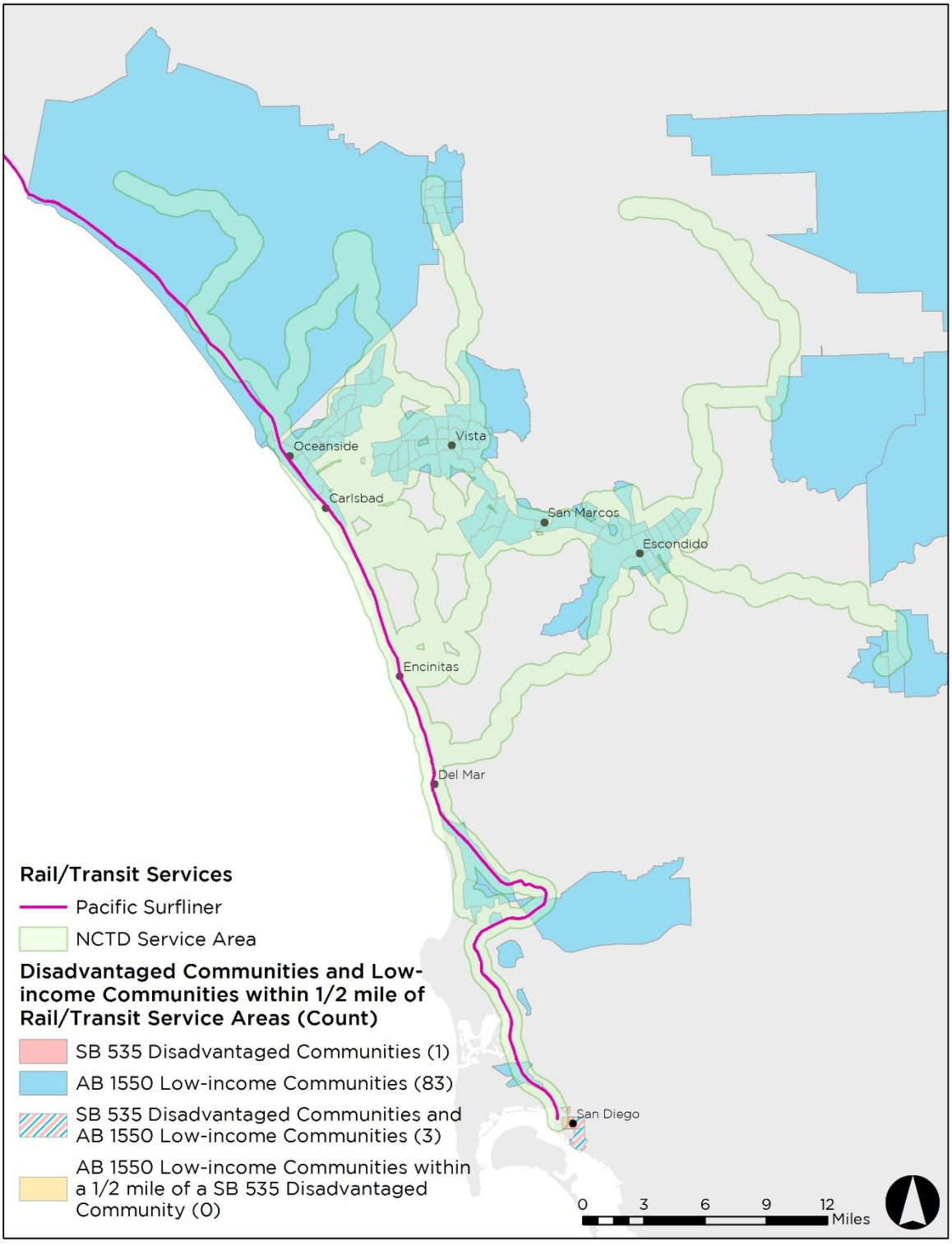


Figure 20: Statewide ITP Participating Agency Map: Amtrak Capitol Corridor

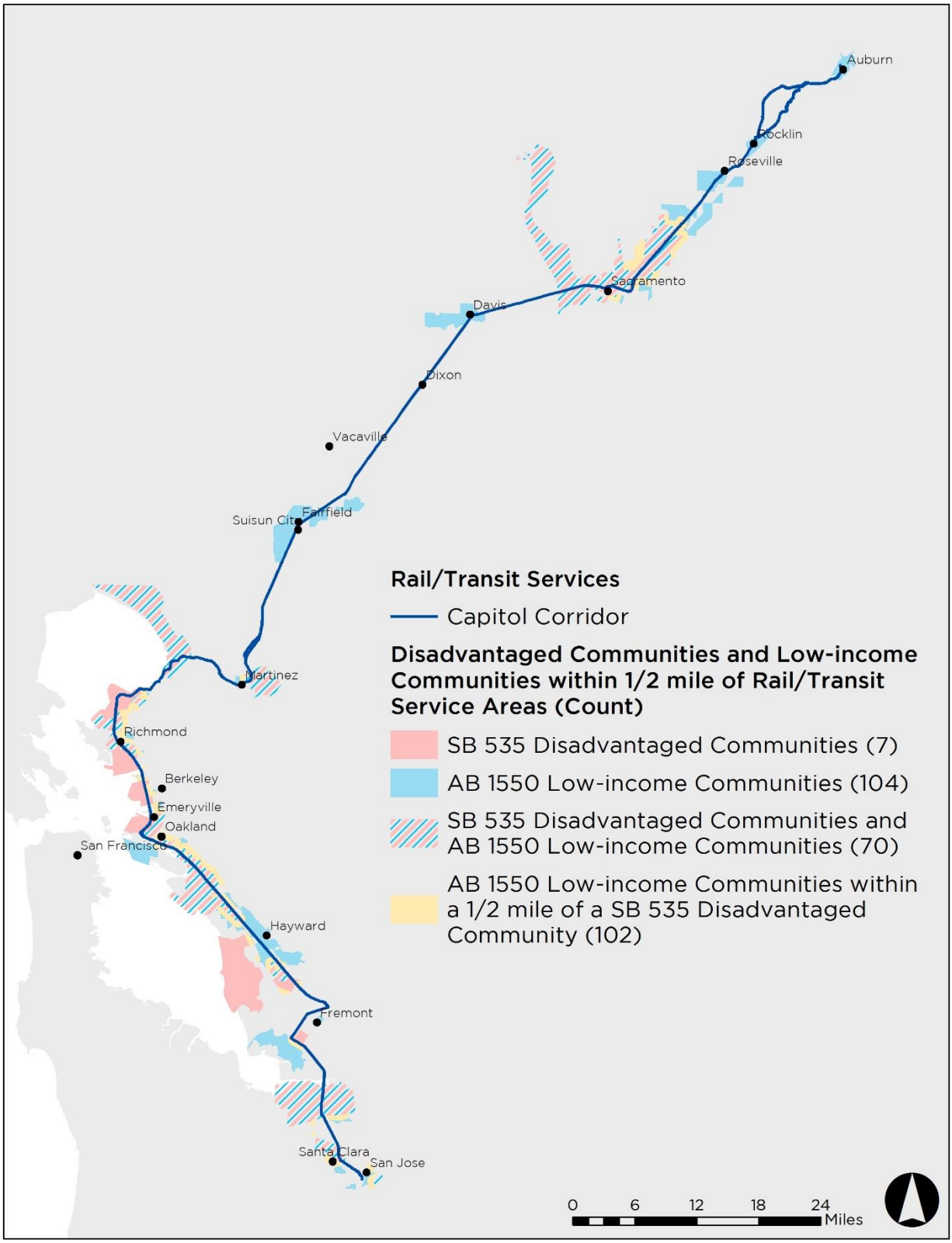


Figure 21: Statewide ITP Participating Agency Map: Amtrak Pacific Surfliner

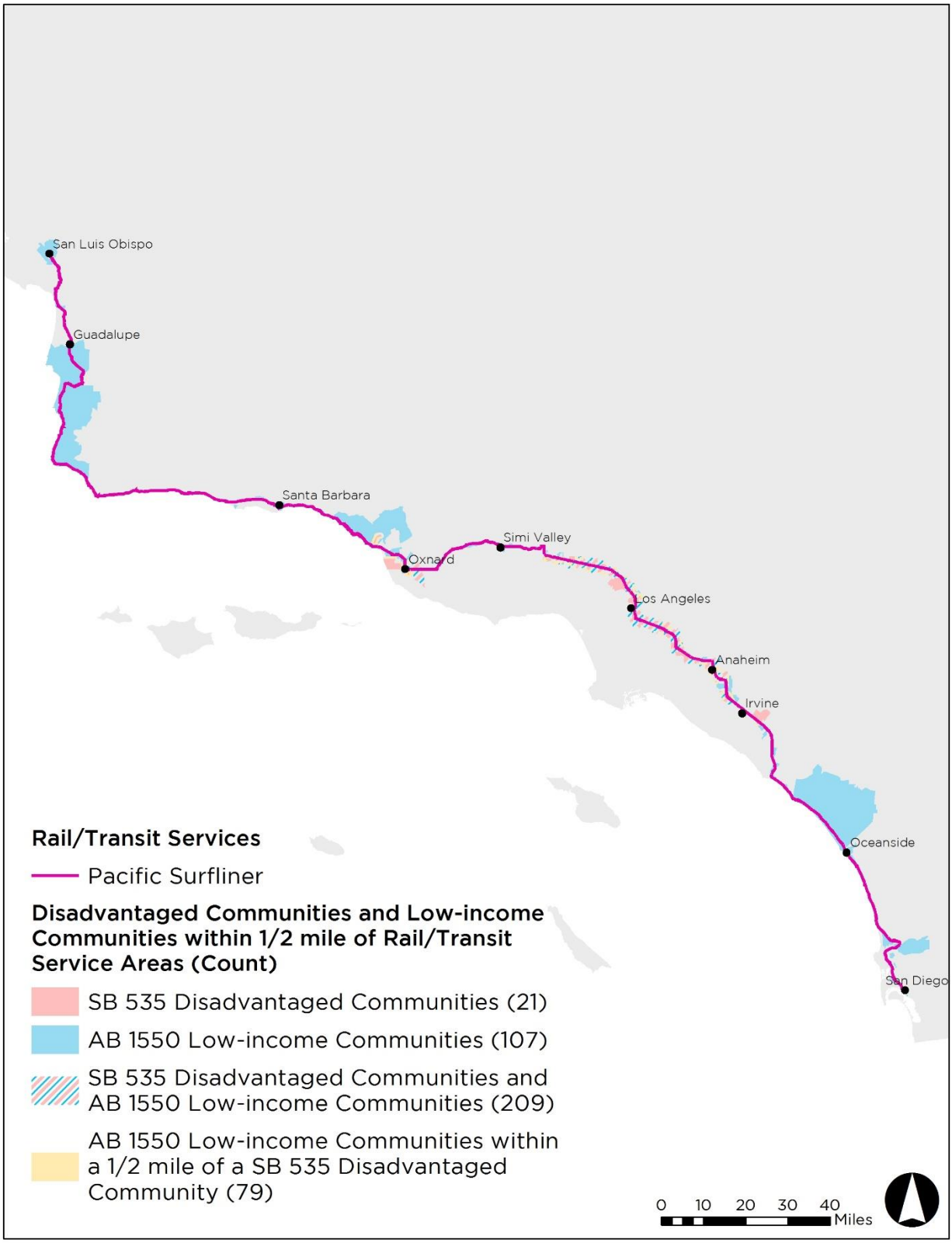


Figure 22: Statewide ITP Participating Agency Map: Los Angeles Metro Rail (LA Metro)

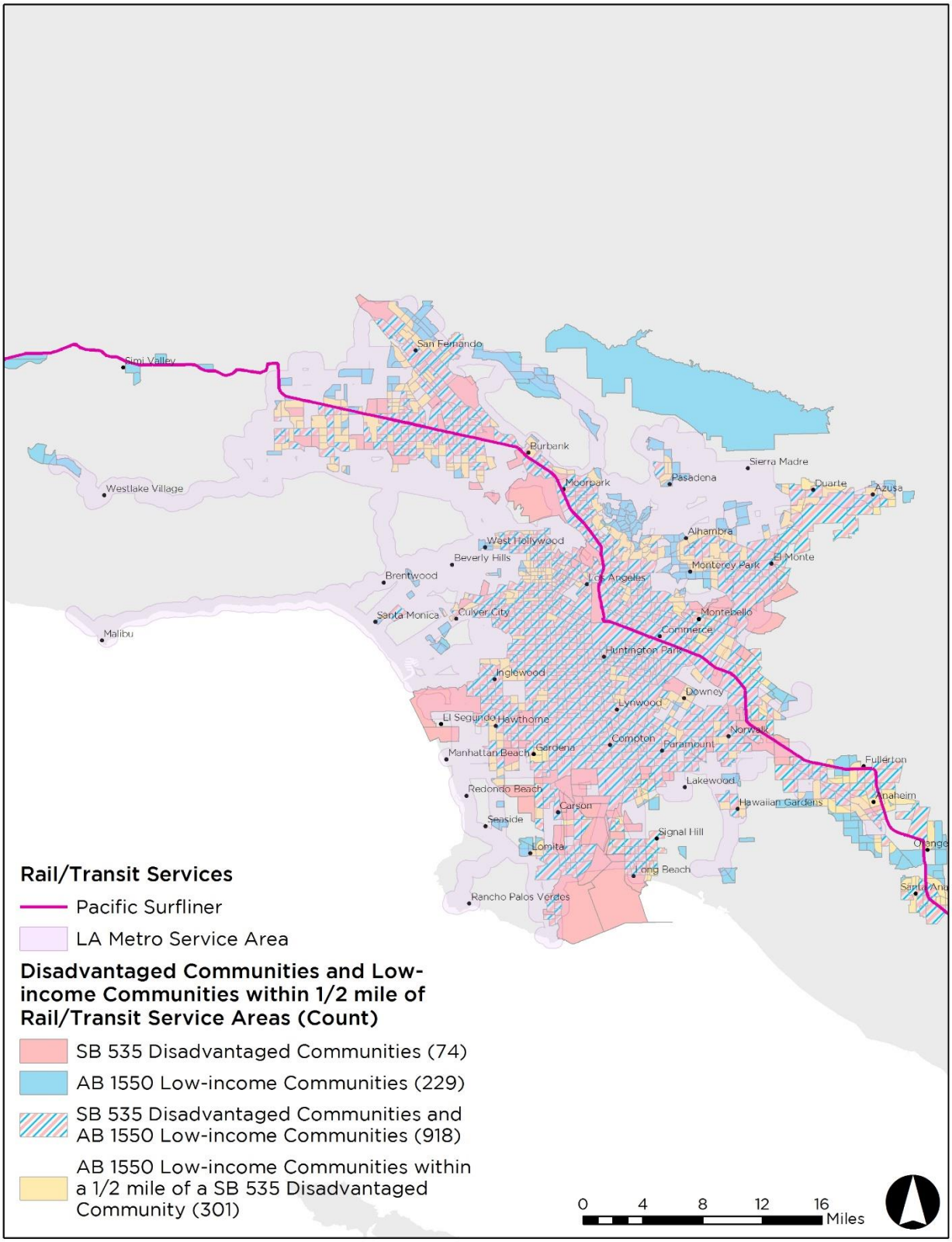


Figure 23: Statewide ITP Participating Agency Map: Amtrak San Joaquins

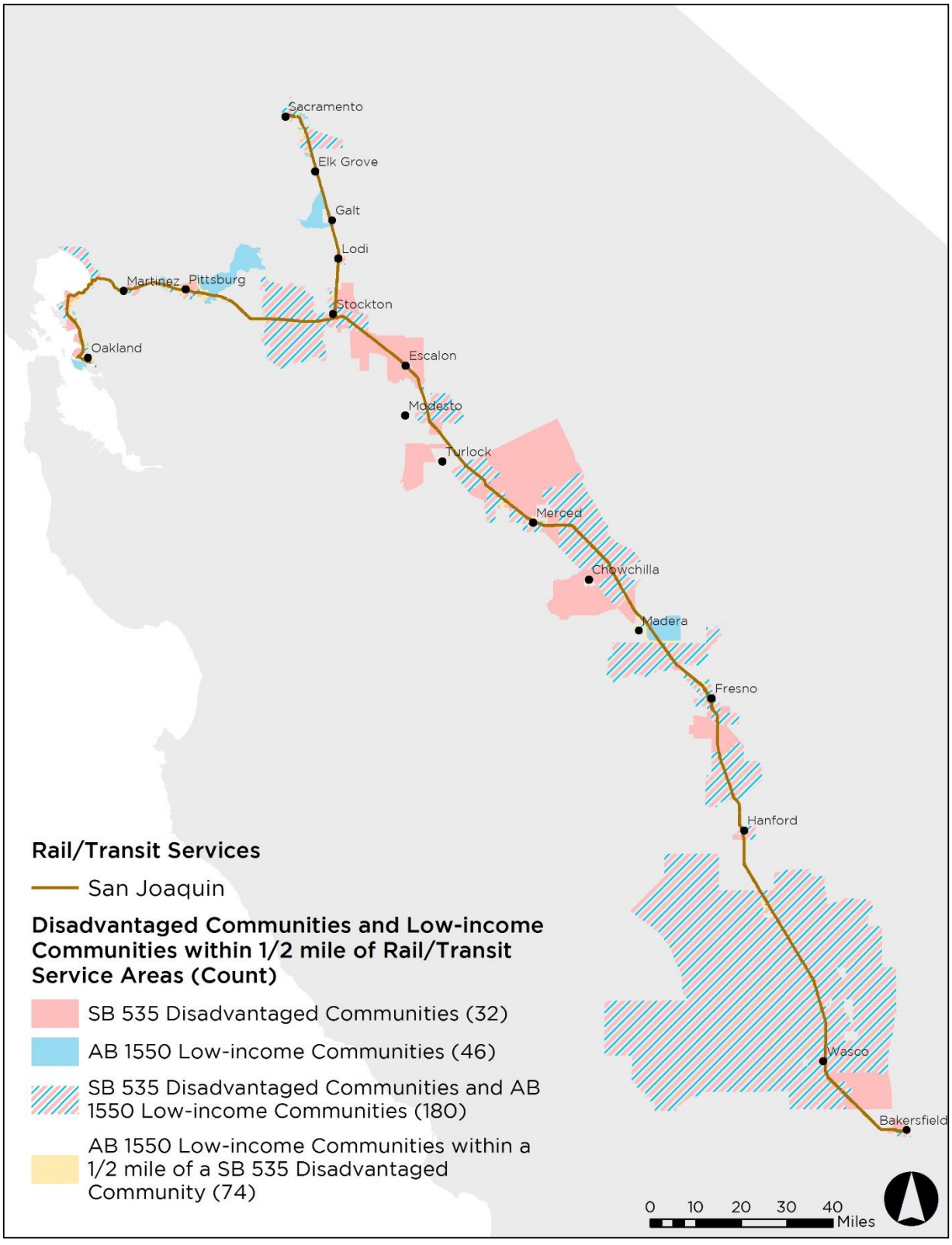


Figure 24: Statewide ITP Participating Agency Map: Fresno Area Express (FAX)

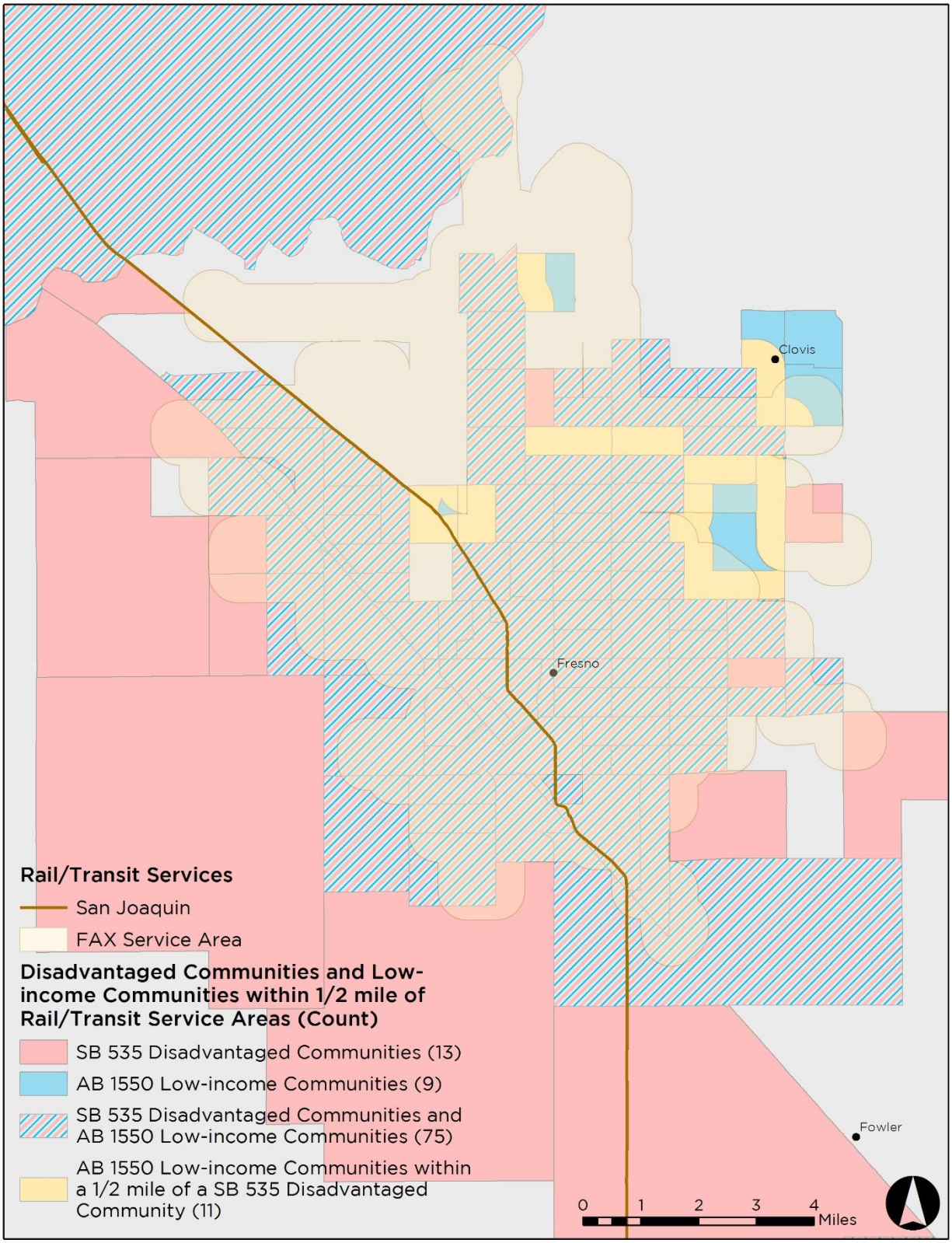


Figure 25: Statewide ITP Participating Agency Map: Sacramento Regional Transit (Sac RT)

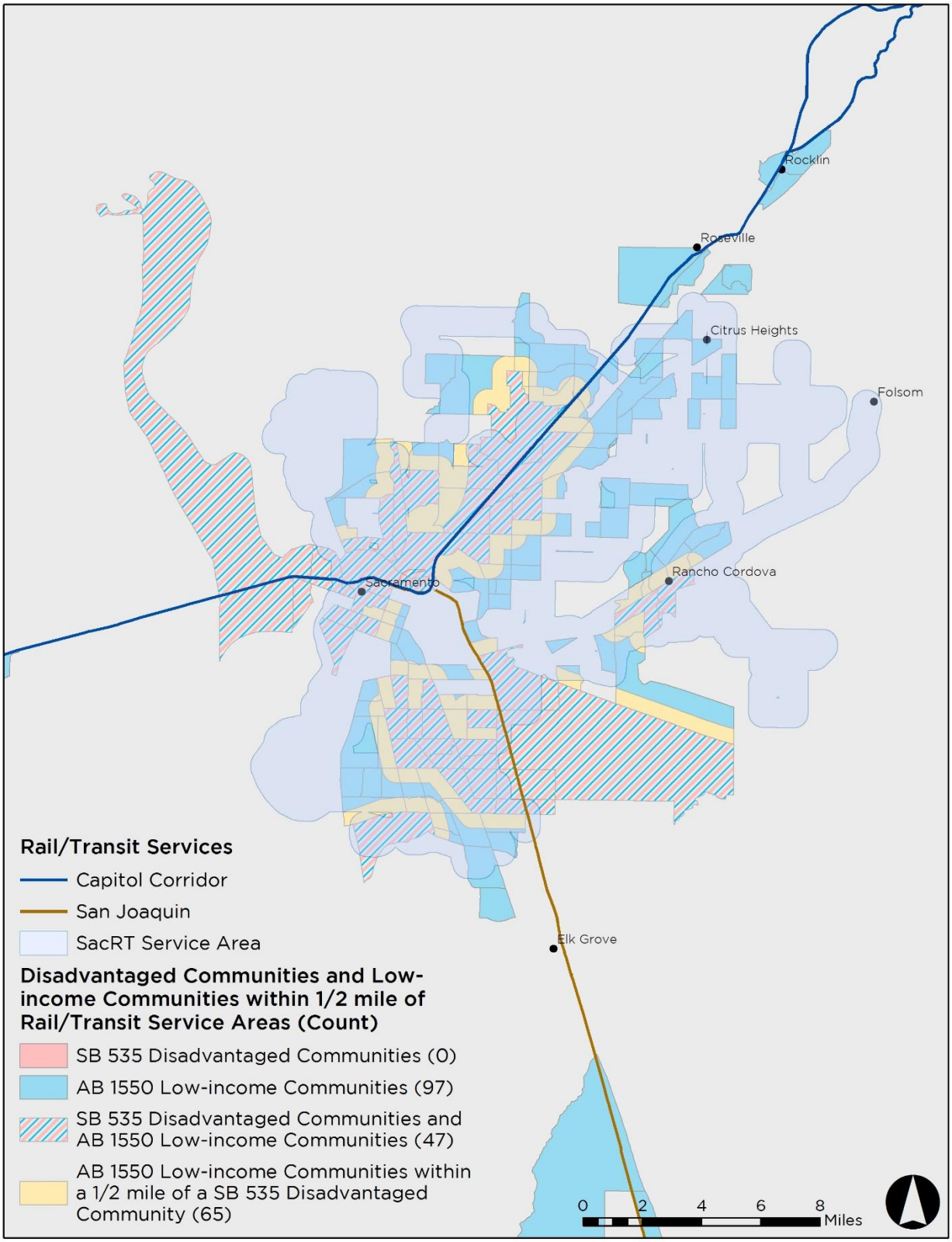
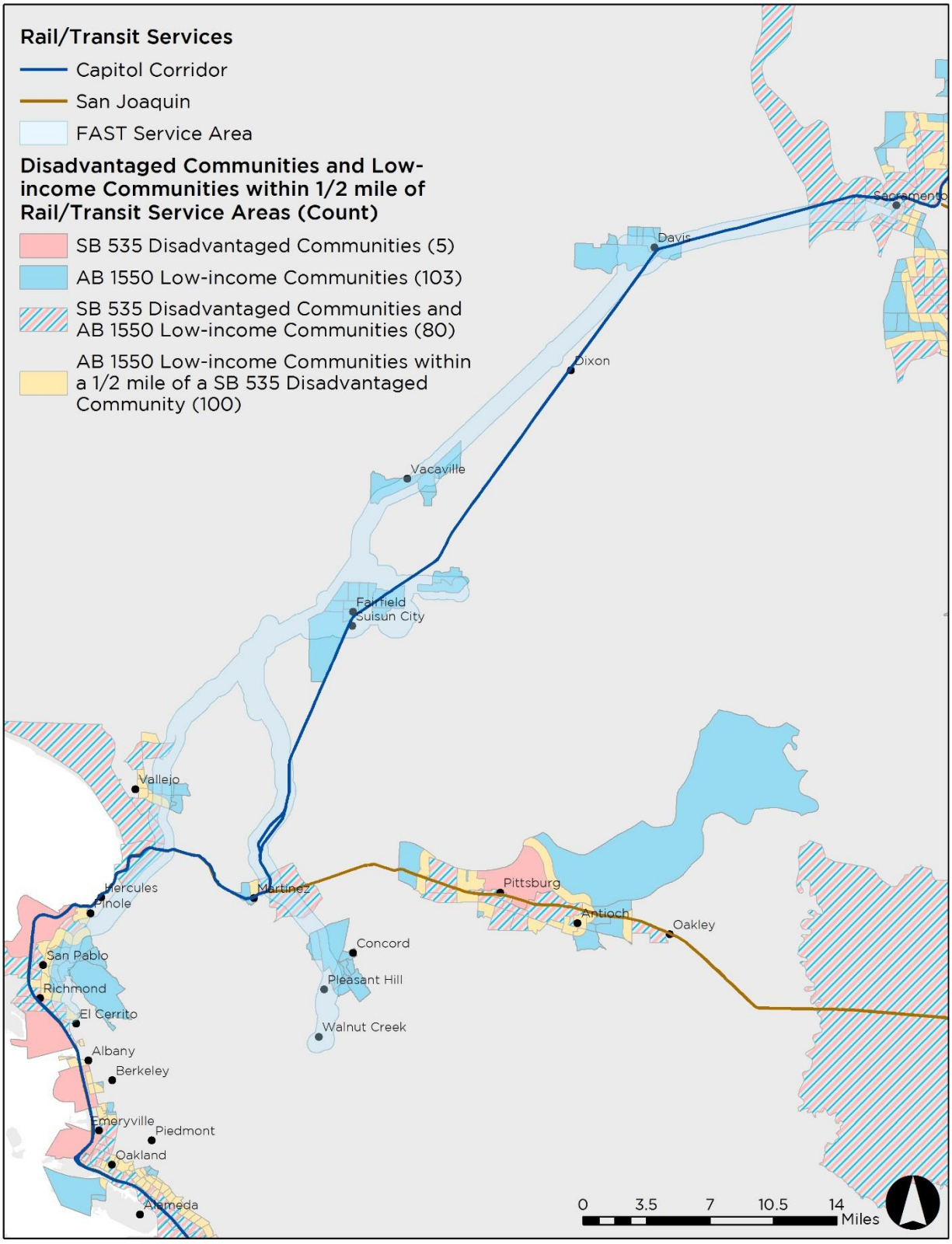


Figure 26: Statewide ITP Participating Agency Map: Fairfield and Suisun Transit (FAST)



APPENDIX B: LETTERS OF SUPPORT

Metropolitan Transportation Commission
Programming and Allocations Committee

January 10, 2018 **Agenda Item 4a**

MTC Resolution Nos. 4317 and 4318

Subject: Adoption of Regional Program of Applications for three Senate Bill 1 Competitive Programs

Background: Senate Bill 1 (SB 1) provides additional funding to existing competitive programs and created new competitive programs under the state's administration. Two programs require MTC action, and staff recommends the Commission endorse projects for a third program. The three programs are the Solutions for Congested Corridors (SCC), the Trade Corridor Enhancement Program (TCEP), and the Transit and Intercity Rail Program (TIRCP).

As detailed in the attached Deputy Executive Director memorandum, staff is recommending projects for all three programs, as summarized below:

($ Millions)

Program	No. of Projects Recommended	Amount Recommended	Amount Available Statewide	% Proposed
SCC	4	$541	$1,000	54%
TCEP	6	$489	$1,340	36%
TIRCP	10	$1,962	$2,400	81%

Staff has been working with the Congestion Management Agencies (CMAs), transit operators, Caltrans, and the applicable state agencies in recent months to develop these programs.

Information on the SB 1 Local Partnership Program (LPP) is included for reference.

Recommendation: Refer MTC Resolution Nos. 4317, 4318 and TIRCP Endorsement List to the Commission for approval, and direct staff to transmit the programs of nominations to the California Transportation Commission or California State Transportation Agency as appropriate.

Attachments: **Deputy Executive Director Memorandum**
Attachment 1: SCC and TCEP Nomination Tables
Attachment 2: TIRCP Recommended Endorsements
Attachment 3: MTC Resolution No. 4130, Revised – Cap and Trade Framework TIRCP Excerpt
Attachment 4: SCC Project Fact Sheets
Attachment 5: LPP Formula and Competitive Programs
MTC Resolution Nos. 4317 and 4318

J:\COMMITTE\PAC\2018 PAC Meetings\01 Jan'2018 PAC\4a_0_Res 4317-4318 SCC-TCEP-TIRCP.docx

- San Mateo: US-101 Express Lanes
- Santa Clara: US-101 Express Lanes Phase 3
- Sonoma: US-101 Marin-Sonoma Narrows, Segment C2
- Solano: I-80 Express Lanes
- BART: Train Control System Improvements

METROPOLITAN
TRANSPORTATION
COMMISSION

Bay Area Metro Center
375 Beale Street
San Francisco, CA 94105
TEL 415.778.6700
WEB www.mtc.ca.gov

Memorandum

TO: Programming and Allocations Committee DATE: January 3, 2018

FR: Deputy Executive Director, Policy

RE: MTC Resolution Nos. 4317 and 4318 – Adoption of Senate Bill 1 (SB 1) Competitive Programs

Senate Bill 1 (SB 1) provides additional funding to existing competitive programs and created new competitive programs under the state's administration. Two programs require MTC action, and staff recommends the Commission endorse projects for a third program. This memorandum summarizes the staff recommendations for each program.

Staff has been working with the Congestion Management Agencies (CMAs), transit operators, Caltrans, and the applicable state agencies in recent months to develop these programs.

Solutions for Congested Corridors (SCC): MTC Resolution No. 4317

SB 1 directs $250 million per year to the Solutions for Congested Corridors (SCC) Program to fund projects designed to reduce congestion in highly-traveled corridors. The first program will cover four years (FY 2017-18 through FY 2020-21), totaling $1 billion statewide. The Bay Area's share of congestion is approximately one-quarter to one-third of the state total, depending on the metric used. According to SB 1, only MTC, as the Regional Transportation Planning Agency (RTPA) for the nine-county Bay Area, and Caltrans may nominate projects within the Bay Area for SCC funds; however, the implementing/ sponsoring agency may be any public agency.

The SB1 statute lists two example projects in the Bay Area by name: 1) Emerging solutions for the Route 101 and Caltrain corridor connecting Silicon Valley with San Francisco, and 2) Multimodal approaches for the Route 101 and Sonoma-Marin Area Rail Transit (SMART) rail corridor between the Counties of Marin and Sonoma.

Staff recommends nominating four projects for $541 million for the SCC Program, in coordination with Caltrans. The proposed projects are listed in Attachment 1, Table 1 and project fact sheets are included in Attachment 4. Project applications are due to the CTC by February 16, 2018. These projects are recommended due to their status in state law (SB 1), focus on congestion, and early deliverability. Additionally, Caltrans District 4 intends to nominate the same four projects.

Consistent with the approach taken for other competitive statewide funding programs, the nomination amount is roughly equivalent to double the region's share of congestion. Because the congestion relief needs are so vast in our dynamic and job-rich region, the list is constrained and many other strong projects remain for future rounds of SB1 SCC funding.

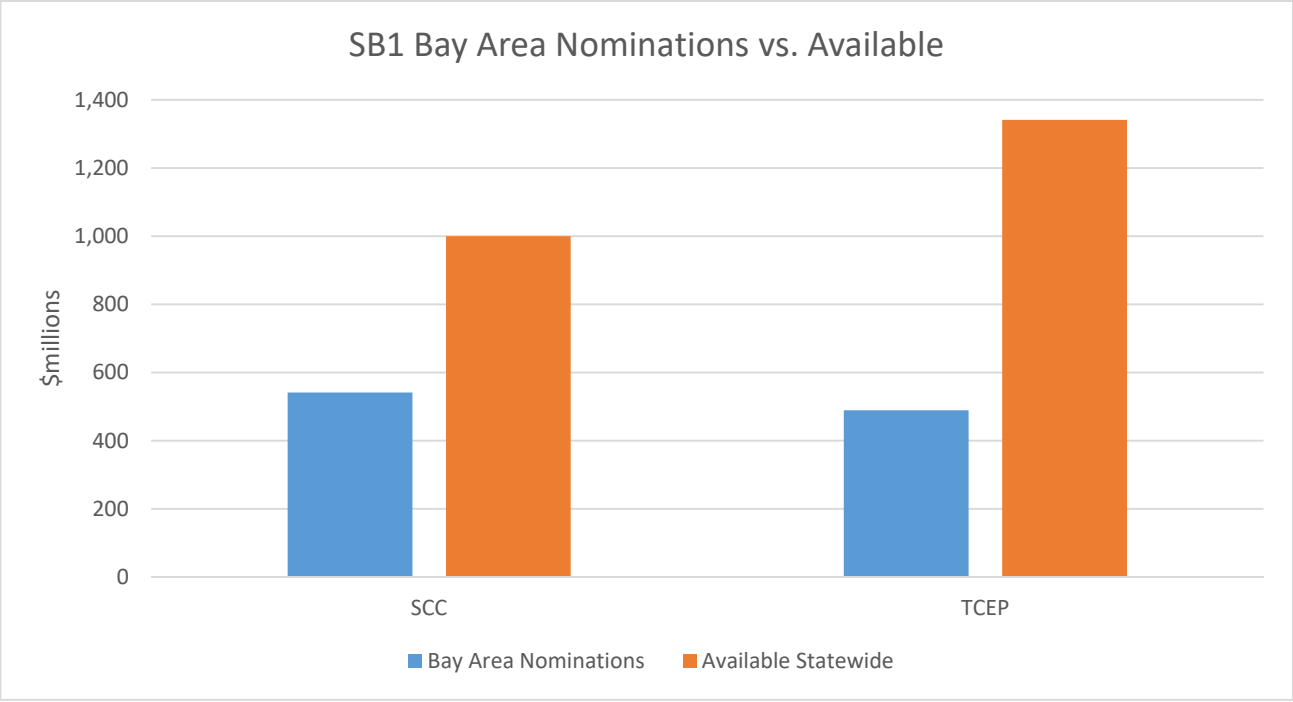
Trade Corridor Enhancement Program (TCEP): MTC Resolution No. 4318

SB 1 provides $300 million per year to the Trade Corridor Enhancement Account (TCEA) to fund infrastructure improvements on corridors that have a high volume of freight movement. Additionally, Senate Bill 103 directs the CTC to allocate both TCEA funds and California's National Highway Freight Program formula funds (authorized by the Fixing America's Surface Transportation (FAST) Act of 2015) through the TCEP. The first program will cover three years (FY 2017-18 through FY 2019-20), totaling about $1.3 billion statewide. The funds are further split 40% to Caltrans, or $536 million, and 60% to regions, of which $217 million goes to the Bay Area and Central Valley. The CTC Guidelines state that MTC, as the Metropolitan Planning Organization (MPO) for the nine-county Bay Area, is responsible for compiling project nominations within the region and confirming consistency with MTC's adopted Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

Staff is recommending six candidate projects totaling $489 million for the TCEP. We worked in close coordination with Caltrans; however, unlike the SCC program, the final Caltrans list is still under development. The MTC proposed TCEP projects are listed in Attachment 1, Table 2. Project applications are due to CTC by January 30, 2018.

Staff proposes a list of the trade projects that best align with the TCEP guidelines, focusing on projects in the primary freight network and those with near-term delivery. The recommended program is consistent with the Regional Goods Movement Plan and the proposed regional goods movement investment strategy.

The table below illustrates the Bay Area's nominations for SCC and TCEP funds in relation to the amounts available statewide.



Transit and Intercity Rail Capital Program

The Transit and Intercity Rail Capital Program (TIRCP) funds projects that will modernize California's intercity, commuter, and urban rail systems, and bus and ferry transit systems, to significantly reduce emissions of greenhouse gases, vehicle miles traveled, and congestion. The California State Transportation Agency (CalSTA) released a call for projects for a 5-year TIRCP program of projects, with an estimated $2.4 billion available over state fiscal years 2018-19 through 2022-23. This includes an estimated $1 billion from Cap and Trade auction proceeds, and an estimated $1.4 billion from SBl 1 revenues. Applications are due January 12, 2018. Applicants are required to include letters from MPOs confirming consistency with the region's Sustainable Communities Strategy. Staff reviewed project applications from sponsors and provided letters of consistency to applicants as appropriate. There are 12 applications from the Bay Area, totaling $2.9 billion in requests, as detailed in Attachment 2.

In addition to confirming consistency with Plan Bay Area 2040, MTC has an opportunity to endorse or emphasize certain applications from sponsors within the region. Staff recommends endorsing to CalSTA the projects named in the region's adopted Cap and Trade Framework (MTC Resolution No. 4130, Revised, excerpted as Attachment 3) as especially critical to implementing the goals of Plan Bay Area 2040. The proposed endorsements also reflect a policy of endorsing smaller capital projects that are not named in the framework, at up to $10 million per project. In addition, staff recommends endorsing a backstop for SMART's Extension to Larkspur in the event that expected federal funds do not materialize (see page 4 of the memorandum for more detail). The endorsement would be for ten projects totaling $1.9 billion. These also are noted in Attachment 2.

SB1 Local Partnership Program

The three programs discussed above are three of the largest SB1 programs, and are the biggest of the competitive programs. Another, smaller program is the Local Partnership Program (LPP). The LPP is divided equally into a formula program and a competitive program, with $200 million in each for this two-year cycle. Public agencies with voter approved taxes, fees or tolls dedicated to transportation improvements are eligible for the program. In the Bay Area, 15 agencies are receiving formula funds, totaling $24 million this year. For the formula funds, agencies can use the funds for any eligible project, and a wide range of project types are eligible. The Bay Area's LPP formula projects are included in Attachment 5 to this item.

Similarly, any agency eligible for the formula program may apply for the competitive program. Applications are due on January 30. Staff surveyed eligible agencies as to their intentions; a draft list of potential projects for the competitive program is also included in Attachment 5, totaling $172 million. The LPP projects are included for information only, to round out the picture of SB1 funding in the region. MTC has no formal role in approving other agencies' project applications for the LPP programs. MTC/BATA is eligible for LPP formula funding due to the voter approved bridge tolls, and the Commission approved the FY18 and FY19 project submittal in December 2017.

Issues

1) While MTC has a clear nominating and screening role in the SB1 competitive programs, MTC is neither a project sponsor nor implementing agency. Therefore, MTC will not be responsible for funding any cost increases unless explicitly agreed. Keeping the project within cost, scope, and schedule is the responsibility of the sponsoring and implementing agencies.

2) The US-101 Express Lanes project in San Mateo is listed in MTC's RTP/SCS, Plan Bay Area 2040, under an earlier, significantly smaller, cost and scope. MTC staff is working on an RTP amendment to update the project listing to be consistent with the most current cost ($534 million) and scope. The amendment is expected to be completed in April 2018. Projects receiving SCC funds must be consistent with a region's adopted RTP/SCS.

3) For TIRCP, project sponsors may apply for funds regardless of MTC's endorsement position. However, given the prior adoption of a regional framework and the pressing need to improve transit capacity in the region's core, staff proposes the Commission endorse several key projects. Additionally, Caltrain's application notes that following full electrification of the Caltrain fleet, the current diesel fleet could be redeployed on an inter-regional San Jose to Salinas service, which is not included in Plan Bay Area. Staff provided an SCS consistency letter to Caltrain that notes this exception.

4) There are a few other project specific issues as well:

- SMART: The Sonoma Marin Area Rail Transit (SMART) extension from Larkspur to San Rafael is in line for $20 million in Federal Small Starts funding. While Small Starts funds were included in the FY2016 federal budget, SMART has not yet received a Small Starts Grant Agreement (SSGA) securing the funds. Therefore, SMART is applying for $20 million in TIRCP funds as a backstop should the federal funds not be approved. Staff recommends supporting this TIRCP application even though it is outside the Commission's adopted framework, as the Larkspur extension is a regional priority for Small Starts with few other reasonable options for funding. The project is ready-to-go and a construction contract could be issued immediately upon securing funding.
- Marin Sonoma Narrows, Marin Segment: The MSN project comprises multiple segments in both Marin and Sonoma counties, and is named in the SB1 statute as an example project for the SCC program. Some of the project segments have already been delivered, with two major segments remaining. Staff proposes to submit the remaining Sonoma segment for SCC funding, due to its readiness and local matching funds. The Marin segment is not proposed for the current round of SCC, largely due to the fact that design is not yet complete nor fully funded. The Marin segment could be a contender for a future round of SCC funding as the project develops or for Regional Measure 3 should it be approved by the voters.
- Contra Costa I-680/SR-4 Interchange, Phase 3: This interchange is a major project in Contra Costa County, with multiple phases. The Phase 3 project would improve operational efficiencies and traffic flow, address safety concerns associated with the existing interchange configuration, extend the HOV system, and accommodate future demand. Our understanding is that the state has identified other funding to complete the project and it will not need funding from the SB 1 SCC or TCEP competitive programs.

Recommendation:
Refer MTC Resolution Nos. 4317 and 4318, and the TIRCP Endorsement List, to the Commission for approval, and direct staff to transmit the programs of nominations to the CTC or CalSTA as appropriate.

Alix A. Bockelman

Attachments
AB:kk

J:\COMMITTE\PAC\2018 PAC Meetings\01 Jan'2018 PAC\4a_0_Res 4317-4318 SCC-TCEP-TIRCP_Memo.docx

Metropolitan Transportation Commission

Attachment 2: 2018 Transit and Intercity Rail Capital Program (TIRCP)

January 10, 2018 Programming and Allocations Committee Item 4a

Proposed MTC Endorsements | Based on Bay Area Applications as Submitted by Agencies to MTC

Applicant	Project Title	Brief Description of TIRCP Application Scope	TIRCP Request ($ millions)	Total Project Cost ($ millions)	MTC Endorsement ($ millions)
BART	Transbay Core Capacity Project	Acquisition of up to 306 new rail vehicles and new Train Control System.	454	3,511	454
SFMTA	SFMTA's Transit Capacity Expansion Program	Fleet expansions: 22 additional Light Rail Vehicles, 78 motor coaches, 10 electric buses and support facilities/infrastructure, prototype battery conversion for trolley vehicles. Support facilities: traction power system upgrades and Muni Metro East facility expansion. Systems: Train control - surface system signal and initial subway upgrades.	600	925	579
AC Transit	Purchase Zero Emission High Capacity Buses to Support Transbay Tomorrow and Clean Corridors Plan	Purchase approximately 15 high capacity zero emission buses for Transbay service.	14	22	14
VTA	BART Silicon Valley Extension Phase 2	Extend BART from Berryessa Station through downtown San Jose to Santa Clara. Project includes signal, power, way, vehicles, four stations, a maintenance facility, and upgrades to BART's Operations Control Center (OCC).	730	4,900	730
Caltrain	Caltrain Electrification - Full Fleet Conversion and Expansion	(1) Expanded EMU Fleet: Initial 40 EMUs, additional 56 EMUs, minor platform modifications, and related planning work. (2) System Enhancements: Broadband communications, bike improvements.	631	631	125
GGBHTD	San Rafael Transportation Center Relocation	Complete final design and construction of a relocated San Rafael Transportation Center.	15	45	10
SamTrans	SamTrans US 101 Express Bus Pilot Project	Introduce a network of up to four express bus routes on US-101 serving origins and destinations in San Mateo, Santa Clara, and San Francisco counties. The express bus routes will offer point-to-point or limited stop service to key commuter destinations during peak commute periods and at 15-minute frequencies.	25	42	10
Capitol Corridor	Northern California Corridor Enhancement Program (Oakland-San Jose Phase 2A)	Shifting Capitol Corridor service from the current Niles Subdivision alignment between Oakland and Newark to the Coast Subdivision alignment, which will include a replacement station in the Fremont/Newark area to replace loss of service to the Hayward/Fremont stations.	15	223	10
Commute.org	Bay Area Fair Value Commuting (FVC) Demonstration Project – Phase 2	Develop a next generation employer commute program system including enterprise & smartphone apps, incentives/fees, electric scooter/bike, microtransit, and advanced ridesharing.	1	6	-
TJPA	Transbay Terminal Phase 2 - Downtown Extension	The Project will extend the Caltrain commuter rail system approximately 2 miles from its current San Francisco terminus into the Transbay Transit Center.	275	3,935	-
SMART*	SMART Larkspur to Windsor Corridor Project	Completion of Larkspur Extension; Windsor Rail Extension.	75	75	20
Solano Transportation Authority; Cities of Fairfield, Suisun City, and Vallejo; Fairfield and Suisun Transit (FAST), SolTrans	Solano Regional Transit Improvements	SolanoExpress electrification and capital improvements to improve frequency; local bus electrification; Fairfield/Vacaville Train Station building/access and amenities; Suisun Train Station access, bike/ped, and bus improvements.	33	112	10
Total			**2,867**	**14,426**	**1,962**

J:\COMMITTE\PAC\2018 PAC Meetings\01 Jan'2018 PAC\[4a_2_2018 TIRCP PAC Attachment.xlsx]PAC AttachmentFINAL

* Propose endorsing for up to $20 million for Larkspur Extension, as backfill to FTA Small Starts funds should those not be approved

APPENDIX B

Attachment A-1
Transit and Intercity Rail Capital (TIRCP) Framework

Agency	Project/Category	TIRCP Framework Amount ($millions)
BART	Train Control	250
	Hayward Maintenance Center	50
	Fleet Expansion	200
	BART Total	**500**
SFMTA	Fleet Expansion	481
	Facilities	67
	Core Capacity Study Projects/ BRT	237
	SFMTA Total	**785**
AC Transit	Fleet Expansion	90
	Facilities	50
	Major Corridors	200
	AC Transit Total	**340**
VTA	**BART to San Jose**	**750**
Caltrain	Electrification*	100
	EMUs	125
	Caltrain Total	**225**
Multiple Operators	**TBD Expansion Projects: High Ridership Bus, Rail and Ferry Corridors**	**400**
Region Total		$3,000

*Assumes an equal or greater contribution from Cap and Trade High Speed Rail category, and an FTA Core Capacity commitment of $447 million.

From April 27, 2017 Staff memo to PAC related to MTC Resolution No. 4130:
Recognizing the TIRCP potential to also fund smaller projects, staff recommends an endorsement policy for requests up to $10 million conditioned on consistency with the region's long range plan.

- San Mateo: US-101 Express Lanes
- Santa Clara: US-101 Express Lanes Phase 3
- Sonoma: US-101 Marin-Sonoma Narrows, Segment C2
- Solano: I-80 Express Lanes
- BART: Train Control System Improvements

Metropolitan Transportation Commission

Attachment 5: SB 1 LPP Program Nominations

January 10, 2018 Programming and Allocations Committee Item 4a

Bay Area List of 2018 LPP Formulaic Proposals ($millions)

Applicant Agency	Project Title	Implementing Agency	Amount Proposed
AC Transit	Customer Service Center Rehab	AC Transit	$0.5
AC Transit	Purchase 59 Hybrid Buses	AC Transit	$0.5
ACTC	7th Street Grade Separation East Segment (7SGSE)	ACTC	$8.0
City of Orinda	Miner Road Rehab	Orinda	$0.2
CCTA	I-680 NB Express Lane	CCTA	$4.8
CCTA	El Cerrito Pavement Project	El Cerrito	$0.2
CCTA	Martinez Pavement Project	Martinez	$0.2
TAM	Marin-Sonoma Narrows (Design Contracts B1-Ph2 and A4)	Caltrans	$0.5
TAM	Francisco Blvd West Multi-Use Pathway (2nd St to Andersen Dr)	San Rafael	$0.5
BATA	Dumbarton Bridge Operational Improvements	BATA	$8.2
BATA	SFOBB/West Oakland Regional Bicycle/Ped Link Connection	MTC/BATA/CT	$2.0
BART	BART Escalator Replacement (Downtown SF Stations)	BART	$1.9
SMART	SMART Rail Maintenance Equipment Expansion	SMART	$1.6
SFCTA	Park Merced/Twin Peaks/Glen Park Residential Pavement Renovation	SFPW	$2.1
SFCTA	Alemany Boulevard Pavement Renovation	SFPW	$2.1
VTA	Capitol Expressway LRT Extension (Eastridge-Alum Rock)	SCCVTA	$9.4
SCTA	Route 101 Marin/Sonoma Narrows C-2 project	Caltrans	$0.6
SCTA	Santa Rosa OBAG2 Bike and Pedestrian Project	Santa Rosa	$0.6
	Total Proposed for Formula Program		***$43.9***

Proposed Draft List of Bay Area 2018 LPP Competitive Applications ($millions)

Applicant Agency	Project Title	Implementing Agency	Amount Proposed
AC Transit	Purchase 59 Hybrid Buses	AC Transit	$10.4
CCTA	I-680/SR4 Interchange Improvements – Phase 4	CCTA	$19.0
City of Orinda	TBD	Orinda	$0.0
TAM	Bellam Blvd Offramp Access Imps to Richmond San Rafael Bridge	TAM	$2.0
TAM	Sir Francis Drake Blvd Rehabilitation Project	Marin County	$5.0
TAM	Northern Segment of the North-South Greenway Project	TAM	$2.0
NVTA	Devlin Road Extension Phase E	Napa County	$ TBD
BART	Train Control Modernization Project	BART	$50.0
SMART	TBD	SMART	$TBD
SFCTA	Mission Bay Ferry Landing	SF Port	$11.0
SFCTA	Jefferson Street Improvements Phase II	SF PW	$6.5
SFCTA	Better Market Street Segment 1	SF PW	$40.2
Co-Applicants: San Mateo CCAG Samtrans San Mateo TA	US 101 Managed Lanes - CMGC	Samtrans	$10.0
VTA	Mathilda Avenue Improvements at SR 237 and US 101	SCCVTA	$16.0
	Total Proposed for Competitive Program		***$172.1***

Date: January 24, 2018
W.I.: 1515
Referred by: PAC

ABSTRACT

Resolution No. 4317

This resolution adopts the program of MTC's nominations for the Solutions for Congested Corridors (SCC) program for submission to the California Transportation Commission (CTC), consistent with the provisions of Senate Bill 1 (Chapter 5, Statutes of 2017).

Attachment A – Funding Levels for 2018 Solutions for Congested Corridors Program

Attachment B – Program of MTC Nominations for 2018 Solutions for Congested Corridors Program

Further discussion of these actions is contained in the Summary Sheet to the MTC Programming and Allocations Committee dated January 10, 2018.

Date: January 24, 2018
W.I.: 1515
Referred by: PAC

RE: Adoption of Program of MTC's Nominations for the SB 1 Solutions for Congested Corridors (SCC) Program

METROPOLITAN TRANSPORTATION COMMISSION
RESOLUTION NO. 4317

WHEREAS, the Metropolitan Transportation Commission (MTC) is the regional transportation planning agency for the San Francisco Bay Area pursuant to Government Code Section 66500 *et seq.*; and

WHEREAS, MTC has adopted and periodically revises, pursuant to Government Code Sections 66508 and 65080, a Regional Transportation Plan (RTP); and

WHEREAS, MTC adopts, pursuant to Government Code Section 65082, a Regional Transportation Improvement Program (RTIP) when additional State Transportation Improvement Program funding is available, that is submitted, pursuant to Government Code Section 14527, to the California Transportation Commission (CTC) and the California Department of Transportation (Caltrans); and

WHEREAS, on April 28, 2017, the Governor signed Senate Bill 1 (Chapter 5, Statutes of 2017) into law, authorizing an increase to various transportation-related taxes and fees, and directing $250 million per year to the Solutions for Congested Corridors (SCC) Program to fund projects that make specific performance improvements designed to reduce congestion in highly-traveled corridors; and

WHEREAS, on December 6, 2017, the California Transportation Commission (CTC) approved the Guidelines for the Solutions for Congested Corridors Program, which includes four years of funding totaling $1 billion (Attachment A); and

WHEREAS, MTC, as both the regional transportation planning agency and authority responsible for preparing the RTIP for the Bay Area, is eligible to nominate projects within the Bay Area for SCC funds, as defined in section 9 of the Guidelines for the Solutions for Congested Corridors Program; and

WHEREAS, MTC is the nominating agency for SCC projects, and is not a sponsoring or implementing agency on any MTC-nominated SCC project; now, therefore, be it

RESOLVED, that MTC adopts the Program of MTC Nominations the Solutions for Congested Corridors Program, attached hereto as Attachment B and incorporated herein as though set forth at length~~, and finds it consistent with the RTP~~; and, be it further

RESOLVED, that MTC, as the nominating agency, shall not be responsible to fund any cost increases unless explicitly agreed, and the responsibility and accountability for MTC's nominated projects to stay within agreed-upon cost, scope, and schedule lies with the sponsoring and implementing agencies; and be it further

RESOLVED, that the Executive Director may make minor adjustments to Attachments A and B to respond to direction from the California Transportation Commission and/or the California Department of Transportation (Caltrans); and, be it further

RESOLVED, that MTC's adoption of the Program of MTC Nominations for the Solutions for Congested Corridors Program is for planning purposes only, with each project still subject to review and application approval pursuant to MTC Resolution Nos. 3115 and 3757; and, be it further

RESOLVED, that the Executive Director shall forward a copy of this resolution, and such other information as may be required to the CTC, Caltrans, and to such other agencies as may be appropriate.

METROPOLITAN TRANSPORTATION COMMISSION

_____
Jake Mackenzie, Chair

The above resolution was entered into by the Metropolitan Transportation Commission at a regular meeting of the Commission held in San Francisco, California, on January 24, 2018.

Attachment A
MTC Resolution No. 4317
SB1 Solutions for Congested Corridors (SCC)
Program of MTC Nominations
FY 2017-18 through FY 2020-21
January 2018

MTC Resolution No. 4317
Attachment A
Adopted: 1/24/18-C

Statewide Funding Distribution (Based on Section 4 of SCC Guidelines adopted by CTC on Dec. 6, 2017)

SB1 Solutions for Congested Corridors (SCC) Program	Estimated Appropriations ($millions)
SCC - FY 2017-18 Appropriation	$250
SCC - FY 2018-19 Appropriation	$250
SCC - FY 2019-20 Appropriation	$250
SCC - FY 2020-21 Appropriation	$250
Total	**$1,000**

J:\SECTION\ALLSTAFF\Resolution\TEMP-RES\MTC\January PAC\[tmp-4317_Attachments_A_B.xlsx]SCC Attach B Jan 2018

Attachment B
MTC Resolution No. 4317
SB1 Solutions for Congested Corridors (SCC)
Program of MTC Nominations
FY 2017-18 through FY 2020-21
January 2018

MTC Resolution No. 4318
Attachment B
Adopted: 01/24/18-C

Project List

SB1 Solutions for Congested Corridors Program of MTC Nominations	County	Sponsor	SCC Amount
San Mateo US-101 Express Lanes / Santa Clara US-101 Express Lanes Phase 3	San Mateo Santa Clara	Caltrans VTA	$233
Solano I-80 Express Lanes	Solano	Caltrans	$123
Sonoma US-101 Marin-Sonoma Narrows, Segment C2	Sonoma	Caltrans	$85
BART Train Control System	Regional	BART	$100
Total			**$541**

J:\SECTION\ALLSTAFF\Resolution\TEMP-RES\MTC\January PAC\[tmp-4317_Attachments_A_B.xlsx]SCC Attach B Jan 2018

Date: January 24, 2018
W.I.: 1515
Referred by: PAC

ABSTRACT

Resolution No. 4318

This resolution adopts the program of the Bay Area's nominations for the Trade Corridors Enhancement Program (TCEP) for submission to the California Transportation Commission (CTC), consistent with the provisions of Senate Bill 1 (Chapter 5, Statutes of 2017).

Attachment A – Funding Levels for 2018 Trade Corridors Enhancement Program

Attachment B – Program of Bay Area Nominations for 2018 Trade Corridors Enhancement Program

Further discussion of these actions is contained in the Summary Sheet to the MTC Programming and Allocations Committee dated January 10, 2018.

Date: January 24, 2018
W.I.: 1515
Referred by: PAC

RE: Adoption of Program of MTC's Nominations for the SB 1 Trade Corridors Enhancement Program (TCEP)

METROPOLITAN TRANSPORTATION COMMISSION
RESOLUTION NO. 4318

WHEREAS, the Metropolitan Transportation Commission (MTC) is the regional transportation planning agency for the San Francisco Bay Area pursuant to Government Code Section 66500 *et seq.*; and

WHEREAS, MTC is the federally designated Metropolitan Planning Organization (MPO), pursuant to Section 134(d) of Title 23 of the United States Code (USC) for the nine-county San Francisco Bay Area region (the region); and

WHEREAS, MTC has adopted and periodically revises, pursuant to Government Code Sections 66508 and 65080, a Regional Transportation Plan (RTP); and

WHEREAS, on April 28, 2017, the Governor signed Senate Bill 1 (Chapter 5, Statutes of 2017) into law, authorizing an increase to various transportation-related taxes and fees, and directing $300 million per year to the Trade Corridor Enhancement Account to fund infrastructure improvements on corridors that have a high volume of freight movement; and

WHEREAS, on July 21, 2017, the Governor signed Senate Bill 103 (Chapter 95, Statutes of 2017) into law, which directs the California Transportation Commission to allocate Trade Corridor Enhancement Account funds and California's National Highway Freight Program formula funds (authorized by the Fixing America's Surface Transportation (FAST) Act of December 4, 2015) through the Trade Corridor Enhancement Program; and

WHEREAS, on October 18, 2017, the California Transportation Commission (CTC) approved the Guidelines for the Trade Corridors Enhancement Program, which includes three years of funding totaling $1.341 billion (Attachment A); and

WHEREAS, MTC, as the MPO for the nine-county Bay Area, is responsible for compiling project nominations for the regional portion of the TCEP within the region, as defined in section 17 of the Guidelines for the Trade Corridor Enhancement Program, and

WHEREAS, MTC is not a sponsoring or implementing agency on any Bay Area TCEP project; now, therefore, be it

RESOLVED, that MTC adopts the Program of Bay Area Nominations for the Trade Corridor Enhancement Program, attached hereto as Attachment B and incorporated herein as though set forth at length; and, be it further

RESOLVED, that MTC, as the agency responsible for compiling project nominations, shall not be responsible to fund any cost increases unless explicitly agreed, and the responsibility and accountability for the Bay Area's TCEP projects to stay within agreed-upon cost, scope, and schedule lies with the sponsoring and implementing agencies; and be it further

RESOLVED, that the Executive Director may make minor adjustments to Attachments A and B to respond to direction from the California Transportation Commission and/or the California Department of Transportation (Caltrans); and, be it further

RESOLVED, that MTC's adoption of the Program of Bay Area Nominations for the Trade Corridor Enhancement Program is for planning purposes only, with each project still subject to review and application approval pursuant to MTC Resolution Nos. 3115 and 3757; and, be it further

RESOLVED, that the Executive Director shall forward a copy of this resolution, and such other information as may be required to the CTC, Caltrans, and to such other agencies as may be appropriate.

METROPOLITAN TRANSPORTATION COMMISSION

_____

Jake Mackenzie, Chair

The above resolution was entered into by the Metropolitan Transportation Commission at a regular meeting of the Commission held in San Francisco, California, on January 24, 2018.

Attachment A
MTC Resolution No. 4318
SB1 Trade Corridor Enhancement Program (TCEP)
Fund Estimate and Corridor Targets
FY 2017-18, FY 2018-19, and FY 2019-20
January 2018

MTC Resolution No. 4318
Attachment A
Adopted: 01/24/18-C

Statewide Fund Estimate ($millions)

SB1 Trade Corridor Enhancement Program Fund Estimate	FY 2017-18	FY 2018-19	FY 2019-20	Total Statewide*
State: Trade Corridor Enhancement Account	$200	$298	$296	$794
Federal: National Highway Freight Program	$293	$115	$127	$535
State: AB 133 Loan Repayment	$11			$11
Total	**$505**	**$413**	**$423**	**$1,341**

* Figures may not add to total due to rounding

Corridor Programming Targets ($millions)

SB1 Trade Corridor Enhancement Program Targets	Target*
Statewide Target: Caltrans	$536
Regional Target: Bay Area and Central Valley	$217
Regional Target: Other Corridors	$588
Total	**$1,342**

* Target may not match Fund Estimate due to rounding

J:\SECTION\ALLSTAFF\Resolution\TEMP-RES\MTC\January PAC\[tmp-4318_Attachments_A_B.xlsx]TCEP Attach B Jan 2018

Attachment B
MTC Resolution No. 4318
SB1 Trade Corridor Enhancement Program (TCEP)
Program of Bay Area Nominations
FY 2017-18, FY 2018-19, and FY 2019-20
January 2018

MTC Resolution No. 4318
Attachment B
Adopted: 01/24/18-C

Project List

SB1 Trade Corridor Enhancement Program (TCEP) Program of Bay Area Nominations	County	Sponsor	TCEP Amount
Port of Oakland 7th Street Grade Separation (East)	Alameda	Port of Oakland	$175
Port of Oakland ITS Elements (Go Port)	Alameda	Port of Oakland	$11
At-Grade Rail Crossing Improvements (Berkeley, Emeryville)	Alameda	ACTC, Berkeley, Emeryville	$12
I-680/SR-84 Interchange	Alameda	ACTC	$71
Solano I-80/I-680/SR-12 Interchange (various phases)	Solano	Caltrans/ STA	$216
Santa Clara US 101/SR25 Interchange (Design)	Santa Clara	VTA	$4
Total			**$489**

J:\SECTION\ALLSTAFF\Resolution\TEMP-RES\MTC\January PAC\[tmp-4318_Attachments_A_B.xlsx]TCEP Attach B Jan 2018

BUILDING AMERICA®

January 12, 2018

Brian P. Kelly, Secretary
California State Transportation Agency
915 Capitol Mall, Suite 350B
Sacramento, CA 95814

Re: Transit and Intercity Rail Capital Program (TIRCP) – Capitol Corridor Joint Powers Authority (CCJPA) proposed route modification and Sacramento-Roseville service.

Dear Secretary Kelly:

On behalf of Union Pacific Railroad (UPRR), I am writing to acknowledge our engagement with CCJPA on their efforts to expand Capitol Corridor passenger rail service between Sacramento and Roseville and to shift their operations from the UPRR Niles Subdivision to the UPRR Coast Subdivision between Oakland and Newark.

Sacramento – Roseville Third Track Third Track Project Phase 2:

UPRR supports CCJPA's efforts to obtain TIRCP funding to progress the Sacramento – Roseville third track project. The CCJPA TIRCP application complies with agreed upon terms from the CCJPA/UPRR Memorandum of Understanding signed in August of 2010. Upon completion of the third track between Sacramento and Roseville, CCJPA will have the capability to operate up to ten round trip trains between the cities.

Oakland – San Jose Service Expansion Project:

UPRR acknowledges CCJPA's efforts to obtain TIRCP funding to progress the Oakland – San Jose Service Expansion Project and we have been involved in discussions with both CCJPA and Alameda County. While we have an understanding of the proposed project components, a formal corridor analysis will need to occur prior to UPRR making any commitments on this effort.

This corridor analysis will determine:

1. The feasibility of the shift in both freight and passenger operations between the Niles, Oakland, and Coast Subdivisions
2. The required investment on each subdivision to support current and future freight and passenger operations
3. A thorough analysis and design of the proposed connections between the Oakland and Niles Subdivisions
4. Scheduling requirements and determination of actual transit time

UNION PACIFIC RAILROAD
1400 Exposition Blvd
Roseville, CA 95747

Wesley J. Lujan
Assistant Vice President
Public Affairs - West

P 916-789-6015
E wjlujan@up.com

Changes to CCJPA's proposed service and related infrastructure investment included within their TIRCP application may be required and will depend on the completion of the corridor analysis. Should the state decide to award TIRCP funds to CCJPA in support of their application, UPRR requests that the state allow flexibility for those funds to be spent on the specific requirements that are determined by our analysis and future service agreements.

UPRR values our working relationship with CCJPA and looks forward to continuing the dialogue on these and many other initiatives.

Sincerely,

Wes Lujan

ALAMEDA
County Transportation Commission

1111 Broadway, Suite 800, Oakland, CA 94607 • 510.208.7400 • www.AlamedaCTC.org

January 4, 2018

Mr. Brian P. Kelly
Secretary of the California State Transportation Agency
915 Capitol Mall, Suite 350B
Sacramento, CA 95814

Subject: Support for Capitol Corridor Joint Powers Authority Transit and Intercity Rail Capital Program Grant Application for the Northern California Corridor Enhancement Program

Dear Secretary Kelly:

On behalf of the Alameda County Transportation Commission (Alameda CTC), I am writing to extend our support for the Capitol Corridor Joint Powers Authority (CCJPA) Transit and Intercity Rail Capital Program (TIRCP) grant application for the Northern California Corridor Enhancement Program.

Currently, Capitol Corridor passenger service provides a crucial rail link between cities and the major metropolitan regions located along Interstates 80, 580, 680, and 880, all of which pass through and serve Alameda County. These rail services provide an energy-efficient, safe, and low-emission alternative to automobile travel on these heavily congested corridors, linking growing population and job centers.

The CCJPA Northern California Corridor Enhancement Program proposes two subprojects, which in combination and independently will reduce greenhouse gas emissions and increase ridership on intercity passenger services, and reduce vehicle miles travelled (VMT) and overall congestion in the state's transportation corridors: Sacramento to Roseville Third Track Phase 2 and Oakland to San Jose Service Expansion Phase 2A. While Alameda CTC supports the full application, our comments focus on the Oakland to San Jose component, which will reduce travel time between these cities and expand travel choice opportunities for the public.

CCJPA has been actively partnering with Alameda CTC and local partners to advance the project. Alameda CTC shares the goal of

optimizing the freight and passenger rail networks in Alameda County, consistent with a number of recent modal plans completed in the county, including Alameda CTC's Countywide Goods Movement Plan, Countywide Transit Plan, and the Alameda County Rail Strategy Study, as well as the Draft State Rail Plan. These efforts are also consistent with recent regional planning efforts, including the San Francisco Bay Area Goods Movement Plan and the current Regional Transportation Plan/Sustainable Communities Strategy, Plan Bay Area 2040.

A robust, multimodal transportation network is needed to support the ever-increasing job and population growth in the Bay Area, while decreasing congestion and environmental impacts to our region. PBA 2040 estimates that Alameda and Santa Clara counties will add 1.2 million residents and 625,000 jobs between 2010 and 2040, accounting for 52 percent of the nine-county Bay Area's population growth and 49 percent of the region's job growth over 30 years.

Capitol Corridor provides a vital link between population and job centers in the East Bay and the South Bay and will enhance and increase much-needed transportation services. Alameda CTC supports the overall TIRCP application for the CCJPA Northern California Corridor Enhancement Program, and specifically the Oakland to San Jose Phase 2A element. Please contact Tess Lengyel, Deputy Executive Director of Planning and Policy (tlengyel@alamedactc.org; 510.208.7428) if you have any questions.

Sincerely,

ARTHUR L. DAO
Executive Director
Alameda County Transportation Commission

Service Development
1600 Franklin Street, Oakland CA 94612

January 10, 2018

Mr. Brian P. Kelly
Secretary of the California State Transportation Agency
915 Capitol Mall, Suite 350 B
Sacramento, CA 95814

Subject: Support for Capitol Corridor Joint Powers Authority Transit and Intercity Rail Capital Program Grant Application for the Northern California Corridor Enhancement Program

Dear Secretary Kelly:

On behalf of the Alameda-Contra Costa Transit District (AC Transit), I am writing to extend our support for the Capitol Corridor Joint Powers Authority (CCJPA) Transit and Intercity Rail Capital Program (TIRCP) grant application for the Northern California Corridor Enhancement Program.

Currently, Capitol Corridor passenger service provides a crucial rail link between cities and the major metropolitan regions located along Interstates 80, 580, 680, and 880. These rail services provide an energy efficient, safe, and low emission alternative to automobile travel in this heavily congested corridor linking population and job centers.

The CCJPA Northern California Corridor Enhancement Program proposes two subprojects, which in combination and independently will reduce GHG emissions and enhance the quality of life for Californians by increasing ridership on Intercity passenger services, and will reduce Vehicle Miles Travelled (VMT) and overall congestion in the State's transportation corridors:

- Sacramento to Roseville Third Track Phase 2
- Oakland to San Jose Service Expansion Phase 2A

<u>Oakland to San Jose Service Expansion Phase 2A</u>
The Oakland to San Jose Service Expansion Phase 2A project will reroute CCJPA service between Oakland and Fremont/Newark from the Union Pacific Railroad (UPRR) Niles Subdivision to the UPRR Coast Subdivision. This will result in reducing travel time between Oakland and Fremont/Newark by nearly 15 minutes, allowing a traveler to get from Oakland to Santa Clara in less than half an hour and to San Jose in less than 45 minutes. The subsequent relocation of UPRR freight operations from the Coast Subdivision to the Niles Subdivision will separate freight and passenger rail operations to optimize both services while increasing safety and efficiency. Construction of a new station at the Ardenwood Park & Ride Facility on the Fremont/Newark border will provide the opportunity to enhance and expand intermodal transit connections across the Highway 84 Dumbarton Bridge to the Peninsula, allowing a passenger to travel from

Oakland to Menlo Park and Palo Alto in 50 minutes via AC Transit's Line U or the Dumbarton Express.

CCJPA is partnering with the Alameda County Transportation Commission (ACTC) in their pursuit to optimize the freight and passenger rail network in Alameda County, as the Oakland to San Jose Phase 2A project fulfills a key goal of ACTC's forthcoming Rail Strategy Study. In addition to ACTC, CCJPA is also partnering with AC Transit and the cities of Newark and Fremont to collaborate on building and delivering a new intermodal transit center connecting rail and express bus services at the foot of the Dumbarton Bridge, consistent with the Dumbarton Transportation Corridor Study developed by SamTrans in 2017.

Completion of the Oakland to San Jose Phase 2A Project fulfills key transportation goals identified in the following countywide, regional, and state plans, which all acknowledge the need to connect people and jobs throughout the Bay Area:

- ACTC's Countywide Transportation Plan
- ACTC's Countywide Transit Plan
- ACTC's Goods Movement Plan
- Metropolitan Transportation Commission's (MTC) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), Plan Bay Area 2040 (PBA 2040)
- Draft 2018 State Rail Plan

A robust, multi-modal transportation network is needed to support the ever-increasing jobs and population growth in the Bay Area, while decreasing congestion and environmental impacts to our region. PBA 2040 estimates that Alameda and Santa Clara Counties will add 1.2 million residents and 625,000 jobs between 2010 and 2040, accounting for 52% of the 9-county Bay Area's population growth and 49% of the region's job growth over 30 years. Capitol Corridor provides a vital link between population and job centers in the East Bay and the South Bay, and with the optimized connection in Newark/Fremont at the Highway 84 Dumbarton Bridge, will enhance and increase much needed transportation services between the East Bay and Peninsula. With the completion of Capitol Corridor's Oakland to San Jose Service Expansion Phase 2A project, a resident living in Oakland could get to their job in Palo Alto, Santa Clara, or San Jose in less than 50 minutes utilizing Capitol Corridor with intermodal connections to express bus service, local bus service, or local bicycle and pedestrian networks.

AC Transit and the Dumbarton Bridge Regional Operations Consortium (DBROC) anticipate operating additional express bus service across the Dumbarton Bridge, commensurate with the projected population and job growth in the region. In addition, through the Dumbarton Study and other initiatives, AC Transit and its partners are in the planning process to identify capital investments that improve the speed and reliability of transit operations along the Dumbarton Corridor. A new intermodal transit center at the existing Ardenwood Park & Ride owned by AC Transit and Caltrans would advance the transit improvement goals for the corridor.

Therefore, AC Transit fully supports the overall TIRCP application for the CCJPA Northern California Corridor Enhancement Program, and specifically the Oakland to

San Jose Phase 2A element, and requests the California State Transportation Agency to approve CCJPA TIRCP grant request.

Sincerely,

Robert del Rosario
Director of Service Development and Planning
AC Transit

January 5, 2018

Mr. Brian P. Kelly, Secretary
California State Transportation Agency
915 Capitol Mall, Suite 350 B
Sacramento, CA 95814

Subject: Support for Capitol Corridor Joint Powers Authority Transit and Intercity Rail Capital Program Grant Application

Dear Secretary Kelly:

On behalf of the Peninsula Corridor Joint Powers Board (Caltrain), I am writing to extend our support for the Capitol Corridor Joint Powers Authority (CCJPA) Transit and Intercity Rail Capital Program (TIRCP) grant application for the Northern California Corridor Enhancement Program.

Currently, Capitol Corridor passenger service provides a crucial rail link between cities and the major metropolitan regions located along Interstates 80, 580, 680, and 880. These rail services provide an energy efficient, safe, and low emission alternative to automobile travel in this heavily congested corridor linking population and job centers.

The CCJPA Northern California Corridor Enhancement Program proposes two subprojects, which in combination and independently will reduce GHG emissions and enhance the quality of life for Californians by increasing ridership on Intercity passenger services, and will reduce Vehicle Miles Travelled (VMT) and overall congestion in the State's transportation corridors:

- Sacramento to Roseville Third Track Phase 2
- Oakland to San Jose Service Expansion Phase 2A

Sacramento to Roseville Third Track Phase 2

Currently, the Sacramento to Roseville Third Track Project (SR3T) Phase 1 project is in final design and is fully funded for construction and will allow CCJPA to increase service in the corridor from a single round-trip to three round-trips per day. The second phase of the SR3T Project, which will complete final design and NEPA clearance including the construction of a new rail bridge crossing of the American River and overcrossings of the Capital Cities Freeway, will be a

major step to completing the project and fully realizing the benefits of ten round-trips per day.

The proposed project partnership between CCJPA and Caltrans to complete the design and environmental reviews for the new bridges presents a unique opportunity for both agencies to take full advantage the synergy between highway and rail modes to deliver these major transportation projects efficiently and cost-effectively.

Oakland to San Jose Service Expansion Phase 2A

The Oakland to San Jose Service Expansion Phase 2A project will reroute CCJPA service between Oakland and Fremont/Newark from the Union Pacific Railroad (UPRR) Niles Subdivision to the UPRR Coast Subdivision. This will result in reducing travel time between Oakland and Fremont/Newark by nearly 15 minutes, allowing a traveler to get from Oakland to Santa Clara in less than half an hour and to San Jose in less than 45 minutes. The subsequent relocation of UPRR freight operations from the Coast Subdivision to the Niles Subdivision will separate freight and passenger rail operations to optimize both services while increasing safety and efficiency. Construction of a new station at Fremont/Newark will provide the opportunity to enhance and expand intermodal transit connections across the Highway 84 Dumbarton Bridge to the Peninsula, allowing a passenger to travel from Oakland to Menlo Park and Palo Alto in 50 minutes.

CCJPA is also partnering with the Alameda County Transportation Commission (ACTC) in their pursuit to optimize the freight and passenger rail network in Alameda County, as the Oakland to San Jose Phase 2A project fulfills a key goal of ACTC's forthcoming Rail Strategy Study. In addition to ACTC, CCJPA is also partnering with the Alameda-Contra Costa Transit District (AC Transit) and the cities of Newark and Fremont to collaborate on building and delivering a new intermodal transit center connecting rail and express bus services at the foot of the Dumbarton Bridge.

Completion of the Oakland to San Jose Phase 2A Project fulfills key transportation goals identified in the following countywide, regional, and state plans, which all acknowledge the need to connect people and jobs throughout the Bay Area:

- Draft 2018 State Rail Plan
- ACTC's Countywide Transportation Plan
- ACTC's Countywide Transit Plan
- ACTC's Goods Movement Plan
- Metropolitan Transportation Commission's (MTC) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), Plan Bay Area 2040 (PBA 2040)

Capitol Corridor services the Caltrain Santa Clara and San Jose Diridon Stations, and the CCJPA is a key regional rail partner to delivering a robust, multi-modal transportation network. This is needed to support the ever-increasing jobs and population growth in the Bay Area, while decreasing congestion and environmental impacts to our region. Capitol Corridor provides a vital link between population and job centers in the East Bay and the South Bay, and with the optimized connection in Newark/Fremont at the Highway 84 Dumbarton Bridge, will enhance and increase much needed transportation services between the East Bay and Peninsula. With the completion of Capitol Corridor's Oakland to San Jose Service Expansion Phase 2A project, a resident living in Oakland could get to their job in Palo Alto, Santa Clara, or San Jose in less than 50 minutes utilizing Capitol Corridor with intermodal connections to express bus service, local bus service, or local bicycle and pedestrian networks.

Therefore, Caltrain fully supports the overall TIRCP application for the CCJPA Northern California Corridor Enhancement Program, and requests the California State Transportation Agency to approve CCJPA TIRCP grant request.

Sincerely,

Jim Hartnett
Executive Director

Cc:
Michelle Bouchard, Chief Operating Officer
David Kutrosky, Capitol Corridor Joint Powers Authority

NATIONAL RAILROAD PASSENGER CORPORATION
William N. Feidt, Executive Vice President, Chief Financial Officer
1 Massachusetts Ave, NW, Washington, DC 20001
Telephone 202-906-3300

AMTRAK

January 11, 2018

Brian P. Kelly
Secretary
California State Transportation Agency
915 Capitol Mall, Suite 350B
Sacramento, CA 95814

Dear Mr. Kelly:

The National Railroad Passenger Corporation (Amtrak) would like to take this opportunity to express its support for Capitol Corridor Joint Powers Authority's (CCJPA) grant application submitted in response to the notice of funding opportunity for the California Department of Transportation's (CalSTA) Transit and Intercity Rail Capital Program (TIRCP). This notice announced the availability of $2.4 billion to be awarded by CalSTA for capital improvements that modernize California's intercity passenger rail, bus, ferry and rail transit systems.

Amtrak's support relates to the following project(s):

Capitol Corridor Northern California Corridor Enhancement Program

It is our understanding that this project, upon completion, has the potential to improve intercity passenger rail service and benefit the Amtrak system. Based on the information made available to us regarding the project's eligibility, and subject to the development of such project-specific agreements as CalSTA, CCJPA and Amtrak may require, we support this application as a potential candidate for funding. It is Amtrak's expectation that, prior to the obligation of grant funds for this project CCJPA and Amtrak will discuss resource requirements and Amtrak's ability to adequately support the project, and subsequently enter into an agreement(s) setting forth our roles and responsibilities with respect to the project, with terms acceptable to Amtrak.

The advancement of projects like this will not only significantly improve California's transportation infrastructure, but will also contribute to the economic competitiveness of the state. We appreciate your leadership in filing this application and look forward to working with you on this and future opportunities to improve intercity passenger rail transportation.

Sincerely,

William N. Feidt
Executive Vice President, Chief Financial Officer

Santa Cruz Metropolitan
Transit District

January 5, 2018

Mr. Brian P. Kelly
Secretary of the California State Transportation Agency
915 Capitol Mall, Suite 350B
Sacramento, CA 95814

Subject: **Support for Capitol Corridor Joint Powers Authority Transit and Intercity Rail Capital Program Grant Application for the Northern California Corridor Enhancement Program**

Dear Secretary Kelly:

On behalf of the Santa Cruz Metropolitan Transit District (METRO), I am writing to extend our support for the Capitol Corridor Joint Powers Authority (CCJPA) Transit and Intercity Rail Capital Program (TIRCP) grant application for the Northern California Corridor Enhancement Program.

Currently, Capitol Corridor passenger service provides a crucial rail link between cities and the major metropolitan regions located along Interstates 80, 580, 680, and 880. These rail services provide an energy efficient, safe, and low emission alternative to automobile travel in this heavily congested corridor linking population and job centers.

The CCJPA Northern California Corridor Enhancement Program proposes two subprojects, which in combination and independently will reduce GHG emissions and enhance the quality of life for Californians by increasing ridership on intercity passenger services, and will reduce Vehicle Miles Travelled (VMT) and overall congestion in the State's transportation corridors:

- Sacramento to Roseville Third Track Phase 2
- Oakland to San Jose Service Expansion Phase 2A

<u>Sacramento to Roseville Third Track Phase 2</u>
Currently, the Sacramento to Roseville Third Track Project (SR3T) Phase 1 project is in final design and is fully funded for construction and will allow CCJPA to increase service in the corridor from a single round-trip to three round-trips per day. The second phase of the SR3T project, which will complete final design and NEPA clearance of the including the construction of a new rail bridge crossing of the American River and overcrossings of the Capital Cities Freeway, will be a major step to completing the project and fully realizing the benefits of ten round-trips per day.

The proposed project partnership between CCJPA and Caltrans to complete the design and environmental reviews for the new bridges presents a unique opportunity for both

agencies to take full advantage the synergy between highway and rail modes to deliver these major transportation projects efficiently and cost-effectively.

Oakland to San Jose Service Expansion Phase 2A

The Oakland to San Jose Service Expansion Phase 2A project will reroute CCJPA service between Oakland and Fremont/Newark from the Union Pacific Railroad (UPRR) Niles Subdivision to the UPRR Coast Subdivision. This will result in reducing travel time between Oakland and Fremont/Newark by nearly 15 minutes, allowing a traveler to get from Oakland to Santa Clara in less than half an hour and to San Jose in less than 45 minutes. The subsequent relocation of UPRR freight operations from the Coast Subdivision to the Niles Subdivision will separate freight and passenger rail operations to optimize both services while increasing safety and efficiency. Construction of a new station at Fremont/Newark will provide the opportunity to enhance and expand intermodal transit connections across the Highway 84 Dumbarton Bridge to the Peninsula, allowing a passenger to travel from Oakland to Menlo Park and Palo Alto in 50 minutes.

CCJPA is partnering with the Alameda County Transportation Commission (ACTC) in their pursuit to optimize the freight and passenger rail network in Alameda County, as the Oakland to San Jose Phase 2A project fulfills a key goal of ACTC's forthcoming Rail Strategy Study. In addition to ACTC, CCJPA is also partnering with the Alameda-Contra Costa Transit District (AC Transit) and the cities of Newark and Fremont to collaborate on building and delivering a new intermodal transit center connecting rail and express bus services at the foot of the Dumbarton Bridge.

Completion of the Oakland to San Jose Phase 2A Project fulfills key transportation goals identified in the following countywide, regional, and state plans, which all acknowledge the need to connect people and jobs throughout the Bay Area:

- ACTC's Countywide Transportation Plan
- ACTC's Countywide Transit Plan
- ACTC's Goods Movement Plan
- Metropolitan Transportation Commission's (MTC) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), Plan Bay Area 2040 (PBA 2040)
- Draft 2018 State Rail Plan

A robust, multi-modal transportation network is needed to support the ever-increasing jobs and population growth in the Bay Area, while decreasing congestion and environmental impacts to our region. PBA 2040 estimates that Alameda and Santa Clara Counties will add 1.2 million residents and 625,000 jobs between 2010 and 2040, accounting for 52% of the 9-county Bay Area's population growth and 49% of the region's job growth over 30 years. Capitol Corridor provides a vital link between population and job centers in the East Bay and the South Bay, and with the optimized connection in Newark/Fremont at the Highway 84 Dumbarton Bridge, will enhance and increase much needed transportation services between the East Bay and Peninsula. With the completion of Capitol Corridor's Oakland to San Jose Service Expansion

Phase 2A project, a resident living in Oakland could get to their job in Palo Alto, Santa Clara, or San Jose in less than 50 minutes utilizing Capitol Corridor with intermodal connections to express bus service, local bus service, or local bicycle and pedestrian networks.

The Santa Cruz Metropolitan Transit District (METRO) supports these improvements to the Capitol Corridor route as a means to attract additional riders to the rail service. METRO and the CCJPA are members of the JPA which operates the Highway 17 Express to provide AMTRAK throughway service connecting to the Capitol Corridor at the San Jose Diridon Train Station. Together, the two agencies contribute to reductions in energy consumption, greenhouse gas emissions and roadway congestion, all of which support the TIRCP goals.

METRO fully supports the overall TIRCP application for the CCJPA Northern California Corridor Enhancement Program, especially the Oakland to San Jose extension, which is especially important for efficient service from the Bay Area to the state capital. METRO requests that the California State Transportation Agency grant favorable consideration to the CCJPA's TIRCP application.

Sincerely,

Alex Clifford
CEO/General Manager

cc: Jim Allison, CCJPA

SOLANO TRANSPORTATION AUTHORITY

Member Agencies:
Benicia • Dixon • Fairfield • Rio Vista • Suisun City • Vacaville • Vallejo • Solano County

One Harbor Center, Ste. 130, Suisun City, CA 94585-2473 • Phone (707) 424-6075 / Fax (707) 424-6074
Email: info@sta.ca.gov • Website: sta.ca.gov

December 15, 2017

Mr. Brian P. Kelly
Secretary of the California State Transportation Agency
915 Capitol Mall, Suite 350 B
Sacramento, CA 95814

Subject: **Support for Capitol Corridor Joint Powers Authority Transit and Intercity Rail Capital Program Grant Application for the Northern California Corridor Enhancement Program**

Dear Secretary Kelly:

On behalf of the Solano Transportation Authority (STA), I am writing to extend our support for the Capitol Corridor Joint Powers Authority (CCJPA) Transit and Intercity Rail Capital Program (TIRCP) grant application for the Northern California Corridor Enhancement Program.

Currently, Capitol Corridor passenger service provides a crucial rail link between cities and the major metropolitan regions located along Interstates 80, 580, 680, and 880. These rail services provide an energy efficient, safe, and low emission alternative to automobile travel in this heavily congested corridor linking population and job centers.

The CCJPA Northern California Corridor Enhancement Program proposes two subprojects, which in combination and independently will reduce GHG emissions and enhance the quality of life for Solano residents, commuters and visitors. The proposed projects will increase ridership on Intercity passenger service and reduce Vehicle Miles Travelled (VMT) and overall congestion in the State's heavily travelled transportation corridors.

As a direct result of the proposed improvements, the overall system travelers will experience reduced travel times and increased safety and efficiency. Therefore, the STA, fully supports the overall TIRCP application for the CCJPA Northern California Corridor Enhancement Program.

Sincerely,

James Spering, STA Board Chair
Supervisor District 3
County of Solano

TAMC
TRANSPORTATION AGENCY
FOR MONTEREY COUNTY

55-B Plaza Circle, Salinas, CA 93901-2902 • Tel: (831) 775-0903 • Website: www.tamcmonterey.org

December 21, 2017

Brian P. Kelly, Secretary
California State Transportation Agency
915 Capitol Mall, Suite 350 B
Sacramento, CA 95814

Subject: Support for Capitol Corridor Joint Powers Authority Grant Application

Dear Secretary Kelly:

On behalf of the Transportation Agency for Monterey County (TAMC), I am writing to extend our support for the Capitol Corridor Joint Powers Authority (CCJPA) Transit and Intercity Rail Capital Program (TIRCP) grant application for the Northern California Corridor Enhancement Program.

Currently, Capitol Corridor passenger service provides a crucial rail link between cities and the major metropolitan regions located along Interstates 80, 580, 680, and 880. These rail services provide an energy efficient, safe, and low emission alternative to automobile travel in this heavily congested corridor linking population and job centers.

The CCJPA Northern California Corridor Enhancement Program proposes two subprojects, which in combination and independently will reduce GHG emissions and enhance the quality of life for Californians by increasing ridership on Intercity passenger services, and will reduce Vehicle Miles Travelled (VMT) and overall congestion in the State's transportation corridors:

- Sacramento to Roseville Third Track Phase 2
- Oakland to San Jose Service Expansion Phase 2A

TAMC supports the Oakland to San Jose Service Expansion Phase 2A project will reroute CCJPA service between Oakland and Fremont/Newark from the Union Pacific Railroad (UPRR) Niles Subdivision to the UPRR Coast Subdivision. This will result in reducing travel time between Oakland and Fremont/Newark by nearly 15 minutes, allowing a traveler to get from Oakland to Santa Clara in less than half an hour and to San Jose in less than 45 minutes.

The subsequent relocation of UPRR freight operations from the Coast Subdivision to the Niles Subdivision will separate freight and passenger rail operations to optimize both services while increasing safety and efficiency. Construction of a new station at Fremont/Newark will provide the opportunity to enhance and expand intermodal transit connections across the Highway 84 Dumbarton Bridge to the Peninsula, allowing a passenger to travel from Oakland to Menlo Park and Palo Alto in 50 minutes.

Completion of the Oakland to San Jose Phase 2A Project fulfills key transportation goals identified in the following countywide, regional, and state plans, which all acknowledge the need to connect people and jobs throughout the Bay Area:

- ACTC's Countywide Transportation Plan
- ACTC's Countywide Transit Plan
- ACTC's Goods Movement Plan
- Metropolitan Transportation Commission's (MTC) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), Plan Bay Area 2040 (PBA 2040)
- Draft 2018 California State Rail Plan
- Capitol Corridor Vision Plan
- Extension of Capitol Corridor service to Salinas

TAMC is the sponsor of the project to extend passenger rail service to Salinas. In the long term, that service is envisioned as Capitol Corridor trains, once passenger service between San Jose and Oakland is increased beyond its current seven round trips.

TAMC fully supports the TIRCP application for the CCJPA Northern California Corridor Enhancement Program, and specifically the Oakland to San Jose Phase 2A element, and requests the California State Transportation Agency to approve CCJPA TIRCP grant request. If you have any questions, please contact Christina Watson of my staff at (831) 775-4406 or via email at christina@tamcmonterey.org.

Sincerely,

Debra L. Hale
Executive Director

December 28, 2017

Mr. Brian P. Kelly
Secretary of the California State Transportation Agency
915 Capitol Mall, Suite 350 B
Sacramento, CA 95814

Subject: **Support for Capitol Corridor Joint Powers Authority Transit and Intercity Rail Capital Program Grant Application for the Northern California Corridor Enhancement Program**

Dear Secretary Kelly:

On behalf of the San Mateo County Transit District (SamTrans), I am writing to extend our support for the Capitol Corridor Joint Powers Authority (CCJPA) Transit and Intercity Rail Capital Program (TIRCP) grant application for the Northern California Corridor Enhancement Program.

Currently, Capitol Corridor passenger service provides a crucial rail link between cities and the major metropolitan regions located along Interstates 80, 580, 680, and 880. These rail services provide an energy efficient, safe, and low emission alternative to automobile travel in this heavily congested corridor linking population and job centers.

We understand that the CCJPA Northern California Corridor Enhancement Program proposes two subprojects, which in combination and independently will reduce GHG emissions and enhance the quality of life for Californians by increasing ridership on Intercity passenger services, and will reduce Vehicle Miles Travelled (VMT) and overall congestion in the State's transportation corridors:

- Sacramento to Roseville Third Track Phase 2
- Oakland to San Jose Service Expansion Phase 2A

Sacramento to Roseville Third Track Phase 2

Currently, the Sacramento to Roseville Third Track Project (SR3T) Phase 1 project is in final design and is fully funded for construction and will allow CCJPA to increase service in the corridor from a single round-trip to three round-trips per day. The second phase of the SR3T Project, which will complete final design and NEPA clearance including the construction of a new rail bridge crossing of the American River and overcrossings of the Capital Cities Freeway, will be a major step to completing the project and fully realizing the benefits of ten round-trips per day.

SAN MATEO COUNTY TRANSIT DISTRICT
1250 San Carlos Ave. – P.O. Box 3006
San Carlos, CA 94070-1306 (650) 508-6200

The proposed project partnership between CCJPA and Caltrans to complete the design and environmental reviews for the new bridges presents a unique opportunity for both agencies to take full advantage the synergy between highway and rail modes to deliver these major transportation projects efficiently and cost-effectively.

Oakland to San Jose Service Expansion Phase 2A

The Oakland to San Jose Service Expansion Phase 2A project will reroute CCJPA service between Oakland and Fremont/Newark from the Union Pacific Railroad (UPRR) Niles Subdivision to the UPRR Coast Subdivision. This will result in reducing travel time between Oakland and Fremont/Newark by nearly 15 minutes, allowing a traveler to get from Oakland to Santa Clara in less than half an hour and to San Jose in less than 45 minutes. The subsequent relocation of UPRR freight operations from the Coast Subdivision to the Niles Subdivision will separate freight and passenger rail operations to optimize both services while increasing safety and efficiency. Construction of a new station at Fremont/Newark will provide the opportunity to enhance and expand intermodal transit connections across the Highway 84 Dumbarton Bridge to the Peninsula, allowing a passenger to travel from Oakland to Menlo Park and Palo Alto in approximately 50 minutes.

CCJPA is partnering with the Alameda County Transportation Commission (ACTC) in their pursuit to optimize the freight and passenger rail network in Alameda County, as the Oakland to San Jose Phase 2A project fulfills a key goal of ACTC's forthcoming Rail Strategy Study. In addition to ACTC, CCJPA is also partnering with the Alameda-Contra Costa Transit District (AC Transit) and the cities of Newark and Fremont to collaborate on building and delivering a new intermodal transit center connecting rail and express bus services at the foot of the Dumbarton Bridge.

We understand the completion of the Oakland to San Jose Phase 2A Project will fulfill key transportation goals identified in the following countywide, regional, and state plans, which all acknowledge the need to connect people and jobs throughout the Bay Area:

- ACTC's Countywide Transportation Plan
- ACTC's Countywide Transit Plan
- ACTC's Goods Movement Plan
- Metropolitan Transportation Commission's (MTC) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), Plan Bay Area 2040 (PBA 2040)
- Draft 2018 State Rail Plan

A robust, multi-modal transportation network is needed to support the ever-increasing jobs and population growth in the Bay Area, while decreasing congestion and environmental impacts to our region. PBA 2040 estimates that Alameda and Santa Clara Counties will add 1.2 million residents and 625,000 jobs between 2010 and 2040. Capitol Corridor provides a vital link between population and job centers in the East Bay and the South Bay, and with the optimized connection in Newark/Fremont at the Highway 84 Dumbarton Bridge, will enhance and increase much needed transportation services between the East Bay and Peninsula.

SAN MATEO COUNTY TRANSIT DISTRICT
1250 San Carlos Ave. – P.O. Box 3006
San Carlos, CA 94070-1306 (650) 508-6200

In particular, CCJPA's Oakland to San Jose Service Expansion Phase 2A supports recommendations included in the recently-adopted Dumbarton Transportation Corridor Study (DTCS) by the San Mateo County Transit District. The DTCS recommends additional Dumbarton Express Bus services, which would utilize the proposed Fremont/Newark station (known in the Study as Ardenwood Park-and-Ride) in this project, and travel to destinations on the Peninsula such as Menlo Park, Redwood City, Palo Alto, Mountain View, and Sunnyvale.

Therefore, SamTrans, fully supports the overall TIRCP application for the CCJPA Northern California Corridor Enhancement Program, and specifically the Oakland to San Jose Phase 2A element, and requests the California State Transportation Agency to approve CCJPA TIRCP grant request.

Sincerely,

Jim Hartnett
General Manager/Chief Executive Officer,
San Mateo County Transit District

SAN MATEO COUNTY TRANSIT DISTRICT
1250 San Carlos Ave. – P.O. Box 3006
San Carlos, CA 94070-1306 (650) 508-6200

Sacramento Area Council of Governments

1415 L Street, Suite 300 Sacramento, CA 95814

tel: 916.321.9000
fax: 916.321.9551
tdd: 916.321.9550
www.sacog.org

January 8, 2018

Mr. Brian P. Kelly
Secretary of the California State Transportation Agency
915 Capitol Mall, Suite 350 B
Sacramento, CA 95814

Re: Support for Capitol Corridor Joint Powers Authority Transit and Intercity Rail Capital Program Grant Application for the Northern California Corridor Enhancement Program

Dear Secretary Kelly:

On behalf of the Sacramento Area Council of Governments (SACOG) I am writing to extend our support for the Capitol Corridor Joint Powers Authority (CCJPA) Transit and Intercity Rail Capital Program (TIRCP) grant application for the Northern California Corridor Enhancement Program.

Currently, Capitol Corridor passenger service provides a crucial rail link between cities and the major metropolitan regions located along Interstates 80, 580, 680, and 880. These rail services provide an energy efficient, safe, and low emission alternative to automobile travel in this heavily congested corridor linking population and job centers.

The CCJPA Northern California Corridor Enhancement Program proposes two subprojects, which in combination and independently will reduce GHG emissions and enhance the quality of life for Californians by increasing ridership on Intercity passenger services, and reducing Vehicle Miles Travelled (VMT) and overall congestion in the State's transportation corridors:

- Sacramento to Roseville Third Track Phase 2
- Oakland to San Jose Service Expansion Phase 2A

<u>Oakland to San Jose Service Expansion Phase 2A</u>
The Oakland to San Jose Service Expansion Phase 2A project will re-route CCJPA service between Oakland and Fremont/Newark from the Union Pacific Railroad (UPRR) Niles Subdivision to the UPRR Coast Subdivision. This will result in reducing travel time in this segment of the corridor by nearly 15 minutes, allowing a traveler to get from Oakland to Santa Clara in less than half an hour and to San Jose in less than 45 minutes. Subsequent relocation of UPRR freight operations from the Coast Subdivision to the Niles Subdivision will separate freight and passenger rail operations to optimize both services while increasing safety and efficiency. A new station at Fremont/Newark will enhance and expand intermodal connections across the Highway 84 Dumbarton Bridge to the Peninsula, allowing a passenger to travel from Oakland to Palo Alto in 50 minutes.

Sacramento to Roseville Third Track Phase 2

Currently, the Sacramento to Roseville Third Track Project (SR3T) Phase 1 is in final design and is fully funded for construction. The Phase 1 project will allow CCJPA to increase service in the corridor from a single round-trip to three round-trips per day. The second phase of the SR3T project, which will complete final design and NEPA clearance, including the construction of a new rail bridge crossing the American River and overcrossings of the Capital Cities Freeway, will be a major step towards completing the project and fully realizing the benefits of ten round-trips per day.

The proposed project is a partnership between CCJPA and Caltrans to complete the design and environmental reviews for the new bridges. This presents a unique opportunity for both agencies to take full advantage of the synergy between highway and rail modes and deliver these major transportation projects efficiently and cost-effectively.

With the opening of the Golden 1 Center, the Sacramento Valley Station area developments and a myriad of other new projects planned for the Sacramento central business district, demand for travel from Roseville to and from downtown Sacramento is projected to grow significantly. Under Sacramento City's recently updated zoning code, downtown parking requirements have been significantly reduced. Completion of the SR3T project represents the fulfillment of a key mobility project for the Sacramento region.

This project is identified in the SACOG 2036 Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS); Placer County Transportation Planning Agency (PCTPA) 2036 Transportation Plan, the State Rail Plan and by the cities of Sacramento and Roseville.

Therefore, SACOG fully supports the overall TIRCP application for the CCJPA Northern California Corridor Enhancement Program, and specifically the SR3T, Phase 2 element, and requests the California State Transportation Agency to approve CCJPA TIRCP grant request.

Sincerely,

James Corless
Chief Executive Officer

PLACER COUNTY
TRANSPORTATION
PLANNING AGENCY

January 5, 2018

Mr. Brian P. Kelly
Secretary of the California State Transportation Agency
915 Capitol Mall, Suite 350 B
Sacramento, CA 95814

Subject: Support for Capitol Corridor Joint Powers Authority Transit and Intercity Rail Capital Program Grant Application for the Northern California Corridor Enhancement Program

Dear Secretary Kelly:

On behalf of the Placer County Transportation Planning Agency (PCTPA), I am writing to extend our support for the Capitol Corridor Joint Powers Authority (CCJPA) Transit and Intercity Rail Capital Program (TIRCP) grant application for the Northern California Corridor Enhancement Program.

The Northern California Corridor Enhancement Program includes two important elements, which in combination and independently will enhance passenger rail travel in Northern California as well as reduce GHG emissions and traffic congestion in the State's transportation corridors: Sacramento to Roseville Third Track Phase 2; and Oakland to San Jose Service Expansion Phase 2A.

Currently, the Sacramento to Roseville Third Track (SR3T) Phase 1 project is in final design and is fully funded for construction and will allow CCJPA to increase service in the corridor from a single round-trip to three round-trips per day. The second phase of the SR3T project will complete final design and NEPA clearance, including construction of a new rail bridge crossing of the American River and overcrossings of the Capital Cities Freeway; and will be a major step to fully realizing the benefits of ten round-trips per day within the I-80 corridor.

Completion of the second phase of the SR3T represents the fulfillment of a key mobility project identified in the State's Rail Plan, the Sacramento Area Council of Governments (SACOG) 2016 Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS) and the Placer County Transportation Planning Agency (PCTPA) 2036 Regional Transportation Plan.

The second phase of the SR3T enjoys the support of PCTPA, the City of Roseville and the Union Pacific Railroad. We therefore request the California State Transportation Agency approve the CCJPA TIRCP grant application request for the Northern California Corridor Enhancement Program.

Sincerely,

Celia McAdam, FAICP CTP
Executive Director

c: PCTPA Board of Directors

299 Nevada Street • Auburn, CA 95603 • (530) 823-4030 (tel/fax)

City Council
311 Vernon Street
Roseville, California 95678

Mr. Brian P. Kelly
Secretary of the California State Transportation Agency
915 Capitol Mall, Suite 350 B
Sacramento, CA 95814

Subject: Support for Capitol Corridor Joint Powers Authority Transit and Intercity Rail Capital Program Grant Application for the Northern California Corridor Enhancement Program

Dear Secretary Kelly:

On behalf of the City of Roseville, I am writing to extend our support for the Capitol Corridor Joint Powers Authority (CCJPA) Transit and Intercity Rail Capital Program (TIRCP) grant application for the Northern California Corridor Enhancement Program.

Currently, Capitol Corridor passenger service provides a crucial rail link between cities and the major metropolitan regions located along Interstates 80, 580, 680, and 880. These rail services provide an energy efficient, safe, and low emission alternative to automobile travel in this heavily congested corridor linking population and job centers.

The CCJPA Northern California Corridor Enhancement Program proposes two subprojects, which in combination and independently will reduce GHG emissions and enhance the quality of life for Californians by increasing ridership on intercity passenger services, and reducing Vehicle Miles Travelled (VMT) and overall congestion in the State's transportation corridors:

- Sacramento to Roseville Third Track Phase 2
- Oakland to San Jose Service Expansion Phase 2A

Oakland to San Jose Service Expansion Phase 2A
The Oakland to San Jose Service Expansion Phase 2A project will re-route CCJPA service between Oakland and Fremont/Newark from the Union Pacific Railroad (UPRR) Niles Subdivision to the UPRR Coast Subdivision. This will result in reducing travel time in this segment of the corridor by nearly 15 minutes, allowing a traveler to get from Oakland to Santa Clara in less than half an hour and to San Jose in less than 45 minutes. Subsequent relocation of UPRR freight operations from the Coast Subdivision to the Niles Subdivision will separate freight and passenger rail operations to optimize both services while increasing safety and efficiency. A new station at Fremont/Newark will enhance and expand intermodal connections across the Highway 84 Dumbarton Bridge to the Peninsula, allowing a passenger to travel from Oakland to Palo Alto in 50 minutes.

Sacramento to Roseville Third Track Phase 2
Currently, the Sacramento to Roseville Third Track Project (SR3T) Phase 1 project is in design and is fully funded for construction and will allow CCJPA to increase service in the corridor from a single round-trip to three round-trips per day. The second phase of the SR3T project, which will complete final design and NEPA clearance of the including the construction of a new rail bridge crossing of the American River and overcrossings of the Capital Cities Freeway, will be a major step to completing the project and fully realizing the benefits of ten round-trips per day.

916.774.5362 • *Fax* • 916.774.5485 *TDD* 916.774.5220 • citycouncil@roseville.ca.us • www.roseville.ca.us

The proposed project partnership between CCJPA and Caltrans to complete the design and environmental reviews for the new bridges presents a unique opportunity for both agencies to take full advantage the synergy between highway and rail modes to fund and deliver these major transportation projects efficiently and cost-effectively.

Completion of the SR3T project represents the fulfillment of a key mobility project identified in the Sacramento Area Council of Governments (SACOG) 2035 Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS); Placer County Transportation Planning Agency (PCTPA) 2035 Transportation Plan, the State Rail Plan and by the cities of Sacramento and Roseville.

The City has been an active partner with the Capital Corridor, and participates as part of the Joint Powers Authority. The City of Roseville has a robust transit system of which these future projects will play an additional role. These improvements will assist the City in achieving the vision for Downtown Roseville as opportunities for Transit Oriented Development are currently in progress. The City is pursuing the development of approximately 200 high density housing units that will be within an easy walking distance from the existing train station. We have also incorporated long-term strategies to insure that parking for other residents within the community that are interested in using this mode of transportation will be ultimately accommodated.

Therefore, the City of Roseville, fully supports the overall TIRCP application for the CCJPA Northern California Corridor Enhancement Program, and specifically the SR3T, Phase 2 element, and requests the California State Transportation Agency to approve CCJPA TIRCP grant request.

Sincerely,

Susan Rohan
City of Roseville, Mayor

Cc:
Rob Jensen, City Manager
Kevin Payne, Development Services Director
Rhon Herndon, Public Works Director
Jim Allison, CCJPA Manager of Planning

Memorandum

To:	Michael Beritzhoff HDR Engineering, Inc. 100 Pringle Ave, Suite 400 Walnut Creek, CA 94596
Cc:	Jim Allison, Capitol Corridor Joint Powers Authority Adrian Filice, HNTB Maggie Townsley, ICF
From:	Laura Yoon, ICF
Date:	January 9, 2018
Re:	**Summary of Emissions Reductions and Analysis Methods for Capitol Corridor Joint Powers Authority's 2018 Transit and Intercity Rail Capital Program Application**

Introduction

The Capitol Corridor Joint Powers Authority (CCJPA) is applying for funding from the California State Transportation Agency's (CalSTA's) Transit and Intercity Rail Capital Program (TIRCP) for the Northern California Corridor Enhancement Program (NCCEP). ICF has analyzed greenhouse gas (GHG), criteria pollutant, and diesel particulate matter (DPM) impacts associated with the NCCEP to support the TIRCP application, which is being prepared by HDR Engineering, Inc. (HDR). The NCCEP and associated TIRCP application include three sub-projects:

- Sacramento to Roseville Third Track Phase 2 and State Route 51 Widening (SR3T/SR51) (final design/environmental)
- Oakland to San Jose Service Expansion Phase 2A (OKJ-SJC Phase 2A) (design/environmental/ construction)
- Statewide integrated travel program (ITP) (design/implementation)

Although the SR3T/SR51 will eventually achieve emissions reductions, the TIRCP funding request as part of CCJPA's 2018 application does not extend to construction for this sub-project. Accordingly, only GHG, criteria pollutant, and DPM benefits that would be achieved by the OKJ-SJC Phase 2A and the ITP sub-projects are included in this analysis. This memorandum provides a brief overview of the analysis methods and summarizes the emissions results.

Overview of Analysis Methods

GHG, criteria pollutant, and DPM reductions that would be achieved by the OKJ-SJC Phase 2A and ITP sub-project were estimated to be consistent with the California Air Resources Board's (ARB's) (2017) *Quantification Methodology for the California State Transportation Agency Transit and Intercity Rail Capital Program Greenhouse Gas Reduction Fund FY 2018-19* (TIRCP Guidance). The OKJ-SJC Phase 2A sub-project would include four quantifiable components:

- *System and Efficiency Improvements that Result in Increased Ridership*

  The OKJ-SJC Phase 2A sub-project would reroute Capitol Corridor service between Oakland and Newark/Fremont from the Niles Subdivision to the Coast Subdivision, decreasing passenger travel time along this segment by 13 minutes. The sub-project would also include an upgraded an upgraded multi-modal (rail/bus/park & ride) Ardenwood Station. The travel time savings and station improvements would lead to increased Capitol Corridor ridership.

- *Fuel Reductions (Capitol Corridor)*

  Relocating Capitol Corridor service to the Coast Subdivision would decrease locomotive miles traveled, thereby resulting in fuel savings.

- *New/Expanded Service (public bus)*

  Capitol Corridor service and multimodal enhancements to the Ardenwood Station and corridor and will increase Alameda-Contra Costa Transit District (AC Transit) ridership.

- *New/Expanded Service (private shuttle)*

  Capitol Corridor service and multimodal enhancements to the Ardenwood Station and corridor would increase private shuttle ridership, most notably on the Marguerite Stanford Shuttle.

In addition to the four quantifiable components associated with passenger service, the OKJ-SJC Phase 2A sub-project would also relocate freight rail from the Coast Subdivision to the Niles Subdivision, enhancing goods movement efficiency and reducing fuel consumption. Emissions benefits achieved by freight fuel reductions are analyzed as an additional quantifiable component. However, consistent with ARB guidance (Cruz pers. comm. [A]), the emissions reductions achieved by changes in freight service are presented only as supplemental information for evaluation purposes.

The ITP sub-project would improve the efficiency and connectivity of public transit across California by providing a single, unified mechanism by which customers can travel on multiple modes of transport. Transit agencies that are part of the ITP would see significant benefits, including increased ridership. Accordingly, the ITP sub-project is considered a *System and Efficiency Improvements that Result in Increased Ridership* project type, per the TIRCP Guidance. Agencies proposed for participation in the initial ITP launch are all three California Amtrak intercity rail routes (Capitol Corridor, San Joaquins, and Pacific Surfliner), Sacramento Regional Transit District

(SacRT), Fresno Area Express, Los Angeles Metropolitan Transportation Authority (LA Metro), North County Transit District (NCTD), and Fairfield and Suisun Transit (FAST).

Emissions reductions associated with the OKJ-SJC Phase 2A and the ITP sub-projects were estimated using ARB's Calculator Tool for the CalSTA TIRCP GHG Reduction Fund FY 2018-19 (ARB Calculator). Tables 1 through 5 summarize selected key calculator inputs and supporting justification for each quantifiable component for the OKJ-SJC Phase 2A sub-project. Assumptions for the air basin, first year of service (Yr1), and final year of service (YrF) are the same among all components. The inputs are therefore only presented under the *System Efficiency Improvements* component (Table 1) to avoid redundant text. Similarly, because the components are inseparable (i.e., one could not be implemented without the other), the funding request is only shown in Table 1 (no additional funds would be requested for the other components). Table 6 summarizes selected key calculator inputs and supporting justification for the ITP sub-project. Refer to the ARB Calculator outputs (Attachment A) for a complete list of inputs.

Table 1. Selected Key Inputs to ARB's Calculator for the OKJ-SJC Phase 2A Sub-Project, System and Efficiency Improvements

Parameter	Value	Justification/Documentation for Assumption
Total TIRCP/GGRF funds requested ($)	$51,000,000	No additional funds from other CCI Programs would be requested.
Service type/vehicle type	Heavy Rail	Capitol Corridor service.
Air basin	SFBAAB	Project would occur within the SFBAAB
Yr1	2023	Anticipated completion of construction.
YrF[1]	YrF_1 = 2048 YrF_2 = 2073	The OKJ-SJC Phase 2A sub-project would result in a permanent service shift with no theoretical end life. For the purposes of analysis, emissions benefits under both a mid-term (25-year) and long-term (50-year) useful life were quantified.
Yr1 annual ridership increase	105,859	Amtrak Service Planning & Costing (2017) estimates that implementation of the "Capitol Corridor Additional Roundtrips and Roseville Extension Project" would increase ridership by 164,000 under 2017 conditions. In addition to the OKJ-SJC Phase 2A sub-project, the Amtrak model included ridership benefits from two additional trips between Sacramento and Roseville, implementation of a travel time savings program, and operation of a new Fairfield Vacaville Station. Increased ridership attributed to just the OKJ-SJC Phase 2A sub-project was calculated by removing the ridership benefits associated with the additional Roseville trips (17,000), travel time savings (5,000), and new station (48,000). The resulting annual ridership estimate (94,000) was then escalated to 2023 conditions (Yr1) assuming 2% annual ridership growth. This growth rate is from Capitol Corridor ridership model outputs that project future ridership based on historical ridership, current trends, and agency service plans.
YrF annual ridership increase	YrF_1 = 173,673 YrF_2 = 284,930	Escalated the OKJ-SJC Phase 2A annual ridership estimate from the 2017 Amtrak model (94,000) to 2048 and 2073 assuming 2% annual ridership growth.
Transit dependency adjustment factor	85%	Capitol Corridor historical average.
Length of average auto trip reduced (miles)	58	Capitol Corridor historical average for the project corridor.

Notes:
[1] The project is analyzed under two final year conditions—2048, representing a 25-year useful life, and 2073, representing a 50-year useful life. Because ridership will continue to grow as a function of time (assumed 2% annually), two YrF ridership assumptions have been developed. YrF_1 corresponds to the ridership assumption under a 25-year useful life and YrF_2 corresponds to the ridership assumption under a 50-year useful life.
CCI = California Climate Investment
GGRF = Greenhouse Gas Reduction Fund
SFBAAB = San Francisco Bay Area Air Basin
TIRCP = Transit and Intercity Rail Capital Program
Yr1 = Year 1
YrF = Year final

Table 2. Selected Key Inputs to ARB's Calculator for the OKJ-SJC Phase 2A Sub-Project, Fuel Reductions (Capitol Corridor)

Parameter	Value	Justification/Documentation for Assumption
Service type/vehicle type	Heavy Rail	Capitol Corridor service.
Fuel type	Renewable Diesel	Capitol Corridor service would use renewable diesel by Yr1.
Average annual fuel reduction (gallons)	40,628	Capitol Corridor currently makes 14 trips per day between Oakland and Newark. For the purposes of analysis, it is assumed service would continue at this rate over all evaluation years. Accordingly, 14 trips per day is assumed under both Yr1 and YrF conditions. It is likely passenger rail service would increase in future years, thereby achieving greater fuel and emissions reductions than calculated in this analysis. Relocating Capitol Corridor service to the Coast Subdivision would reduce the average trip length by 3.9 miles, which would yield an annual mileage reduction of 19,929 miles. Capitol Corridor would operate Tier 4 locomotives, which have an average fuel consumption rate of 89.70 gallons per hour (Capitol Corridor Joint Powers Authority 2015). Assuming an average speed of 44 miles per hour, this results in a fuel consumption factor of 2.038 gallons per mile, which would yield an annual fuel reduction of 40,628 gallons.
Notes: Yr1 = Year 1		

Table 3. Selected Key Inputs to the ARB's Calculator for the OKJ-SJC Phase 2A Sub-Project, New/Expanded Service (Public Bus)

Parameter	Value	Justification/Documentation for Assumption
Service Type	Local/Intercity Bus	AC Transit service.
Yr1 annual ridership increase	620,991	AC Transit provided estimated ridership with and without the OKJ-SJC Phase 2A sub-project under 2020, 2030, and 2035 conditions (Der pers. comm.). The increase in Yr1 ridership attributable to the project was calculated by escalating the net 2020 ridership value to 2023 assuming 2% annual ridership growth.
YrF[1] annual ridership increase	YrF_1 = 1,018,931 YrF_2 = 1,671,664	AC Transit provided estimated ridership with and without the OKJ-SJC Phase 2A sub-project under 2020, 2030, and 2035 conditions (Der pers. comm.). The increase in YrF ridership attributable to the project was calculated by escalating the net 2035 ridership value to 2048 and 2073 assuming 2% annual ridership growth.
Transit dependency adjustment factor	1	Transit dependency is accounted for in the ridership estimate; AC Transit modeled their expected increase in ridership as a direct result of the OKJ-SJC Phase 2A sub-project.
Length of average auto trip reduced	14.38 miles	ARB default for AC Transit.
Fuel type	Diesel	Although AC Transit would meet state mandates for zero-emission vehicles by 2040, this analysis conservatively assumes the transit buses would be diesel powered over all evaluation years.
Model year	2015	Average age of the Dumbarton Express fleet under Yr1 conditions.
Annual increased VMT (miles)	YrF_1 = 904,178 YrF_2 = 1,241,367	Based on the anticipated service increase as a result of OKJ-SJC Phase 2A sub-project implementation (Der pers. comm.). Assumes that in Yr1, the DB/DB1 line would require six additional buses and increase vehicle frequency to 10 minutes during the peak hours and 15 minutes during the off-peak hours. By 2030, the DB/DB1 line would require 12 additional buses. Annual miles were escalated to 2048 and 2073 based on the anticipated ridership increase and average miles traveled per rider. The average mileage increase between Yr1 and YrF was input into to the calculator, consistent with ARB guidance (Cruz pers. comm. [B]).

Notes:
[1] The project is analyzed under two final year conditions—2048, representing a 25-year useful life, and 2073, representing a 50-year useful life. Because ridership will continue to grow as a function of time (assumed 2% annually), two YrF ridership assumptions have been developed. YrF_1 corresponds to the ridership assumption under a 25-year life and YrF_2 corresponds to the ridership assumption under a 50-year life.
AC Transit = Alameda-Contra Costa Transit District
ARB = California Air Resources Board
Yr1 = Year 1
YrF = Year final
VMT = vehicle miles traveled

Table 4. Selected Key Inputs to ARB's Calculator for the OKJ-SJC Phase 2A Sub-Project, New/Expanded Service (Private Shuttle)

Parameter	Value	Justification/Documentation for Assumption
Service Type	Shuttle	Marguerite Stanford Shuttle service.
Yr1 annual ridership increase	76,721	Daily shuttle ridership is currently (2016) approximately 590 passengers, with about 125 of those passengers boarding at Ardenwood (Marguerite 2017). Daily Ardenwood ridership (125 riders per day) was escalated to 2023 assuming 2% annual ridership growth. Increased shuttle ridership as a result of the OKJ-SJC Phase 2A sub-project was not available from Marguerite. Accordingly, the net increase in AC Transit ridership (Table 3) relative to conditions without the OKJ-SJC Phase 2A sub-project was used a regional proxy for the anticipated increase in private shuttle use. Based on information provided by AC Transit, the OKJ-SJC Phase 2A sub-project would more than double AC Transit ridership (project induced ridership represents 67% of total future ridership on the DBI/DB2 line, or 2.10 times over no project ridership) (Der pers. comm.). Additional Stanford Shuttle ridership attributed to the OKJ-SJC Phase 2A sub-project was therefore calculated by multiplying 2023 base ridership by 2.10.
YrF[1] annual ridership increase	YrF_1 = 125,869 YrF_2 = 206,502	Escalated the existing 2016 ridership estimate to 2048 and 2073 assuming 2% annual ridership growth and multiplied by 2.10 to estimate the increase in riders attributed to the OKJ-SJC Phase 2A sub-project.
Transit dependency adjustment factor	0.50	ARB default for local service.
Length of average auto trip reduced	14.38 miles	Used ARB default for AC Transit as a proxy.
Fuel type	Diesel	The shuttle fleet is predominately diesel-fueled.
Model year	2015	Average age of the shuttle fleet under Yr1 conditions.
Annual increased VMT (miles)	3,556	Based on a peak shuttle occupancy of 82 passengers per trip and an average existing load of 80%, the added daily ridership as a result of the OKJ-SJC Phase 2A sub-project would likely require one additional daily shuttle trip by YrF. Based on an average trip distance of 14 miles, this yields an annual VMT increase of 3,556 miles, assuming 1 additional trip is added beginning in Yr1.

Notes:
[1] The project is analyzed under two final year conditions—2048, representing a 25-year useful life, and 2073, representing a 50-year useful life. Since ridership will continue to grow as a function of time (assumed 2% annually), two YrF ridership assumptions have been developed. YrF_1 corresponds to the ridership assumption under a 25-year life and YrF_2 corresponds to the ridership assumption under a 50-year life.
AC Transit = Alameda-Contra Costa Transit District
ARB = California Air Resources Board
Yr1 = Year 1
YrF = Year final
VMT = vehicle miles traveled

Table 5. Selected Key Inputs to ARB's Calculator for the OKJ-SJC Phase 2A Sub-Project, Supplemental Fuel Reductions (Freight)

Parameter	Value	Justification/Documentation for Assumption
Service type	Heavy Rail	Freight service.
Fuel type	Diesel	Freight locomotives are diesel-powered.
Average annual fuel reduction (gallons)[1]	YrF_1 = 80,711 YrF_2 = 94,819	Cambridge Systematics' (2017) *Alameda County Rail Network Performance Technical Memorandum* estimates there are currently (i.e., 2016) 11 freight trips per day on the Newark to Niles Junction and 15 freight trips per day under 2035 conditions. Assuming linear growth, this yields the following approximate trip assumptions: • Yr1 (2023) = 12 trips per day • YrF_1 (2048) = 18 trips per day • YrF_2 (2073) = 23 trips per day Relocating freight service to the Niles Subdivision would reduce the average trip length by 6.5 miles, which yields the following annual mileage reductions: • Yr1 (2023) = 29,470 miles per year • YrF_1 (2048) = 41,955 miles per year • YrF_2 (2073) = 54,441 miles per year Per the Union Pacific Railroad's (2016) *Class I Railroad Annual Report*[1], freight trains consume an average of 2.26 gallons per mile, which yields the following annual fuel reductions: • Yr1 (2023) = 66,602 gallons per year • YrF_1 (2048) = 94,819 gallons per year • YrF_2 (2073) = 123,036 gallons per year The average fuel reduction between Yr1 and YrF was input into to the calculator, consistent with ARB guidance (Cruz pers. comm. [B]).

Notes:
[1] The project is analyzed under two final year conditions—2048, representing a 25-year useful life, and 2073, representing a 50-year useful life. Because daily freight trips will increase as a function of time, two YrF fuel assumptions have been developed. YrF_1 corresponds to the fuel assumption under a 25-year life and YrF_2 corresponds to the fuel assumption under a 50-year life.
ARB = California Air Resources Board
Yr1 = Year 1
YrF = Year final

[1] Calculated by dividing total diesel fuel consumption (941,750,992 gallons) by total locomotive miles traveled (404,019,899 miles).

Table 6. Selected Key Inputs to the ARB's Calculator for the Integrated Travel Program Sub-Project

Parameter	Value	Justification/Documentation for Assumption
Total TIRCP/GGRF funds requested ($)	$27,339,720	No additional funds from other CCI Programs would be requested.
Service type/vehicle type	Heavy Rail (Capitol Corridor, San Joaquins, Pacific Surfliner, NCTD Coaster)	Intercity rail and NCTD Coaster service.
	Local Bus (Fresno Area Express, NCTD Breeze, LA Metro, SacRT, FAST)	Fresno Area Express, NCTD Breeze, LA Metro, Sac RT, and FAST service.
	Rail (SacRT, LA Metro, NCTD Sprinter)	SacRT, LA Metro, and NCTD Sprinter service.
	Shuttle (NCTD Lift)	NCTD Lift service.
Air basin	SFBAAB (Capitol Corridor)	Emission benefits from displaced automobile VMT will occur throughout the SFBAAB and SVAB. SFBAAB was selected based on track miles, the majority of which fall within the SFBAAB.
	SJVAB (San Joaquins)	Emission benefits from displaced automobile VMT will occur throughout the SJVAB, SVAB, and SFBAAB. SJVAB was selected based on track miles, the majority of which fall within the SJVAB.
	SCCAB (Pacific Surfliner)	Emission benefits from displaced automobile VMT will occur throughout the SCCAB, South Coast Air Basin (SCAB), and San Diego Air Basin (SDAB). SCCAB was selected based on track miles, the majority of which fall within the SCCAB.
	SJVAB (Fresno Area Express)	Service is provided in the SJVAB.
	SVAB (SacRT, FAST)	SacRT service is provided in the SVAB. Emissions benefits from displaced automobile VMT from increased ridership on FAST will occur in the SVAB and SFBAAB. SVAB was selected for analysis purposes.
	SCAB (LA Metro)	Service is provided in the SCAB.
	SDAB (NCTD)	Service is provided in the SDAB.
Yr1	2021	First year of implementation.
YrF[1]	YrF_1 = 2046 YrF_2 = 2071	Once implemented, the ITP will be provided as a permanent service with no theoretical end life. For the purposes of analysis, emissions benefits under both a mid-term (25-year) and long-term (50-year) useful life were quantified.
Yr1 and YrF annual ridership	34,465 (Capitol Corridor)	Existing ridership values for all agencies were obtained from annual reports or directly provided by the service partner. These values were escalated to 2021 (Yr1) conditions assuming 2% annual ridership growth. Booz & Company (2009) found that integrated ticketing schemes implemented across Europe, North America, and Australia have increased multi-modal ridership by 6 to
	24,782 (San Joaquins)	
	64,569 (Pacific Surfliner)	
	254,159 (Fresno Area Express)	
	298,102 (SacRT light rail)	

	315,767 (SacRT local bus)	20%. Based on Booz & Company (2009), this analysis assumes the ITP in California would achieve a 2% ridership increase for all service providers. Two percent was selected as a reasonable, and likely conservative assumption for the ITP ridership benefits given the findings of Booz & Company (2009) and increase in smart phone usage since 2009, which is when the study was conducted. Increased ridership for the six ITP partners was therefore calculated by multiplying the Yr1 annual ridership estimate by 2%. Since integrated travel services will become part of the status quo once implemented, they are not expected to garner any additional ridership increases overtime. Accordingly, there would be no change in increased ridership between Yr1 and YrF.
	2,461,183 (LA Metro rail) 6,716,363 (LA Metro bus)	
	37,539 (NCTD Coaster) 55,204 (NCTD Sprinter) 147,947 (NCTD Breeze) 3,312 (NCTD Lift)	
	13,861 (FAST)	
Transit dependency adjustment factor	1.00	Transit dependency is accounted for in the ridership estimates; the values assume that ridership on all service lines will increase by 2% as a direct result of the ITP. The 2% factor is reflective of actual riders and not a general population increase, of which only a certain percentage would be transit dependent.
Length of average auto trip reduced (miles)	68.00 (Capitol Corridor)	Capitol Corridor system-wide historical average.
	114.00 (San Joaquins)	San Joaquins system-wide historical average.
	87.00 (Pacific Surfliner)	Pacific Surfliner system-wide historical average.
	2.61 (Fresno Area Express)	ARB default for Fresno Area Express local bus service.
	5.66 (SacRT light rail)	ARB default for SacRT light rail service.
	3.63 (SacRT bus)	ARB default for SacRT local bus service.
	5.88 (LA Metro rail)	ARB default for LA Metro rail service.
	4.29 (LA Metro bus)	ARB default for LA Metro local bus service.
	26.29 (NCTD Coaster)	NCTD system-wide historical average.
	9.04 (NCTD Sprinter)	NCTD system-wide historical average.
	4.73 (NCTD Breeze)	NCTD system-wide historical average.
	5.03 (NCTD Lift)	ARB default for NCTD local bus service.
	2.64 (FAST)	FAST system-wide historical average.

Notes:

[1] The project is analyzed under two final year conditions—2048, representing a 25-year useful life, and 2073, representing a 50-year useful life. Since ridership will continue to grow as a function of time (assumed 2% annually), two YrF ridership assumptions have been developed. YrF_1 corresponds to the ridership assumption under a 25-year life and YrF_2 corresponds to the ridership assumption under a 50-year life.

CCI = California Climate Investment

GGRF = Greenhouse Gas Reduction Fund

SFBAAB = San Francisco Bay Area Air Basin

SJVAB = San Joaquin Valley Air Basin

SCCAB = South Central Coast Air Basin

SVAB = Sacramento Valley Air Basin

SCAB = South Coast Air Basin
ITP = Integrated ticketing program
TIRCP = Transit and Intercity Rail Capital Program
Yr1 = Year 1
YrF = Year final
SacRT = Sacramento Regional Transit District
LA Metro = Los Angeles Metropolitan Transportation Authority
FAST = Fairfield and Suisun Transit
NCTD = North County Transit District

Summary of Emissions Results

Greenhouse Gas Reductions and TIRCP Primary Evaluation Criteria

This section summarizes estimated GHG reductions that would be achieved by the OKJ-SJC Phase 2A and ITP sub-projects. Total cost per ton of GHG reduction and TIRCP funding per ton of GHG reduction are also presented (TIRCP primary evaluation criteria). Results are provided separately for each sub-project based on their individual TIRCP funding requests—$51 million for the OKJ-SJC Phase 2A sub-project and $27 million for the ITP sub-project.

TIRCP primary evaluation criteria are also presented for the entire NCCEP based on the reductions achieved by the OKJ-SJC Phase 2A and ITP sub-projects and the overall program TIRCP funding request of $107 million[2]. The NCCEP funding request includes monies for final design of the SR3T/SR51 sub-project. Since the TIRCP funding request does not extend to construction, future emission reductions achieved by the SR3T/SR51 sub-project are not included in the cost effectiveness calculation for the NCCEP. Accordingly, the GHG reductions and TIRCP primary evaluation criteria reported for the NCCEP are conservative.

Oakland to San Jose Phase 2A Sub-Project

GHG reductions that would be achieved by the passenger service components—system and efficiency improvements, fuel reductions (Capitol Corridor service), and new/expanded service—were quantified using the ARB Calculator and assumptions listed in Tables 1 through 4. Reductions were estimated under both a 25-year and 50-year useful life (UL). Table 7 summarizes lifetime carbon dioxide equivalent (CO_2e) reductions under the two UL assumptions. The TIRCP primary evaluation criteria are also reported.

Table 7. GHG Reductions and TIRCP Primary Evaluation Criteria for the OKJ-SJC Phase 2A Sub-Project

Result[1]	25-Year UL	50-Year UL[2]
CO_2e reduction ($MTCO_2e$)		
System and Efficiency Improvements	59,515	160,127
Fuel reduction (Capitol Corridor)	187	347
New/expanded service (public buses)	42,130	110,052
New/expanded service (private shuttle)	6,056	16,456
Total Oakland to San Jose Phase 2A Sub-Project	*107,888*	*286,982*
TIRCP Primary Evaluation Criteria		
$/$MTCO_2e$ reduction	$473	$178
$MTCO_2e$ reduction/$	0.00212	0.00563

Notes
[1] Because no additional funds from other CCI Programs would be requested, reductions from total CCI funds and TIRCP funds are the same.

[2] SR3T/SR51 = $29,000,000; OKJ-SJC Phase 2A = $51,000,000; ITP = $27,339,720

[2] The ARB Calculator only allows lifetime GHG reductions to be quantified through a final year of 2050. Accordingly, GHG reductions from the calculator were scaled to capture emission benefits under a 50-year UL, which extends to 2073 (refer to Attachment B).
CCI = California Climate Investment
GHG = greenhouse gases
$MTCO_2e$ = metric tons carbon dioxide equivalent
TIRCP = Transit and Intercity Rail Capital Program
UL = useful life

As shown in Table 7, increased Capitol Corridor and AC Transit ridership would result in the majority (94%) of GHG reductions. Emissions benefits from added ridership on private shuttles would achieve approximately 6% of total reductions, followed by fuel savings from rerouting Capitol Corridor service (less than 1%). As previously discussed, this analysis only accounts for increased ridership on the Marguerite Stanford shuttle. There are 11 private shuttles that serve the Ardenwood corridor, and it is likely that implementation of the OKJ-SJC Phase 2A sub-project would result in corresponding ridership increases on these shuttles. Information on anticipated ridership effects on private shuttles other than the Marguerite Stanford shuttle was not available at the time of analysis, and as such, emissions benefits are not included in this analysis. The GHG reductions presented in Table 7 for private shuttle effects are therefore conservative.[3]

In addition to the passenger service benefits, the OKJ-SJC Phase 2A sub-project would also relocate freight rail from the Coast Subdivision to the Niles Subdivision. GHG benefits that would be achieved by reductions in freight fuel use were estimated using the ARB Calculator[4] and assumptions listed in Table 5. Because these benefits would occur as a direct result of the OKJ-SJC Phase 2A sub-project, they have been added to the reductions achieved by the passenger service improvements (Table 7). Table 8 summarizes lifetime CO_2e reductions and the TIRCP primary evaluation criteria inclusive of the freight service benefits. Consistent with ARB guidance (Cruz pers. comm. [A]), this information is provided for supplemental evaluation purposes.

Table 8. GHG Reductions and TIRCP Primary Evaluation Criteria for the OKJ-SJC Phase 2A Sub-Project Inclusive of Freight Fuel Reductions

Result[1]	25-Year UL	50-Year UL[2]
CO_2e reduction ($MTCO_2e$)		
Passenger service components (see Table 7)	107,888	286,982
Fuel reduction (freight)	1,107	2,409
Total Oakland to San Jose Phase 2A Sub-Project with freight benefit	*108,995*	*289,390*
TIRCP Primary Evaluation Criteria		

[3] As a high-level and conservative screening analysis, ICF assumed that ridership would increase on four additional private shuttles, and that these shuttles would have comparable ridership and operating conditions as the Marguerite. Extending the reductions achieved by the Marguerite shuttle (6,056 $MTCO_2e$ under a 25-year UL, see Table 7) to four additional private shuttles results in an additional 24,223 $MTCO_2e$ reduction, which improves the sub-project cost effectiveness to $386 per $MTCO_2e$ reduced (25-year UL, without freight).

[4] While the ARB Calculator is designed to evaluate emissions impacts from passenger rail service, reductions from changes in fuel consumption are estimated using an emission factor based on fuel type (e.g., diesel). Accordingly, the calculator can be used to estimate emissions savings from reductions in freight fuel use because the emission factor and quantification approach are independent of service type (i.e., freight vs. passenger).

$/MTCO2e reduction	$468	$176
MTCO2e reduction/$	0.002137	0.00567

Notes
[1] Because no additional funds from other CCI Programs would be requested, reductions from total CCI funds and TIRCP funds are the same.
[2] The ARB Calculator only allows lifetime GHG reductions to be quantified through a final year of 2050. Accordingly, GHG reductions from the calculator were scaled to capture emission benefits under a 50-year UL, which extends to 2073 (refer to Attachment B).
CCI = California Climate Investment
GHG = greenhouse gases
MTCO2e = metric tons carbon dioxide equivalent
TIRCP = Transit and Intercity Rail Capital Program
UL = useful life

As shown in Table 8, the freight fuel savings achieve an additional lifetime CO_2e reduction of 1,107 to 2,409 metric tons CO_2e, depending on the useful life assumption (25 years vs. 50 years). These reductions improve the cost effectiveness of the OKJ-SJC Phase 2A sub-project by approximately $5 per metric ton CO_2e reduction (25 year UL).

Statewide Integrated Travel Program Sub-Project

GHG reductions that would be achieved by the ITP sub-project were quantified using the ARB Calculator and assumptions listed in Table 5. Table 9 summarizes estimated lifetime CO_2e reductions and the resulting TIRCP primary evaluation criteria.

Table 9. GHG Reductions and TIRCP Primary Evaluation Criteria for the Integrated Travel Program Sub-Project

Result[1]	**25-Year UL**	**50-Year UL[2]**
CO_2e reduction ($MTCO_2e$)		
Capitol Corridor	21,919	43,764
San Joaquins	27,605	55,110
Pacific Surfliner	51,624	103,010
Fresno Area Express	6,482	12,940
Sac RT Light Rail	16,094	32,119
Sac RT Bus	10,933	21,820
LA Metro Rail	145,125	289,623
LA Metro Bus	288,943	576,638
NCTD Coaster	9,578	19,130
NCTD Sprinter	4,843	9,673
NCTD Breeze	6,792	13,564
NCTD Lift	162	323
FAST	349	697
Total Statewide Integrated Travel Program	*590,449*	*1,178,412*
TIRCP Primary Evaluation Criteria		
$/MTCO2e reduction	$46	$23
MTCO2e reduction/$	0.02160	0.04310
Notes		

[1] Because no additional funds from other CCI Programs would be requested, reductions from total CCI funds and TIRCP funds are the same.
[2] The ARB Calculator only allows lifetime GHG reductions to be quantified through a final year of 2050. Accordingly, GHG reductions from the calculator were scaled to capture emission benefits under a 50-year UL, which extends to 2071 (refer to Attachment B).
CCI = California Climate Investment
GHG = greenhouse gases
$MTCO_2e$ = metric tons carbon dioxide equivalent
TIRCP = Transit and Intercity Rail Capital Program
UL = useful life
SacRT = Sacramento Regional Transit District
LA Metro = Los Angeles Metropolitan Transportation Authority
FAST = Fairfield and Suisun Transit
NCTD = North County Transit District

Increased ridership would reduce GHG emissions across all ITP providers included in this analysis. LA Metro would achieve the greatest reductions (49% for bus and 25% for rail), followed by the California intercity rail routes (Pacific Surfliner [9%], San Joaquins [5%], and Capitol Corridor [4%]).

The ITP pilot will be implemented by the three intercity rail agencies, and likely the local bus and rail service providers included in this analysis (Fresno Area Express, Sac RT, LA Metro, NCTD, and FAST), although CCJPA is still coordinating partner selection. The local providers included in this analysis span multiple geographies and service levels (e.g., 600,000 annual riders on FAST vs. 400 million annual riders on LA Metro), and therefore capture a reasonable range of GHG reductions that would be achieved with the pilot launch. It is likely the program will be expanded to include additional transit agencies over time. As the program grows, GHG reductions will increase, commensurate with added ridership and reduced VMT. For example, an additional 9 to 10 $MTCO_2e$ reduction is expected over a 25-year UL per 1,000 riders, assuming a 1 mile displaced automobile trip per rider.[5]

Northern California Corridor Enhancement Program

Tables 10 and 11 summarize GHG reductions and the resulting TIRCP primary evaluation criteria for the entire NCCEP with and without freight fuel reductions, respectively. As previously discussed, only emission reductions achieved by the OKJ-SJC Phase 2A and ITP sub-projects are included in the analysis. Additional GHG reductions would be achieved by the SR3T/SR51 sub-project once it is constructed and operational.

[5] The range is reflective of minor emission factor differences among California geographies. The unitized analysis was run within the SFBAAB, SJVAB, and SCAB as proxies for Northern California, the Central Valley, and Southern California, respectively (refer to Attachment A).

Table 10. GHG Reductions and TIRCP Primary Evaluation Criteria for the Northern California Corridor Enhancement Program

Result[1]	25-Year UL	50-Year UL[2]
CO_2e reduction ($MTCO_2e$)		
Sacramento to Roseville Third Track Phase 2	-[3]	-[3]
San Jose to Oakland Phase 2A	107,888	286,982
Integrated Travel Program	590,449	1,178,412
Total Northern California Enhancement Program	*698,337*	*1,465,394*
TIRCP Primary Evaluation Criteria		
$/$CO_2e$ reduction	$154	$73
CO_2e reduction/$	0.00651	0.01365

Notes
[1] Because no additional funds from other CCI Programs would be requested, reductions from total CCI funds and TIRCP funds are the same.
[2] The ARB Calculator only allows lifetime GHG reductions to be quantified through a final year of 2050. Accordingly, GHG reductions from the calculator were scaled to capture emission benefits under a 50-year UL, which extends to 2073 (refer to Attachment B).
[3] Reductions achieved by the SR3T/SR51 sub-project are not included in the analysis because the requested TIRCP funds do not extend to construction for the sub-project.
CCI = California Climate Investment
GHG = greenhouse gases
$MTCO_2e$ = metric tons carbon dioxide equivalent
TIRCP = Transit and Intercity Rail Capital Program
UL = useful life

Table 11. GHG Reductions and TIRCP Primary Evaluation Criteria for the Northern California Corridor Enhancement Program Inclusive of Freight Fuel Reductions

Result[1]	25-Year UL	50-Year UL[2]
CO_2e reduction ($MTCO_2e$)		
Sacramento to Roseville Third Track Phase 2	-[3]	-[3]
San Jose to Oakland Phase 2A (with freight benefit)	108,995	289,390
Integrated Travel Program	590,449	1,178,412
Total Northern California Enhancement Program	*699,445*	*1,467,802*
TIRCP Primary Evaluation Criteria		
$/$CO_2e$ reduction	$153	$73
CO_2e reduction/$	0.00652	0.01367

Notes
[1] Because no additional funds from other CCI Programs would be requested, reductions from total CCI funds and TIRCP funds are the same.
[2] The ARB Calculator only allows lifetime GHG reductions to be quantified through a final year of 2050. Accordingly, GHG reductions from the calculator were scaled to capture emission benefits under a 50-year UL, which extends to 2073 (refer to Attachment B).
[3] Reductions achieved by the SR3T/SR51 sub-project are not included in the analysis because the requested TIRCP funds do not extend to construction for the sub-project.
CCI = California Climate Investment
GHG = greenhouse gases
$MTCO_2e$ = metric tons carbon dioxide equivalent

TIRCP = Transit and Intercity Rail Capital Program
UL = useful life

Criteria Pollutant and Diesel Particulate Matter Co-Benefits

Similar to the GHG analysis, selected criteria pollutant co-benefits[6] that would be achieved by the OKJ-SJC Phase 2A and the ITP sub-projects were quantified using the ARB Calculator. Table 12 summarizes reductions of ozone precursors—reactive organic gases (ROG) and nitrogen oxides (NOx)—particulate matter less than 2.5 microns in diameter (PM2.5), and DPM under both the 25-year and 50-year UL assumptions. Reductions are shown by sub-project, as well as for the entire NCCEP. Table 13 summarizes criteria pollutant and DPM reductions inclusive of the freight service benefits.

Table 12. Selected Criteria Pollutant and DPM Co-Benefits Achieved by the Northern California Enhancement Program (tons)

Project	25-Year Useful Life				50-Year Useful Life[1]			
	Criteria Pollutants			DPM	Criteria Pollutants			DPM
	ROG	NOx	PM2.5		ROG	NOx	PM2.5	
SR3T/SR51	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]
OKJ-SJC Phase 2A[3]	10	114	5	6	20	223	9	12
ITP	19	89	2	10	39	176	4	21
Total (NCCEP)	*29*	*203*	*7*	*16*	*59*	*400*	*14*	*33*

Notes
[1] The ARB Calculator only allows lifetime emissions impacts to be quantified through a final year of 2050. Accordingly, results from the calculator were scaled to capture emission benefits under a 50-year UL, which extends to 2073 (refer to Attachment B).
[2] Reductions achieved by the SR3T/SR51sub-project are not included in the analysis because the requested TIRCP funds do not extend to construction for the sub-project.
[3] The ARB Calculator does not account for criteria pollutant or DPM benefits achieved by renewable diesel. Accordingly, emissions from rerouting Capitol Corridor service and reducing fuel consumption are calculated using emission factors for diesel fuel, which are higher than emission factors for renewable diesel. The criteria pollutant benefits calculated for Capitol Corridor fuel savings may therefore be slightly overstated.
ITP = integrated travel program
ROG = reactive organic gases
NOx = nitrogen oxides
PM2.5 = particulate matter less than 2.5 microns in diameter
DPM = diesel particulate matter

Table 13. Selected Criteria Pollutant and DPM Co-Benefits by the Northern California Enhancement Program Inclusive of Freight Benefits (tons)

Project	**25-Year UL**				**50-Year UL[1]**			
	Criteria Pollutants			DPM	Criteria Pollutants			DPM
	ROG	NOx	PM2.5		ROG	NOx	PM2.5	
SR3T/SR51	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]	-[2]

[6] The ARB calculator does not estimate carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), or lead reductions.

OKJ-SJC Phase 2A[3]	22	342	13	14	50	758	28	32
ITP	19	89	2	10	39	176	4	21
Total (NCCEP)	*42*	*431*	*15*	*25*	*88*	*935*	*32*	*52*

Notes
[1] The ARB Calculator only allows lifetime emissions impacts to be quantified through a final year of 2050. Accordingly, results from the calculator were scaled to capture emission benefits under a 50-year UL, which extends to 2073 (refer to Attachment B).
[2] Reductions achieved by the SR3T/SR51 sub-project are not included in the analysis because the requested TIRCP funds do not extend to construction for the sub-project.
[3] The ARB Calculator does not account for criteria pollutant or DPM benefits achieved by renewable diesel. Accordingly, emissions from rerouting Capitol Corridor service and reducing fuel consumption are calculated using emission factors for diesel fuel, which are higher than emission factors for renewable diesel. The criteria pollutant benefits calculated for Capitol Corridor fuel savings may therefore be slightly overstated.
ITP = integrated travel program
ROG = reactive organic gases
NOx = nitrogen oxides
PM2.5 = particulate matter less than 2.5 microns in diameter
DPM = diesel particulate matter
UL = useful life

All criteria pollutants and DPM are associated with some form of health risk (e.g., asthma, asphyxiation). Negative health effects associated with emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorological and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). Ozone precursors (ROG and NOx) affect air quality on a regional scale, whereas PM2.5 and DPM can have direct and localized effects. Exposure to ozone can aggravate respiratory and cardiovascular disease, impair cardiopulmonary function, and irritate the eyes. Exposure to PM2.5 and DPM can reduce lung function, aggregative respiratory diseases, increase cancer risk, and reduce visibility (California Air Resources Board 2005).

Implementation of the NCCEP would reduce criteria pollutant and DPM emissions from both reductions in passenger vehicle miles traveled (VMT) and locomotive fuel combustion. Passenger vehicles emit criteria pollutants as vehicle exhaust and re-suspend fugitive dust on local roadways. Passenger VMT savings achieved by increased transit ridership would reduce regional criteria pollutants, including ozone precursors (ROG and NO_X), as well as local pollutants like fugitive dust. These emissions benefits would occur throughout northern California and may reduce health effects associated with adverse air quality.

Reducing passenger and freight locomotive miles would likewise reduce regional ozone precursors (ROG and NO_X) and also directly impact DPM concentrations along the rail line. Relocating freight rail to the Niles Subdivision would eliminate freight service and associated emissions on the Newark to Niles Junction, which traverses the city of Fremont. Resident and community exposure to DPM, which is a carcinogen, would therefore be reduced along the Newark to Niles Junction. Emissions along the Coast and Niles Subdivisions would continue, with the amount of emissions generated dependent on the frequency of service (trips/day), combusted fuel type (e.g., renewable diesel, diesel), engine control technologies (e.g., Tier 4 engines), and other factors specific to the service provider on each subdivision (i.e., Capitol Corridor vs. Union Pacific).

Ultimately, the NCCEP would result in substantial criteria pollutant and DPM reductions (see Tables 12 and 13). The public health improvements that would be achieved by these emission reductions may yield direct and indirect economic co-benefits, including reduced costs of hospitalization and medications, as well as the value placed by individuals on avoiding illness.

References Cited

Amtrak Service Planning & Costing. 2017. *Capitol Corridor Additional Roundtrips and Roseville Extension Project*. November 17.

Booz & Company. 2009. *The Benefits of Simplified and Integrated Ticketing in Public Transport*. October.

California Air Resource Board. 2005. Air Quality and Land Use Handbook. April.

———. 2017. *Quantification Methodology for the California State Transportation Agency Transit and Intercity Rail Capital Program Greenhouse Gas Reduction Fund FY 2018-19*. October 13.

Cambridge Systematics. 2017. Alameda County Rail Network Performance Technical Memorandum. September.

Capitol Corridor Joint Powers Authority. 2015. *Final Environmental Impact Report. Sacramento to Roseville Third Track Project*. November.

Marguerite. 2017. Summary of Operations, Line AE-F.

Union Pacific Railroad 2016. *Class I Railroad Annual Report R-1 to the Surface Transportation Board for the Year Ending Dec. 31, 2015*.

Personal Communications

Cruz, Mario (A). October 20, 2017—email message sent to ICF on behalf of the CARB GGRF Auction Proceed Team regarding inclusion of freight rail emissions benefits in the 2018 TIRCP Application.

Cruz, Mario (B). December 5, 2017—email message sent to ICF on behalf of the CARB GGRF Auction Proceed Team regarding clarification for the 2018 TIRCP GHG Analysis.

Der, Howard. AC Transit. December 27, 2017—email message to ICF regarding Capitol Corridor Ardenwood effects.

Attachment A. ARB Calculator Files

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

The California Air Resources Board (CARB) is responsible for providing the quantification methodology to estimate the greenhouse gas (GHG) emission reductions and other non-GHG outcomes, referred to as co-benefits (e.g., air pollutant emission estimates), from projects receiving monies from the Greenhouse Gas Reduction Fund (GGRF).

CARB released the California State Transportation Agency (CalSTA) Transit and Intercity Rail Capital Program (TIRCP) Draft Quantification Methodology and Draft TIRCP Calculator Tool for Fiscal Year (FY) 2018-19 for public comment in September 2017. The Draft Quantification Methodology and Draft TIRCP Calculator Tool were updated as necessary to reflect stakeholder comments and final TIRCP Guidelines for FY 2018-19. This Final TIRCP Calculator Tool accompanies the Final Quantification Methodology for FY 2018-19, available at:
www.arb.ca.gov/cci-quantification

Instructions: Applicants must use this calculator to estimate the GHG emission reductions and air pollutant emissions associated with the quantification methodology, as applicable. This Excel file must be submitted with other documentation requirements. Please use the following file naming convention: "[Project Name]_calc" not to exceed 20 characters. Project names may be abbreviated. Additional documentation may be necessary to substantiate the inputs to this file. Fields highlighted in yellow indicate input needed by the project applicant.

Step 1 Define the Project: Applicants must define the project by identifying both eligible project types in Table 2 of the Quantification Methodology and the number of quantifiable components.

Step 2 Determine the TIRCP Calculator Tool Inputs Needed: The applicant will use Table 3 in the Quantification Methodology to determine the required data inputs to estimate the GHG emission reductions and air pollutant emission co-benefits for each quantifiable component by project type, as identified in Step 1.

Step 3 Estimate the GHG Emission Reductions and Air Pollutant Emissions for the Proposed Project for Each Component Using the TIRCP Calculator Tool: The applicant will enter the required data inputs identified in Step 2 into this TIRCP Calculator Tool to calculate the GHG emission reductions and air pollutant emission estimates of the proposed project.

Read Me Tab (this page):
Enter the Project Name and the contact information for person who can answer project-specific questions on the quantification calculations.

Project Name:	**Integrated Travel Program, 25-year UL**
Contact Name:	**Jim Allison**
Contact Phone Number:	**510-464-6994**
Contact Email:	jima@capitolcorridor.org
Date Completed:	**1/9/2018**

Quantifiable Component Tabs:
Cells in yellow with headers in red indicate a direct user input is required. Cells in red indicate a direct user input is optional (note: additional supporting documentation is required if used). Green fields indicate a selection from a drop-down box is required. Gray fields indicate output or calculation fields that are automatically populated based on user entries and the quantification methods.

For each component, applicants must work from top to bottom and enter all relevant data. Some cells may not be applicable to the project type; these cells will turn black and lock. Applicants should use one tab per quantifiable component and may use as many tabs as necessary to characterize all relevant components of the proposed project, including additional GGRF funding requested from other California Climate Investments (CCI) programs. A component is a project type for which GHG emission reductions and air pollutant emissions may be estimated, evaluated and reported separately from other components within the TIRCP project. Inputs must be substantiated in the documentation provided to CalSTA and CARB; see Section C. Documentation of the Quantification Methodology.

Submit documentation: Save file for submittal. See Section C. Documentation of the Quantification Methodology for additional documentation requirements.

For more information on CARB's efforts to support implementation of GGRF investments, see: http://www.arb.ca.gov/caclimateinvestments
Questions pertaining to TIRCP should be sent to: TIRCPcomments@dot.ca.gov
Questions on this calculator should be sent to : GGRFProgram@arb.ca.gov

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 1	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase Capitol Corridor ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.	$27,339,720	
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?	Yes	
Additional CCI Program 1			
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			
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	$27,339,720	
Project Inputs			
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.	Heavy Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Heavy Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Francisco Bay Area	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	34,465	ted to 2021 conditions assuming the
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.	34,465	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	68	Capitol Corridor historical average
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 2	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase San Joaquins ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Heavy Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Heavy Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Joaquin Valley	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	24,782	ted to 2021 conditions assuming the
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.	24,782	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	114	San Joaquins historical average
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 3	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Skipped tab per ARB guidance	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.		
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.		
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
Region	The region that best encompasses the geographic location for the proposed project type.		
Sub region	The County or Air Basin where the majority of the service occurs.		
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.		
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.		
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.		
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
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.		
Adjustment Factor (A)	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.		

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.		
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 4	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase Pacific Surfliner ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Heavy Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Heavy Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	South Central Coast	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	64,569	ted to 2021 conditions assuming the
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.	64,569	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	87	Pacific Surfliner historical average
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 5
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase Frenso Area Express ridership
Funding Inputs		
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.	
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?	
Additional CCI Program 1		
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		
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	
Project Inputs		
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)
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Transit Bus
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin
Sub region	The County or Air Basin where the majority of the service occurs.	San Joaquin Valley
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25

Displaced Autos Inputs		Input	Reference
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	254,159	ted to 2021 conditions assuming the
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.	254,159	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	2.61	ARB default for Fresno Area Express
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 6	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase Sac RT Light Rail ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Light Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Light Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	Sacramento Valley	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	298,102	ted to 2021 conditions assuming the
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.	298,102	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	5.66	ARB default for Sac RT Light Rail
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

	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	Integrated travel services will increase Capitol Corridor ridership	Integrated travel services will increase San Joaquins ridership	Skipped tab per ARB guidance	Integrated travel services will increase Pacific Surfliner ridership	Integrated travel services will increase Frenso Area Express ridership	Integrated travel services will increase Sac RT Light Rail ridership	
GHG Emission Reduction Start Date (Year)	2021	2021		2021	2021	2021	
Total CCI							
Total GHG Emission Reductions ($MTCO_2e$)	21,919	27,605		51,624	6,482	16,094	123,724
Total GGRF Funds Requested ($)	27,339,720						27,339,720
Total GHG Emission Reductions/Total GGRF Funds Requested ($MTCO_2e$/$)	0.000802						0.004525
TIRCP							
TIRCP GHG Emission Reductions ($MTCO_2e$)	21,919	27,605		51,624	6,482	16,094	123,724
TIRCP Funds Requested ($)	27,339,720						27,339,720
TIRCP GHG Emission Reductions/TIRCP Funds Requested ($MTCO_2e$/$)	0.000802						0.004525
TIRCP Funds Requested/TIRCP GHG Emission Reductions ($/$MTCO_2e$)	1,247						221
Additional CCI Program 1							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO2e)							
Total Additional GGRF Funds to Implement Project ($)							
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
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

		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	Integrated travel services will increase Capitol Corridor ridership	Integrated travel services will increase San Joaquins ridership	Skipped tab per ARB guidance	Integrated travel services will increase Pacific Surfliner ridership	Integrated travel services will increase Frenso Area Express ridership	Integrated travel services will increase Sac RT Light Rail ridership	
	Total CCI							
Key Variables	Passenger VMT Reductions (miles)	2,343,620	2,825,148		5,617,503	663,355	1,687,257	13,136,883
Key Variables	Fossil Fuel Use Reductions	N/A	N/A	N/A	N/A	N/A	N/A	
Key Variables	Fossil Fuel Energy Use Reductions (kWh)	N/A	N/A	N/A	N/A	N/A	N/A	
Co-Benefits	ROG Emission Reductions (lbs)	1,226	1,702		3,469	400	1,066	7,862
Co-Benefits	NOx Emission Reductions (lbs)	6,428	8,778		18,647	2,061	5,463	41,377
Co-Benefits	PM2.5 Emission Reductions (lbs)	151	181		365	42	111	850
Co-Benefits	Diesel PM Emission Reductions (lbs)	738	788		1,939	185	595	4,245
	TIRCP							
Key Variables	Passenger VMT Reductions (miles)	2,343,620	2,825,148		5,617,503	663,355	1,687,257	13,136,883
Key Variables	Fossil Fuel Use Reductions	N/A	N/A	N/A	N/A	N/A	N/A	
Key Variables	Fossil Fuel Energy Use Reductions (kWh)	N/A	N/A	N/A	N/A	N/A	N/A	
Co-Benefits	ROG Emission Reductions (lbs)	1,226	1,702		3,469	400	1,066	7,862
Co-Benefits	NOx Emission Reductions (lbs)	6,428	8,778		18,647	2,061	5,463	41,377
Co-Benefits	PM2.5 Emission Reductions (lbs)	151	181		365	42	111	850
Co-Benefits	Diesel PM Emission Reductions (lbs)	738	788		1,939	185	595	4,245
	Additional CCI Program 1							
Key Variables	Passenger VMT Reductions (miles)							
Key Variables	Fossil Fuel Use Reductions							
Key Variables	Fossil Fuel Energy Use Reductions (kWh)							
Co-Benefits	ROG Emission Reductions (lbs)							
Co-Benefits	NOx Emission Reductions (lbs)							
Co-Benefits	PM2.5 Emission Reductions (lbs)							
Co-Benefits	Diesel PM Emission Reductions (lbs)							
	Additional CCI Program 2							
Key Variables	Passenger VMT Reductions (miles)							
Key Variables	Fossil Fuel Use Reductions							
Key Variables	Fossil Fuel Energy Use Reductions (kWh)							
Co-Benefits	ROG Emission Reductions (lbs)							
Co-Benefits	NOx Emission Reductions (lbs)							
Co-Benefits	PM2.5 Emission Reductions (lbs)							
Co-Benefits	Diesel PM Emission Reductions (lbs)							

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

The California Air Resources Board (CARB) is responsible for providing the quantification methodology to estimate the greenhouse gas (GHG) emission reductions and other non-GHG outcomes, referred to as co-benefits (e.g., air pollutant emission estimates), from projects receiving monies from the Greenhouse Gas Reduction Fund (GGRF).

CARB released the California State Transportation Agency (CalSTA) Transit and Intercity Rail Capital Program (TIRCP) Draft Quantification Methodology and Draft TIRCP Calculator Tool for Fiscal Year (FY) 2018-19 for public comment in September 2017. The Draft Quantification Methodology and Draft TIRCP Calculator Tool were updated as necessary to reflect stakeholder comments and final TIRCP Guidelines for FY 2018-19. This Final TIRCP Calculator Tool accompanies the Final Quantification Methodology for FY 2018-19, available at:
www.arb.ca.gov/cci-quantification

Instructions: Applicants must use this calculator to estimate the GHG emission reductions and air pollutant emissions associated with the quantification methodology, as applicable. This Excel file must be submitted with other documentation requirements. Please use the following file naming convention: "[Project Name]_calc" not to exceed 20 characters. Project names may be abbreviated. Additional documentation may be necessary to substantiate the inputs to this file. Fields highlighted in yellow indicate input needed by the project applicant.

Step 1 Define the Project: Applicants must define the project by identifying both eligible project types in Table 2 of the Quantification Methodology and the number of quantifiable components.

Step 2 Determine the TIRCP Calculator Tool Inputs Needed: The applicant will use Table 3 in the Quantification Methodology to determine the required data inputs to estimate the GHG emission reductions and air pollutant emission co-benefits for each quantifiable component by project type, as identified in Step 1.

Step 3 Estimate the GHG Emission Reductions and Air Pollutant Emissions for the Proposed Project for Each Component Using the TIRCP Calculator Tool: The applicant will enter the required data inputs identified in Step 2 into this TIRCP Calculator Tool to calculate the GHG emission reductions and air pollutant emission estimates of the proposed project.

Read Me Tab (this page):
Enter the Project Name and the contact information for person who can answer project-specific questions on the quantification calculations.

Project Name:	**Integrated Travel Program, 25-year UL**
Contact Name:	**Jim Allison**
Contact Phone Number:	**510-464-6994**
Contact Email:	jima@capitolcorridor.org
Date Completed:	**1/9/2018**

Quantifiable Component Tabs:
Cells in yellow with headers in red indicate a direct user input is required. Cells in red indicate a direct user input is optional (note: additional supporting documentation is required if used). Green fields indicate a selection from a drop-down box is required. Gray fields indicate output or calculation fields that are automatically populated based on user entries and the quantification methods.

For each component, applicants must work from top to bottom and enter all relevant data. Some cells may not be applicable to the project type; these cells will turn black and lock. Applicants should use one tab per quantifiable component and may use as many tabs as necessary to characterize all relevant components of the proposed project, including additional GGRF funding requested from other California Climate Investments (CCI) programs. A component is a project type for which GHG emission reductions and air pollutant emissions may be estimated, evaluated and reported separately from other components within the TIRCP project. Inputs must be substantiated in the documentation provided to CalSTA and CARB; see Section C. Documentation of the Quantification Methodology.

Submit documentation: Save file for submittal. See Section C. Documentation of the Quantification Methodology for additional documentation requirements.

For more information on CARB's efforts to support implementation of GGRF investments, see: http://www.arb.ca.gov/caclimateinvestments
Questions pertaining to TIRCP should be sent to: TIRCPcomments@dot.ca.gov
Questions on this calculator should be sent to : GGRFProgram@arb.ca.gov

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 1	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase Sac RT bus ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Intercity/Express Bus (Long Distance)	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Transit Bus	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	Sacramento Valley	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	315,767	ted to 2021 conditions assuming the
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.	315,767	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	3.63	ARB default for Sac RT bus
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 2	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase LA Metro rail/subway ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Light Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Light Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	South Coast	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	2,461,183	ted to 2021 conditions assuming the
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.	2,461,183	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	5.88	B default for LA Metro rail (LR and H
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 3	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Skipped tab per ARB guidance	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.		
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.		
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
Region	The region that best encompasses the geographic location for the proposed project type.		
Sub region	The County or Air Basin where the majority of the service occurs.		
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.		
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.		
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.		
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
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.		
Adjustment Factor (A)	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.		

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.		
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 4	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase LA Metro bus ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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)	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Transit Bus	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	South Coast	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	6,716,363	ted to 2021 conditions assuming the
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.	6,716,363	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	4.29	B default for LA Metro rail (LR and H
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 5	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase NCTD Coaster ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Heavy Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Heavy Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Diego (Air Basin)	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	37,539	ted to 2021 conditions assuming the
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.	37,539	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	26.29	NCTD historical average.
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 6	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase NCTD Sprinter ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Light Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Light Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Diego (Air Basin)	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	55,204	ted to 2021 conditions assuming the
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.	55,204	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	9.04	NCTD historical average.
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

	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	Integrated travel services will increase Sac RT bus ridership	Integrated travel services will increase LA Metro rail/subway ridership	Skipped tab per ARB guidance	Integrated travel services will increase LA Metro bus ridership	Integrated travel services will increase NCTD Coaster ridership	Integrated travel services will increase NCTD Sprinter ridership	
GHG Emission Reduction Start Date (Year)	2021	2021		2021	2021	2021	
Total CCI							
Total GHG Emission Reductions ($MTCO_2e$)	10,933	145,125		288,943	9,578	4,843	459,423
Total GGRF Funds Requested ($)							
Total GHG Emission Reductions/Total GGRF Funds Requested ($MTCO_2e$/$)							#VALUE!
TIRCP							
TIRCP GHG Emission Reductions ($MTCO_2e$)	10,933	145,125		288,943	9,578	4,843	459,423
TIRCP Funds Requested ($)							
TIRCP GHG Emission Reductions/TIRCP Funds Requested ($MTCO_2e$/$)							#VALUE!
TIRCP Funds Requested/TIRCP GHG Emission Reductions ($/$MTCO_2e$)							#VALUE!
Additional CCI Program 1							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO2e)							
Total Additional GGRF Funds to Implement Project ($)							
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
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

		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	Integrated travel services will increase Sac RT bus ridership	Integrated travel services will increase LA Metro rail/subway ridership	Skipped tab per ARB guidance	Integrated travel services will increase LA Metro bus ridership	Integrated travel services will increase NCTD Coaster ridership	Integrated travel services will increase NCTD Sprinter ridership	
	Total CCI							
Key Variables	Passenger VMT Reductions (miles)	1,146,234	14,471,756		28,813,197	986,900	499,044	45,917,132
Key Variables	Fossil Fuel Use Reductions	N/A	N/A	N/A	N/A	N/A	N/A	
Key Variables	Fossil Fuel Energy Use Reductions (kWh)	N/A	N/A	N/A	N/A	N/A	N/A	
Co-Benefits	ROG Emission Reductions (lbs)	724	9,535		18,984	789	399	30,432
Co-Benefits	NOx Emission Reductions (lbs)	3,711	41,681		82,987	3,358	1,698	133,434
Co-Benefits	PM2.5 Emission Reductions (lbs)	75	1,088		2,167	68	34	3,432
Co-Benefits	Diesel PM Emission Reductions (lbs)	404	5,151		10,256	311	157	16,280
	TIRCP							
Key Variables	Passenger VMT Reductions (miles)	1,146,234	14,471,756		28,813,197	986,900	499,044	45,917,132
Key Variables	Fossil Fuel Use Reductions	N/A	N/A	N/A	N/A	N/A	N/A	
Key Variables	Fossil Fuel Energy Use Reductions (kWh)	N/A	N/A	N/A	N/A	N/A	N/A	
Co-Benefits	ROG Emission Reductions (lbs)	724	9,535		18,984	789	399	30,432
Co-Benefits	NOx Emission Reductions (lbs)	3,711	41,681		82,987	3,358	1,698	133,434
Co-Benefits	PM2.5 Emission Reductions (lbs)	75	1,088		2,167	68	34	3,432
Co-Benefits	Diesel PM Emission Reductions (lbs)	404	5,151		10,256	311	157	16,280
	Additional CCI Program 1							
Key Variables	Passenger VMT Reductions (miles)							
Key Variables	Fossil Fuel Use Reductions							
Key Variables	Fossil Fuel Energy Use Reductions (kWh)							
Co-Benefits	ROG Emission Reductions (lbs)							
Co-Benefits	NOx Emission Reductions (lbs)							
Co-Benefits	PM2.5 Emission Reductions (lbs)							
Co-Benefits	Diesel PM Emission Reductions (lbs)							
	Additional CCI Program 2							
Key Variables	Passenger VMT Reductions (miles)							
Key Variables	Fossil Fuel Use Reductions							
Key Variables	Fossil Fuel Energy Use Reductions (kWh)							
Co-Benefits	ROG Emission Reductions (lbs)							
Co-Benefits	NOx Emission Reductions (lbs)							
Co-Benefits	PM2.5 Emission Reductions (lbs)							
Co-Benefits	Diesel PM Emission Reductions (lbs)							

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

The California Air Resources Board (CARB) is responsible for providing the quantification methodology to estimate the greenhouse gas (GHG) emission reductions and other non-GHG outcomes, referred to as co-benefits (e.g., air pollutant emission estimates), from projects receiving monies from the Greenhouse Gas Reduction Fund (GGRF).

CARB released the California State Transportation Agency (CalSTA) Transit and Intercity Rail Capital Program (TIRCP) Draft Quantification Methodology and Draft TIRCP Calculator Tool for Fiscal Year (FY) 2018-19 for public comment in September 2017. The Draft Quantification Methodology and Draft TIRCP Calculator Tool were updated as necessary to reflect stakeholder comments and final TIRCP Guidelines for FY 2018-19. This Final TIRCP Calculator Tool accompanies the Final Quantification Methodology for FY 2018-19, available at:
www.arb.ca.gov/cci-quantification

Instructions: Applicants must use this calculator to estimate the GHG emission reductions and air pollutant emissions associated with the quantification methodology, as applicable. This Excel file must be submitted with other documentation requirements. Please use the following file naming convention: "[Project Name]_calc" not to exceed 20 characters. Project names may be abbreviated. Additional documentation may be necessary to substantiate the inputs to this file. Fields highlighted in yellow indicate input needed by the project applicant.

Step 1 Define the Project: Applicants must define the project by identifying both eligible project types in Table 2 of the Quantification Methodology and the number of quantifiable components.

Step 2 Determine the TIRCP Calculator Tool Inputs Needed: The applicant will use Table 3 in the Quantification Methodology to determine the required data inputs to estimate the GHG emission reductions and air pollutant emission co-benefits for each quantifiable component by project type, as identified in Step 1.

Step 3 Estimate the GHG Emission Reductions and Air Pollutant Emissions for the Proposed Project for Each Component Using the TIRCP Calculator Tool: The applicant will enter the required data inputs identified in Step 2 into this TIRCP Calculator Tool to calculate the GHG emission reductions and air pollutant emission estimates of the proposed project.

Read Me Tab (this page):
Enter the Project Name and the contact information for person who can answer project-specific questions on the quantification calculations.

Project Name:	**Integrated Travel Program, 25-year UL**
Contact Name:	**Jim Allison**
Contact Phone Number:	**510-464-6994**
Contact Email:	jima@capitolcorridor.org
Date Completed:	**1/9/2018**

Quantifiable Component Tabs:
Cells in yellow with headers in red indicate a direct user input is required. Cells in red indicate a direct user input is optional (note: additional supporting documentation is required if used). Green fields indicate a selection from a drop-down box is required. Gray fields indicate output or calculation fields that are automatically populated based on user entries and the quantification methods.

For each component, applicants must work from top to bottom and enter all relevant data. Some cells may not be applicable to the project type; these cells will turn black and lock. Applicants should use one tab per quantifiable component and may use as many tabs as necessary to characterize all relevant components of the proposed project, including additional GGRF funding requested from other California Climate Investments (CCI) programs. A component is a project type for which GHG emission reductions and air pollutant emissions may be estimated, evaluated and reported separately from other components within the TIRCP project. Inputs must be substantiated in the documentation provided to CalSTA and CARB; see Section C. Documentation of the Quantification Methodology.

Submit documentation: Save file for submittal. See Section C. Documentation of the Quantification Methodology for additional documentation requirements.

For more information on CARB's efforts to support implementation of GGRF investments, see: http://www.arb.ca.gov/caclimateinvestments
Questions pertaining to TIRCP should be sent to: TIRCPcomments@dot.ca.gov
Questions on this calculator should be sent to : GGRFProgram@arb.ca.gov

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 1	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase NCTD Breeze ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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)	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Transit Bus	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Diego (Air Basin)	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	147,947	ted to 2021 conditions assuming the
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.	147,947	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	4.73	NCTD historical average.
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 2	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase NCTD Lift ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Shuttle	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Transit Bus	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Diego (Air Basin)	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	3,312	ted to 2021 conditions assuming the
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.	3,312	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	5.03	RB default for NCTD local bus servic
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 3	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Skipped tab per ARB guidance	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.		
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.		
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
Region	The region that best encompasses the geographic location for the proposed project type.		
Sub region	The County or Air Basin where the majority of the service occurs.		
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.		
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.		
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.		
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
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.		
Adjustment Factor (A)	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.		

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.		
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 4	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase FAST ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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)	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Transit Bus	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	Sacramento Valley	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2046	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	25	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	13,861	ted to 2021 conditions assuming the
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.	13,861	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	2.64	FAST historical average.
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 5	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.		
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.		
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.		
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
Region	The region that best encompasses the geographic location for the proposed project type.		
Sub region	The County or Air Basin where the majority of the service occurs.		
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.		
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.		
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.		
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
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.		
Adjustment Factor (A)	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.		

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.		
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

Input	Description	Quantified Component 6	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.		
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.		
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.		
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
Region	The region that best encompasses the geographic location for the proposed project type.		
Sub region	The County or Air Basin where the majority of the service occurs.		
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.		
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.		
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.		
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
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.		
Adjustment Factor (A)	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.		

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.		
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	**Integrated Travel Program, 25-year UL**

	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	Integrated travel services will increase NCTD Breeze ridership	Integrated travel services will increase NCTD Lift ridership	Skipped tab per ARB guidance	Integrated travel services will increase FAST ridership			
GHG Emission Reduction Start Date (Year)	2021	2021		2021			
Total CCI							
Total GHG Emission Reductions ($MTCO_2e$)	6,792	162		349			7,302
Total GGRF Funds Requested ($)							
Total GHG Emission Reductions/Total GGRF Funds Requested ($MTCO_2e$/$)							#VALUE!
TIRCP							
TIRCP GHG Emission Reductions ($MTCO_2e$)	6,792	162		349			7,302
TIRCP Funds Requested ($)							
TIRCP GHG Emission Reductions/TIRCP Funds Requested ($MTCO_2e$/$)							#VALUE!
TIRCP Funds Requested/TIRCP GHG Emission Reductions ($/$MTCO_2e$)							#VALUE!
Additional CCI Program 1							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO2e)							
Total Additional GGRF Funds to Implement Project ($)							
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
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 25-year UL

		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	Integrated travel services will increase NCTD Breeze ridership	Integrated travel services will increase NCTD Lift ridership	Skipped tab per ARB guidance	Integrated travel services will increase FAST ridership			
	Total CCI							
Key Variables	Passenger VMT Reductions (miles)	699,789	16,659		36,593			753,042
Key Variables	Fossil Fuel Use Reductions	N/A	N/A	N/A	N/A			
Key Variables	Fossil Fuel Energy Use Reductions (kWh)	N/A	N/A	N/A	N/A			
Co-Benefits	ROG Emission Reductions (lbs)	560	13		23			596
Co-Benefits	NOx Emission Reductions (lbs)	2,381	57		118			2,556
Co-Benefits	PM2.5 Emission Reductions (lbs)	48	1		2			52
Co-Benefits	Diesel PM Emission Reductions (lbs)	220	5		13			239
	TIRCP							
Key Variables	Passenger VMT Reductions (miles)	699,789	16,659		36,593			753,042
Key Variables	Fossil Fuel Use Reductions	N/A	N/A	N/A	N/A			
Key Variables	Fossil Fuel Energy Use Reductions (kWh)	N/A	N/A	N/A	N/A			
Co-Benefits	ROG Emission Reductions (lbs)	560	13		23			596
Co-Benefits	NOx Emission Reductions (lbs)	2,381	57		118			2,556
Co-Benefits	PM2.5 Emission Reductions (lbs)	48	1		2			52
Co-Benefits	Diesel PM Emission Reductions (lbs)	220	5		13			239
	Additional CCI Program 1							
Key Variables	Passenger VMT Reductions (miles)							
Key Variables	Fossil Fuel Use Reductions							
Key Variables	Fossil Fuel Energy Use Reductions (kWh)							
Co-Benefits	ROG Emission Reductions (lbs)							
Co-Benefits	NOx Emission Reductions (lbs)							
Co-Benefits	PM2.5 Emission Reductions (lbs)							
Co-Benefits	Diesel PM Emission Reductions (lbs)							
	Additional CCI Program 2							
Key Variables	Passenger VMT Reductions (miles)							
Key Variables	Fossil Fuel Use Reductions							
Key Variables	Fossil Fuel Energy Use Reductions (kWh)							
Co-Benefits	ROG Emission Reductions (lbs)							
Co-Benefits	NOx Emission Reductions (lbs)							
Co-Benefits	PM2.5 Emission Reductions (lbs)							
Co-Benefits	Diesel PM Emission Reductions (lbs)							

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

The California Air Resources Board (CARB) is responsible for providing the quantification methodology to estimate the greenhouse gas (GHG) emission reductions and other non-GHG outcomes, referred to as co-benefits (e.g., air pollutant emission estimates), from projects receiving monies from the Greenhouse Gas Reduction Fund (GGRF).

CARB released the California State Transportation Agency (CalSTA) Transit and Intercity Rail Capital Program (TIRCP) Draft Quantification Methodology and Draft TIRCP Calculator Tool for Fiscal Year (FY) 2018-19 for public comment in September 2017. The Draft Quantification Methodology and Draft TIRCP Calculator Tool were updated as necessary to reflect stakeholder comments and final TIRCP Guidelines for FY 2018-19. This Final TIRCP Calculator Tool accompanies the Final Quantification Methodology for FY 2018-19, available at:
www.arb.ca.gov/cci-quantification

Instructions: Applicants must use this calculator to estimate the GHG emission reductions and air pollutant emissions associated with the quantification methodology, as applicable. This Excel file must be submitted with other documentation requirements. Please use the following file naming convention: "[Project Name]_calc" not to exceed 20 characters. Project names may be abbreviated. Additional documentation may be necessary to substantiate the inputs to this file. Fields highlighted in yellow indicate input needed by the project applicant.

Step 1 Define the Project: Applicants must define the project by identifying both eligible project types in Table 2 of the Quantification Methodology and the number of quantifiable components.

Step 2 Determine the TIRCP Calculator Tool Inputs Needed: The applicant will use Table 3 in the Quantification Methodology to determine the required data inputs to estimate the GHG emission reductions and air pollutant emission co-benefits for each quantifiable component by project type, as identified in Step 1.

Step 3 Estimate the GHG Emission Reductions and Air Pollutant Emissions for the Proposed Project for Each Component Using the TIRCP Calculator Tool: The applicant will enter the required data inputs identified in Step 2 into this TIRCP Calculator Tool to calculate the GHG emission reductions and air pollutant emission estimates of the proposed project.

Read Me Tab (this page):
Enter the Project Name and the contact information for person who can answer project-specific questions on the quantification calculations.

Project Name:	**Integrated Travel Program, 50-year UL**
Contact Name:	**Jim Allison**
Contact Phone Number:	**510-464-6994**
Contact Email:	jima@capitolcorridor.org
Date Completed:	**1/9/2018**

Quantifiable Component Tabs:
Cells in yellow with headers in red indicate a direct user input is required. Cells in red indicate a direct user input is optional (note: additional supporting documentation is required if used). Green fields indicate a selection from a drop-down box is required. Gray fields indicate output or calculation fields that are automatically populated based on user entries and the quantification methods.

For each component, applicants must work from top to bottom and enter all relevant data. Some cells may not be applicable to the project type; these cells will turn black and lock. Applicants should use one tab per quantifiable component and may use as many tabs as necessary to characterize all relevant components of the proposed project, including additional GGRF funding requested from other California Climate Investments (CCI) programs. A component is a project type for which GHG emission reductions and air pollutant emissions may be estimated, evaluated and reported separately from other components within the TIRCP project. Inputs must be substantiated in the documentation provided to CalSTA and CARB; see Section C. Documentation of the Quantification Methodology.

Submit documentation: Save file for submittal. See Section C. Documentation of the Quantification Methodology for additional documentation requirements.

For more information on CARB's efforts to support implementation of GGRF investments, see: http://www.arb.ca.gov/caclimateinvestments
Questions pertaining to TIRCP should be sent to: TIRCPcomments@dot.ca.gov
Questions on this calculator should be sent to : GGRFProgram@arb.ca.gov

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 50-year UL

Input	Description	Quantified Component 1	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase Capitol Corridor ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.	$27,339,720	
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?	Yes	
Additional CCI Program 1			
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			
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	$27,339,720	
Project Inputs			
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.	Heavy Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Heavy Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Francisco Bay Area	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2050	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	29	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	34,465	ted to 2021 conditions assuming the
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.	34,465	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	68	Capitol Corridor historical average
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 50-year UL

Input	Description	Quantified Component 2	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase San Joaquins ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Heavy Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Heavy Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Joaquin Valley	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2050	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	29	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	24,782	ted to 2021 conditions assuming the
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.	24,782	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	114	San Joaquins historical average
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 50-year UL

Input	Description	Quantified Component 3	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Skipped tab per ARB guidance	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.		
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.		
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
Region	The region that best encompasses the geographic location for the proposed project type.		
Sub region	The County or Air Basin where the majority of the service occurs.		
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.		
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.		
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.		
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
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.		
Adjustment Factor (A)	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.		

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.		
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 50-year UL

Input	Description	Quantified Component 4	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase Pacific Surfliner ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Heavy Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Heavy Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	South Central Coast	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2050	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	29	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	64,569	ted to 2021 conditions assuming the
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.	64,569	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	87	Pacific Surfliner historical average
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 50-year UL

Input	Description	Quantified Component 5
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase Frenso Area Express ridership
Funding Inputs		
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.	
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?	
Additional CCI Program 1		
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		
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	
Project Inputs		
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)
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Transit Bus
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin
Sub region	The County or Air Basin where the majority of the service occurs.	San Joaquin Valley
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2050
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	29

Displaced Autos Inputs		Input	Reference
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	254,159	ted to 2021 conditions assuming the
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.	254,159	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	2.61	ARB default for Fresno Area Express
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 50-year UL

Input	Description	Quantified Component 6	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase Sac RT Light Rail ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Light Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Light Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	Sacramento Valley	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2050	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	29	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	298,102	ted to 2021 conditions assuming the
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.	298,102	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	5.66	ARB default for Sac RT Light Rail
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 50-year UL

	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	Integrated travel services will increase Capitol Corridor ridership	Integrated travel services will increase San Joaquins ridership	Skipped tab per ARB guidance	Integrated travel services will increase Pacific Surfliner ridership	Integrated travel services will increase Frenso Area Express ridership	Integrated travel services will increase Sac RT Light Rail ridership	
GHG Emission Reduction Start Date (Year)	2021	2021		2021	2021	2021	
Total CCI							
Total GHG Emission Reductions ($MTCO_2e$)	25,383	31,964		59,746	7,505	18,629	143,227
Total GGRF Funds Requested ($)	27,339,720						27,339,720
Total GHG Emission Reductions/Total GGRF Funds Requested ($MTCO_2e$/$)	0.000928						0.005239
TIRCP							
TIRCP GHG Emission Reductions ($MTCO_2e$)	25,383	31,964		59,746	7,505	18,629	143,227
TIRCP Funds Requested ($)	27,339,720						27,339,720
TIRCP GHG Emission Reductions/TIRCP Funds Requested ($MTCO_2e$/$)	0.000928						0.005239
TIRCP Funds Requested/TIRCP GHG Emission Reductions ($/$MTCO_2e$)	1,077						191
Additional CCI Program 1							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO2e)							
Total Additional GGRF Funds to Implement Project ($)							
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
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 50-year UL

		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	Integrated travel services will increase Capitol Corridor ridership	Integrated travel services will increase San Joaquins ridership	Skipped tab per ARB guidance	Integrated travel services will increase Pacific Surfliner ridership	Integrated travel services will increase Frenso Area Express ridership	Integrated travel services will increase Sac RT Light Rail ridership	
	Total CCI							
Key Variables	Passenger VMT Reductions (miles)	2,343,620	2,825,148		5,617,503	663,355	1,687,257	13,136,883
Key Variables	Fossil Fuel Use Reductions	N/A	N/A	N/A	N/A	N/A	N/A	
Key Variables	Fossil Fuel Energy Use Reductions (kWh)	N/A	N/A	N/A	N/A	N/A	N/A	
Co-Benefits	ROG Emission Reductions (lbs)	1,415	1,965		4,001	461	1,231	9,073
Co-Benefits	NOx Emission Reductions (lbs)	7,423	10,142		21,498	2,381	6,308	47,753
Co-Benefits	PM2.5 Emission Reductions (lbs)	174	208		419	49	128	977
Co-Benefits	Diesel PM Emission Reductions (lbs)	854	913		2,244	214	689	4,913
	TIRCP							
Key Variables	Passenger VMT Reductions (miles)	2,343,620	2,825,148		5,617,503	663,355	1,687,257	13,136,883
Key Variables	Fossil Fuel Use Reductions	N/A	N/A	N/A	N/A	N/A	N/A	
Key Variables	Fossil Fuel Energy Use Reductions (kWh)	N/A	N/A	N/A	N/A	N/A	N/A	
Co-Benefits	ROG Emission Reductions (lbs)	1,415	1,965		4,001	461	1,231	9,073
Co-Benefits	NOx Emission Reductions (lbs)	7,423	10,142		21,498	2,381	6,308	47,753
Co-Benefits	PM2.5 Emission Reductions (lbs)	174	208		419	49	128	977
Co-Benefits	Diesel PM Emission Reductions (lbs)	854	913		2,244	214	689	4,913
	Additional CCI Program 1							
Key Variables	Passenger VMT Reductions (miles)							
Key Variables	Fossil Fuel Use Reductions							
Key Variables	Fossil Fuel Energy Use Reductions (kWh)							
Co-Benefits	ROG Emission Reductions (lbs)							
Co-Benefits	NOx Emission Reductions (lbs)							
Co-Benefits	PM2.5 Emission Reductions (lbs)							
Co-Benefits	Diesel PM Emission Reductions (lbs)							
	Additional CCI Program 2							
Key Variables	Passenger VMT Reductions (miles)							
Key Variables	Fossil Fuel Use Reductions							
Key Variables	Fossil Fuel Energy Use Reductions (kWh)							
Co-Benefits	ROG Emission Reductions (lbs)							
Co-Benefits	NOx Emission Reductions (lbs)							
Co-Benefits	PM2.5 Emission Reductions (lbs)							
Co-Benefits	Diesel PM Emission Reductions (lbs)							

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 50-year UL

Input	Description	Quantified Component 6	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Integrated travel services will increase NCTD Sprinter ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Light Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Light Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Diego (Air Basin)	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2021	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2050	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	29	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	55,204	ted to 2021 conditions assuming the
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.	55,204	increases overtime. Accordingly, the
Adjustment Factor (A)	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.	1	ndency is accounted for in the ridersh

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	9.04	NCTD historical average.
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Integrated Travel Program, 50-year UL

Input	Description	Quantified Component 5	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.		
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.		
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.		
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
Region	The region that best encompasses the geographic location for the proposed project type.		
Sub region	The County or Air Basin where the majority of the service occurs.		
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.		
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.		
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.		
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
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.		
Adjustment Factor (A)	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.		

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.		
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

The California Air Resources Board (CARB) is responsible for providing the quantification methodology to estimate the greenhouse gas (GHG) emission reductions and other non-GHG outcomes, referred to as co-benefits (e.g., air pollutant emission estimates), from projects receiving monies from the Greenhouse Gas Reduction Fund (GGRF).

CARB released the California State Transportation Agency (CalSTA) Transit and Intercity Rail Capital Program (TIRCP) Draft Quantification Methodology and Draft TIRCP Calculator Tool for Fiscal Year (FY) 2018-19 for public comment in September 2017. The Draft Quantification Methodology and Draft TIRCP Calculator Tool were updated as necessary to reflect stakeholder comments and final TIRCP Guidelines for FY 2018-19. This Final TIRCP Calculator Tool accompanies the Final Quantification Methodology for FY 2018-19, available at:
www.arb.ca.gov/cci-quantification

Instructions: Applicants must use this calculator to estimate the GHG emission reductions and air pollutant emissions associated with the quantification methodology, as applicable. This Excel file must be submitted with other documentation requirements. Please use the following file naming convention: "[Project Name]_calc" not to exceed 20 characters. Project names may be abbreviated. Additional documentation may be necessary to substantiate the inputs to this file. Fields highlighted in yellow indicate input needed by the project applicant.

Step 1 Define the Project: Applicants must define the project by identifying both eligible project types in Table 2 of the Quantification Methodology and the number of quantifiable components.

Step 2 Determine the TIRCP Calculator Tool Inputs Needed: The applicant will use Table 3 in the Quantification Methodology to determine the required data inputs to estimate the GHG emission reductions and air pollutant emission co-benefits for each quantifiable component by project type, as identified in Step 1.

Step 3 Estimate the GHG Emission Reductions and Air Pollutant Emissions for the Proposed Project for Each Component Using the TIRCP Calculator Tool: The applicant will enter the required data inputs identified in Step 2 into this TIRCP Calculator Tool to calculate the GHG emission reductions and air pollutant emission estimates of the proposed project.

Read Me Tab (this page):
Enter the Project Name and the contact information for person who can answer project-specific questions on the quantification calculations.

Project Name:	**Oakland to San Jose Service Expansion Phase 2A, 25-year UL**
Contact Name:	**Jim Allison**
Contact Phone Number:	**510-464-6994**
Contact Email:	jima@capitolcorridor.org
Date Completed:	**1/9/2018**

Quantifiable Component Tabs:
Cells in yellow with headers in red indicate a direct user input is required. Cells in red indicate a direct user input is optional (note: additional supporting documentation is required if used). Green fields indicate a selection from a drop-down box is required. Gray fields indicate output or calculation fields that are automatically populated based on user entries and the quantification methods.

For each component, applicants must work from top to bottom and enter all relevant data. Some cells may not be applicable to the project type; these cells will turn black and lock. Applicants should use one tab per quantifiable component and may use as many tabs as necessary to characterize all relevant components of the proposed project, including additional GGRF funding requested from other California Climate Investments (CCI) programs. A component is a project type for which GHG emission reductions and air pollutant emissions may be estimated, evaluated and reported separately from other components within the TIRCP project. Inputs must be substantiated in the documentation provided to CalSTA and CARB; see Section C. Documentation of the Quantification Methodology.

Submit documentation: Save file for submittal. See Section C. Documentation of the Quantification Methodology for additional documentation requirements.

For more information on CARB's efforts to support implementation of GGRF investments, see: http://www.arb.ca.gov/caclimateinvestments
Questions pertaining to TIRCP should be sent to: TIRCPcomments@dot.ca.gov
Questions on this calculator should be sent to : GGRFProgram@arb.ca.gov

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

The California Air Resources Board (CARB) is responsible for providing the quantification methodology to estimate the greenhouse gas (GHG) emission reductions and other non-GHG outcomes, referred to as co-benefits (e.g., air pollutant emission estimates), from projects receiving monies from the Greenhouse Gas Reduction Fund (GGRF).

CARB released the California State Transportation Agency (CalSTA) Transit and Intercity Rail Capital Program (TIRCP) Draft Quantification Methodology and Draft TIRCP Calculator Tool for Fiscal Year (FY) 2018-19 for public comment in September 2017. The Draft Quantification Methodology and Draft TIRCP Calculator Tool were updated as necessary to reflect stakeholder comments and final TIRCP Guidelines for FY 2018-19. This Final TIRCP Calculator Tool accompanies the Final Quantification Methodology for FY 2018-19, available at:
www.arb.ca.gov/cci-quantification

Instructions: Applicants must use this calculator to estimate the GHG emission reductions and air pollutant emissions associated with the quantification methodology, as applicable. This Excel file must be submitted with other documentation requirements. Please use the following file naming convention: "[Project Name]_calc" not to exceed 20 characters. Project names may be abbreviated. Additional documentation may be necessary to substantiate the inputs to this file. Fields highlighted in yellow indicate input needed by the project applicant.

Step 1 Define the Project: Applicants must define the project by identifying both eligible project types in Table 2 of the Quantification Methodology and the number of quantifiable components.

Step 2 Determine the TIRCP Calculator Tool Inputs Needed: The applicant will use Table 3 in the Quantification Methodology to determine the required data inputs to estimate the GHG emission reductions and air pollutant emission co-benefits for each quantifiable component by project type, as identified in Step 1.

Step 3 Estimate the GHG Emission Reductions and Air Pollutant Emissions for the Proposed Project for Each Component Using the TIRCP Calculator Tool: The applicant will enter the required data inputs identified in Step 2 into this TIRCP Calculator Tool to calculate the GHG emission reductions and air pollutant emission estimates of the proposed project.

Read Me Tab (this page):
Enter the Project Name and the contact information for person who can answer project-specific questions on the quantification calculations.

Project Name:	**Oakland to San Jose Service Expansion Phase 2A, 50-year UL**
Contact Name:	**Jim Allison**
Contact Phone Number:	**510-464-6994**
Contact Email:	jima@capitolcorridor.org
Date Completed:	**1/9/2018**

Quantifiable Component Tabs:
Cells in yellow with headers in red indicate a direct user input is required. Cells in red indicate a direct user input is optional (note: additional supporting documentation is required if used). Green fields indicate a selection from a drop-down box is required. Gray fields indicate output or calculation fields that are automatically populated based on user entries and the quantification methods.

For each component, applicants must work from top to bottom and enter all relevant data. Some cells may not be applicable to the project type; these cells will turn black and lock. Applicants should use one tab per quantifiable component and may use as many tabs as necessary to characterize all relevant components of the proposed project, including additional GGRF funding requested from other California Climate Investments (CCI) programs. A component is a project type for which GHG emission reductions and air pollutant emissions may be estimated, evaluated and reported separately from other components within the TIRCP project. Inputs must be substantiated in the documentation provided to CalSTA and CARB; see Section C. Documentation of the Quantification Methodology.

Submit documentation: Save file for submittal. See Section C. Documentation of the Quantification Methodology for additional documentation requirements.

For more information on CARB's efforts to support implementation of GGRF investments, see: http://www.arb.ca.gov/caclimateinvestments
Questions pertaining to TIRCP should be sent to: TIRCPcomments@dot.ca.gov
Questions on this calculator should be sent to : GGRFProgram@arb.ca.gov

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Oakland to San Jose Service Expansion Phase 2A, 50-year

Input	Description	Quantified Component 1	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Rerouting Capitol Corridor service between Oakland and Newark/Fremont from the Niles Subdivison to the Coast Subdivision will reduce travel time and increase ridership.	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.	$51,000,000	
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?	Yes	
Additional CCI Program 1			
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			
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	$51,000,000	
Project Inputs			
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.	Heavy Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Heavy Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Francisco Bay Area	
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.	2050	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	27	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	105,859	mate from the 2017 Amtrak model (9
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.	284,930	mate from the 2017 Amtrak model (9
Adjustment Factor (A)	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.	0.85	Capitol Corridor historic average

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	58	Capitol Corridor historic average
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Oakland to San Jose Service Expansion Phase 2A, 50-year

Input	Description	Quantified Component 2	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Relocating Capitol Corridor service to the Coast Subdivision will decrease locomotive miles traveled, thereby resulting in fuel savings	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Fuel Reductions	
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.	Heavy Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Heavy Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Francisco Bay Area	
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.	2050	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	27	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
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.		
Adjustment Factor (A)	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.		

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.		
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.	Renewable Diesel	
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.	40,628	per day. Assumed Tier 4 locomotive

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Oakland to San Jose Service Expansion Phase 2A, 50-year

Input	Description	Quantified Component 3	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Skipped tab per ARB guidance	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.		
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.		
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
Region	The region that best encompasses the geographic location for the proposed project type.		
Sub region	The County or Air Basin where the majority of the service occurs.		
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.		
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.		
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.		
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
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.		
Adjustment Factor (A)	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.		

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.		
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Oakland to San Jose Service Expansion Phase 2A, 50-year III

Input	Description	Quantified Component 4	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Capitol Corridor service and multimodal improvements at the Ardenwood Station will increase AC Transit ridership	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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/Expanded 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)	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Transit Bus	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Francisco Bay Area	
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.	2050	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	27	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	620,991	rmation provided by AC Transit for th
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.	1,671,664	rmation provided by AC Transit for th
Adjustment Factor (A)	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.	1	ansit modeled their expected increas

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	14.38	ARB default for AC Transit
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?	No	
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.	Diesel	
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.	2015	
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.	1,241,367	transit VMT, as provided by AC Trans
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Oakland to San Jose Service Expansion Phase 2A, 50-year III

Input	Description	Quantified Component 5	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Capitol Corridor service and multimodal improvements at the Ardenwood Station will increase ridership on the Marguerite Stanford Shuttle.	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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/Expanded 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.	Shuttle	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Transit Bus	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Francisco Bay Area	
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.	2050	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	27	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	76,721	A ridership growth inducement factor
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.	206,502	ng 2016 ridership to 2073 assuming
Adjustment Factor (A)	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.	0.5	ARB default for local service

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	14.38	ed ARB default for AC Transit as a pr
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?	No	
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.	Diesel	
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.	2015	
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.	3,556	on 1 added trip per day at 14 miles p
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Oakland to San Jose Service Expansion Phase 2A, 50-year III

Input	Description	Quantified Component 6	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Relocating freight service to the Niles Subdivision will decrease locomotive miles traveled, thereby resulting in fuel savings	
Funding Inputs			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.		
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?		
Additional CCI Program 1			
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			
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		
Project Inputs			
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.	Fuel Reductions	
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.	Heavy Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Heavy Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	San Francisco Bay Area	
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.	2050	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	27	
Displaced Autos Inputs		**Input**	**Reference**
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
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.		
Adjustment Factor (A)	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.		

Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.		
New/Expanded Service Vehicle Inputs		**Input**	**Reference**
Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	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	The estimated annual VMT required to operate the new/expanded 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.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, KWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
Displaced Vehicle/Fuel Reductions Inputs		**Input**	**Reference**
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.	Diesel	
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.	94819	and 23 trips per day under YrF. Ass

California Air Resources Board
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Oakland to San Jose Service Expansion Phase 2A, 50-year UL

	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	Rerouting Capitol Corridor service between Oakland and Newark/Fremont from	Relocating Capitol Corridor service to the Coast Subdivision will decrease locomotive	Skipped tab per ARB guidance	Capitol Corridor service and multimodal improvements at the Ardenwood Station will	Capitol Corridor service and multimodal improvements at the Ardenwood Station will	Relocating freight service to the Niles Subdivision will decrease locomotive	
GHG Emission Reduction Start Date (Year)	2023	2023		2023	2023	2023	
Total CCI							
Total GHG Emission Reductions ($MTCO_2e$)	86,469	187		59,428	8,886	1,301	156,271
Total GGRF Funds Requested ($)	51,000,000						51,000,000
Total GHG Emission Reductions/Total GGRF Funds Requested ($MTCO_2e$/$)	0.001695						0.003064
TIRCP							
TIRCP GHG Emission Reductions ($MTCO_2e$)	86,469	187		59,428	8,886	1,301	156,271
TIRCP Funds Requested ($)	51,000,000						51,000,000
TIRCP GHG Emission Reductions/TIRCP Funds Requested ($MTCO_2e$/$)	0.001695						0.003064
TIRCP Funds Requested/TIRCP GHG Emission Reductions ($/$MTCO_2e$)	590						326
Additional CCI Program 1							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO2e)							
Total Additional GGRF Funds to Implement Project ($)							
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
Calculator Tool for the
California State Transportation Agency
Transit and Intercity Rail Capital Program
Greenhouse Gas Reduction Fund
Fiscal Year 2018-19

Project Name:	Oakland to San Jose Service Expansion Phase 2A, 50-year UL

		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	Rerouting Capitol Corridor service between Oakland and Newark/Fremont from the Niles Subdivision to the	Relocating Capitol Corridor service to the Coast Subdivision will decrease locomotive miles traveled	Skipped tab per ARB guidance	Capitol Corridor service and multimodal improvements at the Ardenwood Station will increase AC Transit	Capitol Corridor service and multimodal improvements at the Ardenwood Station will increase ridership on the	Relocating freight service to the Niles Subdivision will decrease locomotive miles traveled, thereby resulting in	
	Total CCI							
Key Variables	Passenger VMT Reductions (miles)	9,632,949			16,484,189	1,018,187		27,135,325
Key Variables	Fossil Fuel Use Reductions	N/A	N/A	N/A	N/A	N/A	2,560,113.00	
Key Variables	Fossil Fuel Energy Use Reductions (kWh)	N/A	N/A	N/A	N/A	N/A	N/A	
Co-Benefits	ROG Emission Reductions (lbs)	3,475	13,703		4,262	362	31,980	53,781
Co-Benefits	NOx Emission Reductions (lbs)	19,064	247,746		(27,701)	1,842	578,198	819,149
Co-Benefits	PM2.5 Emission Reductions (lbs)	513	8,739		649	54	20,395	30,349
Co-Benefits	Diesel PM Emission Reductions (lbs)	1,590	9,009		2,483	167	21,025	34,275
	TIRCP							
Key Variables	Passenger VMT Reductions (miles)	9,632,949			16,484,189	1,018,187		27,135,325
Key Variables	Fossil Fuel Use Reductions	N/A	N/A	N/A	N/A	N/A	2,560,113	
Key Variables	Fossil Fuel Energy Use Reductions (kWh)	N/A	N/A	N/A	N/A	N/A	N/A	
Co-Benefits	ROG Emission Reductions (lbs)	3,475	13,703		4,262	362	31,980	53,781
Co-Benefits	NOx Emission Reductions (lbs)	19,064	247,746		(27,701)	1,842	578,198	819,149
Co-Benefits	PM2.5 Emission Reductions (lbs)	513	8,739		649	54	20,395	30,349
Co-Benefits	Diesel PM Emission Reductions (lbs)	1,590	9,009		2,483	167	21,025	34,275
	Additional CCI Program 1							
Key Variables	Passenger VMT Reductions (miles)							
Key Variables	Fossil Fuel Use Reductions							
Key Variables	Fossil Fuel Energy Use Reductions (kWh)							
Co-Benefits	ROG Emission Reductions (lbs)							
Co-Benefits	NOx Emission Reductions (lbs)							
Co-Benefits	PM2.5 Emission Reductions (lbs)							
Co-Benefits	Diesel PM Emission Reductions (lbs)							
	Additional CCI Program 2							
Key Variables	Passenger VMT Reductions (miles)							
Key Variables	Fossil Fuel Use Reductions							
Key Variables	Fossil Fuel Energy Use Reductions (kWh)							
Co-Benefits	ROG Emission Reductions (lbs)							
Co-Benefits	NOx Emission Reductions (lbs)							
Co-Benefits	PM2.5 Emission Reductions (lbs)							
Co-Benefits	Diesel PM Emission Reductions (lbs)							

Attachment B. Emissions Summary and Scaling

OKJ-SJC Phase 2A Sub-Project

GHG Reductions for the OKJ-SJC Phase 2A Sub-Project

	Lifetime MTCO2e Reduction			Notes		
Quantifiable Component	2023-2048	2023-2050	2023-2073	2023-2048	2023-2050	2023-2073
System and Efficiency Improvements	59,515	86,469	160,127	Direct output from ARB Calculator, GHG Summary Tab		Scaled the 2023-2050 ARB Calculator output by 1.85 to account for the additional 23 years of project life (2051-2073) under a 50-year UL assumption.
Fuel reduction (Capitol Corridor)	187	187	347			
New/expanded service (public buses)	42,130	59,428	110,052			
New/expanded service (private shuttle)	6,056	8,886	16,456			
Fuel reduction (freight)	1,107	1,301	2,409			
Total (no freight)	107,888	154,970	286,982	Total reductions for the OKJ-SJC Phase 2A Project sub-project **without** freight fuel reductions		
Total (with freight)	108,995	156,271	289,390	Total reductions for the OKJ-SJC Phase 2A Project sub-project **with** freight fuel reductions		

TIRCP Primary Evaluation Criteria for the OKJ-SJC Phase 2A Project *Without* Freight Fuel Reductions

Metric	25-Year UL	50-Year UL
$/$CO_2$e reduction	$ 473	$ 178
CO_2e reduction/$	0.00212	0.00563

TIRCP Primary Evaluation Criteria for the OKJ-SJC Phase 2A *With* Freight Fuel Reductions

Metric	25-Year UL	50-Year UL
$/$CO_2$e reduction	$ 468	$ 176
CO_2e reduction/$	0.002137	0.00567

ITP Sub-Project

GHG Reductions for the ITP Sub-Project

	Lifetime MTCO2e Reduction			Notes		
Quantifiable Component	2021-2046	2021-2050	2021-2071	2023-2048	2023-2050	2023-2073
Capitol Corridor	21,919	25,383	43,764	Direct output from ARB Calculator, GHG Summary Tab		Scaled the 2021-2050 ARB Calculator output by 1.72 to account for the additional 21 years of project life (2051-2071) under a 50-year UL assumption.
San Joaquins	27,605	31,964	55,110			
Pacific Surfliner	51,624	59,746	103,010			
Fresno Area Express	6,482	7,505	12,940			
Sac RT Light Rail	16,094	18,629	32,119			
Sac RT Bus	10,933	12,656	21,820			
LA Metro Rail	145,125	167,981	289,623			
LA Metro Bus	288,943	334,450	576,638			
NCTD Coaster	9,578	11,095	19,130			
NCTD Sprinter	4,843	5,611	9,673			
NCTD Breeze	6,792	7,867	13,564			
NCTD Lift	162	187	323			
FAST	349	404	697			
Total	590,449	683,479	1,178,412	Total reductions		

TIRCP Primary Evaluation Criteria for the ITP Sub-Project

Metric	25-Year UL	50-Year UL
$/$CO_2$e reduction	$ 46	$ 23
CO_2e reduction/$	0.02160	0.04310

Northern California Corridor Enhancement Program

GHG Reductions and TIRCP Primary Evaluation Criteria for the Northern California Corridor Enhancement Program without Freight Benefits

Metric	25-Year UL	50-Year UL
CO_2e reduction ($MTCO_2e$)		
Third Track Phase 2 Sub-Project	0	0
San Jose to Oakland Phase 2A Sub-Project	107,888	286,982
Integrated Travel Program Sub-Project	590,449	1,178,412
Total Northern California Enhancement Program	*698,337*	*1,465,394*
TIRCP Primary Evaluation Criteria		
$/$CO_2e$ reduction	$ 154	$ 73
CO_2e reduction/$	0.00651	0.01365

GHG Reductions and TIRCP Primary Evaluation Criteria for the Northern California Corridor Enhancement Program with Freight Benefits

Metric	25-Year UL	50-Year UL
CO_2e reduction ($MTCO_2e$)		
Third Track Phase 2 Sub-Project	0	0
San Jose to Oakland Phase 2A Sub-Project	108,995	289,390
Integrated Travel Program Sub-Project	590,449	1,178,412
Total Northern California Enhancement Program	*699,445*	*1,467,802*
TIRCP Primary Evaluation Criteria		
$/$CO_2e$ reduction	$ 153	$ 73
CO_2e reduction/$	0.00652	0.01367

Factors		
OKJ-SJC Phase 2A 50-year scaling factor	1.85	*Calculator only allows a final year of 2050 or earlier
OKJ-SJC Phase 2A funding request	$ 51,000,000	Per CCJPA Application
ITP 50-year scaling factor	1.72	*Calculator only allows a final year of 2050 or earlier
ITP funding request	$ 27,339,720	Per CCJPA Application
NCCEP funding request	$ 107,339,720	Per CCJPA Application

Criteria Pollutant and DPM Reductions for the OKJ-SJC Phase 2A

	Lifetime ROG (lb) Reduction			Lifetime NOx (lb) Reduction			Lifetime PM2.5 (lb) Reduction			Lifetime DPM (lb) Reduction			Notes		
Quantifiable Component	2023-2048	2023-2050	2023-2073	2023-2048	2023-2050	2023-2073	2023-2048	2023-2050	2023-2073	2023-2048	2023-2050	2023-2073	2023-2048	2023-2050	2023-2073
System and Efficiency Improvements	2,649	3,475	6,435	14,322	19,064	35,303	385	513	950	1,346	1,590	2,945	Direct output from ARB Calculator, Co-Benefits Tab		Scaled the 2023-2050 ARB Calculator output by 1.85 to account for the additional 23 years of project life (2051-2073) under a 50-year UL assumption.
Fuel reduction (Capitol Corridor)	12,688	13,703	25,375	229,394	247,746	458,789	8,091	8,739	16,183	8,342	9,009	16,683			
New/expanded service (public buses)	3,397	4,262	7,892	-16,171	-27,701	-51,297	505	649	1,203	2,142	2,483	4,598			
New/expanded service (private shuttle)	276	362	671	1,354	1,842	3,411	40	54	99	142	167	310			
Fuel reduction (freight)	25,205	31,980	59,221	455,712	578,198	1,070,737	16,074	20,395	37,768	16,571	21,025	38,936			
Total (no freight)	19,009	21,802	40,374	228,899	240,951	446,206	9,021	9,955	18,434	11,970	13,249	24,536	Total reductions for the OKJ-SJC Phase 2A sub-project **without** freight fuel reductions		
Total (with freight)	44,214	53,781	99,595	684,611	819,149	1,516,943	25,095	30,349	56,202	28,542	34,275	63,472	Total reductions for the OKJ-SJC Phase 2A sub-project **with** freight fuel reductions		

Criteria Pollutant and DPM Reductions for the ITP

	Lifetime ROG (lb) Reduction			Lifetime NOx (lb) Reduction			Lifetime PM2.5 (lb) Reduction			Lifetime DPM (lb) Reduction			Notes		
Quantifiable Component	2021-2046	2021-2050	2021-2071	2021-2046	2021-2050	2021-2071	2021-2046	2021-2050	2021-2071	2021-2046	2021-2050	2021-2071	2021-2046	2021-2050	2021-2071
Capitol Corridor	1,226	1,415	2,440	6,428	7,423	12,798	151	174	299	738	854	1,472	Direct output from ARB Calculator, Co-Benefits Tab		Scaled the 2021-2050 ARB Calculator output by 1.72 to account for the additional 21 years of project life (2051-2071) under a 50-year UL assumption.
San Joaquins	1,702	1,965	3,389	8,778	10,142	17,486	181	208	358	788	913	1,573			
Pacific Surfliner	3,469	4,001	6,898	18,647	21,498	37,066	365	419	723	1,939	2,244	3,868			
Fresno Area Express	400	461	796	2,061	2,381	4,106	42	49	84	185	214	369			
Sac RT Light Rail	1,066	1,231	2,122	5,463	6,308	10,877	111	128	220	595	689	1,187			
Sac RT Bus	724	836	1,441	3,711	4,286	7,389	75	87	150	404	468	807			
LA Metro Rail	9,535	10,995	18,957	41,681	48,092	82,918	1,088	1,251	2,156	5,151	5,964	10,283			
LA Metro Bus	18,984	21,892	37,744	82,987	95,752	165,089	2,167	2,490	4,293	10,256	11,874	20,473			
NCTD Coaster	789	914	1,577	3,358	3,889	6,705	68	78	135	311	360	621			
NCTD Sprinter	399	462	797	1,698	1,967	3,391	34	40	68	157	182	314			
NCTD Breeze	560	648	1,118	2,381	2,758	4,754	48	55	96	220	255	440			
NCTD Lift	13	15	27	57	66	113	1	1	2	5	6	10			
FAST	23	27	46	118	137	236	2	3	5	13	15	26			
Total	38,890	44,864	77,351	177,367	204,698	352,928	4,334	4,982	8,589	20,763	24,037	41,444	Total reductions		

Criteria Pollutant and DPM Co-Benefits Achieved by the Northern California Enhancement Program without Freight (tons)

Project	25-Year Useful Life				50-Year Useful Life			
	Criteria Pollutants			DPM	Criteria Pollutants			DPM
	ROG	NOx	PM2.5		ROG	NOx	PM2.5	
San Jose to Oakland Phase 2A Sub-Project	10	114	5	6	20	223	9	12
Integrated Travel Program Sub-Project	19	89	2	10	39	176	4	21
Total (Program)	*29*	*203*	*7*	*16*	*59*	*400*	*14*	*33*

Criteria Pollutant and DPM Co-Benefits Achieved by the Northern California Enhancement Program with Freight (tons)

Project	25-Year Useful Life				50-Year Useful Life			
	Criteria Pollutants			DPM	Criteria Pollutants			DPM
	ROG	NOx	PM2.5		ROG	NOx	PM2.5	
San Jose to Oakland Phase 2A Sub-Project	22	342	13	14	50	758	28	32
Integrated Travel Program Sub-Project	19	89	2	10	39	176	4	21
Total (Program)	*42*	*431*	*15*	*25*	*88*	*935*	*32*	*52*

Factors		
OKJ-SJC Phase 2A 50-year scaling factor	1.85	*Calculator only allows a final year of 2050 or earlier
ITP 50-year scaling factor	1.72	*Calculator only allows a final year of 2050 or earlier
tons per pound	0.0005	

STATE OF CALIFORNIA ● DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

APPENDIX D: PROJECT POGRAMMING REQUEST (PPR) FORM

General Instructions

☑ New Project					**Date:**	1/11/18
District	**EA**	**Project ID**	**PPNO**	**MPO ID**		
75						

County	**Route/Corridor**	**PM Bk**	**PM Ahd**	**Project Sponsor/Lead Agency**	
ALA	Capitol Corridor			Capitol Corridor Joint Powers Authority (CCJPA)	
SAC				**MPO**	**Element**
VAR				Non-MPO	Rail

Project Manager/Contact	**Phone**	**E-mail Address**
Jim Allison	(510) 464-6994	jima@capitolcorridor.org

Project Title

The Northern California Corridor Expansion Project (NCCEP)

Location, Project Limits, Description, Scope of Work ☑ See page 2

The NCCEP includes three intercity passenger rail projects that CCJPA can advance in the FY19-23 timeframe. The following subprojects will enhance Capitol Corridor service along its rail corridor from Auburn to San Jose as well as the State's intercity passenger rail and transit network throughout the entire State of California – Sacramento to Roseville Third Track Phase 2 (SR3T) and State Route (SR) 51 Widening Projects (environmental and design phases); Oakland to San Jose Service Expansion (OKJ-SJC) Phase 2A Project (environmental, design, and construction phases); Statewide Integrated Travel Program (ITP) (development

☑ GHG Reductions ☑ Integrated Service ☑ Increase Ridership

Component	**Implementing Agency**
PA&ED	Capitol Corridor Joint Powers Authority (CCJPA)
PS&E	Capitol Corridor Joint Powers Authority (CCJPA)
Right of Way	Capitol Corridor Joint Powers Authority (CCJPA)
Construction	Capitol Corridor Joint Powers Authority (CCJPA)

Purpose and Need ☐ See page 2

The purpose of the NCEEP is to enhance operations and lay the necessary foundation for achieving elements of long-term multimodal infrastructure projects. Completion of the three subprojects will benefit Capitol Corridor and be transformational for the entire Statewide rail and transit network by improving service and ridership, enhancing regional and interregional connections, reducing congestion and vehicle miles traveled, reducing GHG emissions, increasing rail's modeshare, and laying the groundwork for future phases of the subprojects to achieve the vision identified in CCJPA's Vision Plan and the draft 2018 State Rail Plan.

Project Benefits ☐ See page 2

The key benefits of the NCEEP are reduced GHG emissions and improved air quality in Northern and Southern California, increased ridership due to system and efficiency improvements, coordination and integration with state rail and transit operators, improved transportation safety, and enhanced economic vitality by separating passenger and freight rail operations and increasing the operational efficiency of both.

☑ Supports Sustainable Communities Strategy (SCS) Goals ☑ Disadvantaged Communities

Project Milestone			**Proposed**
Project Study Report Approved			12/01/11
Begin Environmental (PA&ED) Phase			04/01/12
Circulate Draft Environmental Document	**Document Type**	EIR/EIS	05/01/15
Draft Project Report			N/A
End Environmental Phase (PA&ED Milestone)			06/30/20
Begin Design (PS&E) Phase			07/01/18
End Design Phase (Ready to List for Advertisement Milestone)			06/30/21
Begin Right of Way Phase			07/01/20
End Right of Way Phase (Right of Way Certification Milestone)			06/30/21
Begin Construction Phase (Contract Award Milestone)			07/01/20
End Construction Phase (Construction Contract Acceptance Milestone)			06/30/23
Begin Closeout Phase			06/30/23
End Closeout Phase (Closeout Report)			06/30/25

STATE OF CALIFORNIA ● DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

Date: 1/11/18

District	County	Route	EA	Project ID	PPNO	
75	ALA, SAC, VAR	Capitol Corridor				
Project Title:	Northern California Corridor Enhancement Program (NCCEP)					

Proposed Total Project Cost ($1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	For purposes of clarity, this PPR includes only costs and funding for the current project phases. For clarity on costs and funding by subproject, please contact CCJPA and individual PPRs by subproject can be provided as needed.
E&P (PA&ED)					6,800	2,500	1,700	11,000	
PS&E					7,400	23,100	78,800	109,300	
R/W SUP (CT)									
CON SUP (CT)									
R/W							1,100	1,100	
CON						947	236,595	237,542	
TOTAL	4,000				14,200	26,547	318,195	358,942	

Fund No. 1:	**Transit and Intercity Capital Rail Program (TIRCP)**								**Program Code**
Proposed Funding ($1,000s)									
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	**Funding Agency**
E&P (PA&ED)						1,400		1,400	CalSTA
PS&E						15,800	11,800	27,600	Funding request for SR3T Phase 2 PA&ED and PS&E, OKJ-SJC Phase 2A all phases, ITP implementation/construction
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON						947	77,393	78,340	
TOTAL						18,147	89,193	107,340	

Fund No. 2:	**State Rail Assistance (SRA)**								**Program Code**
Proposed Funding ($1,000s)									
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	**Funding Agency**
E&P (PA&ED)					1,517	200	200	1,917	CalSTA
PS&E						2,784	5,639	8,423	Funds split between SR3T Phase 2 and OKJ-SJC Phase 2A project
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON							2,500	2,500	
TOTAL					1,517	2,984	8,339	12,840	

Fund No. 3:	**State Transportation Improvement Program - Interregional (ITIP)**								**Program Code**
Proposed Funding ($1,000s)									
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	**Funding Agency**
E&P (PA&ED)									Caltrans
PS&E									Funds for OKJ-SJC Phase 2A Project
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON							20,000	20,000	
TOTAL							20,000	20,000	

Fund No. 4:	**State Transportation Improvement Program - Regional (RTIP)**								**Program Code**
Proposed Funding ($1,000s)									
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	**Funding Agency**
E&P (PA&ED)						7,900		7,900	SACOG
PS&E									Funds for SR 51 Widening Project
R/W SUP (CT)									
CON SUP (CT)									
R/W									

STATE OF CALIFORNIA ● DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

Date: 1/11/18

District	County	Route	EA	Project ID	PPNO	
75	ALA, SAC, VAR	Capitol Corridor				
Project Title:	Northern California Corridor Enhancement Program (NCCEP)					

CON									
TOTAL						7,900		7,900	

Fund No. 5:	**Regional Surface Transportation Program (RSTP/STBG)**							**Program Code**
	Proposed Funding ($1,000s)							
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	**Funding Agency**
E&P (PA&ED)	4,000							4,000	SACOG
PS&E									Funds for SR 51 Widening Project
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	4,000							4,000	

Fund No. 6:	**Measure BB and other Local Funding**							**Program Code**
	Proposed Funding ($1,000s)							
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	**Funding Agency**
E&P (PA&ED)					300	1,400	1,500	3,200	Alameda CTC
PS&E							7,500	7,500	Funds for OKJ-SJC Phase 2A Project
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON							29,300	29,300	
TOTAL					300	1,400	38,300	40,000	

Fund No. 7:	**Regional Measure 3 (RM3)**							**Program Code**
	Proposed Funding ($1,000s)							
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	**Funding Agency**
E&P (PA&ED)									MTC
PS&E						3,500	18,700	22,200	Funds for OKJ-SJC Phase 2A Project. Subject to voter approval in June 2018.
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON							38,800	38,800	
TOTAL						3,500	57,500	61,000	

Fund No. 8:								**Program Code**
	Proposed Funding ($1,000s)							
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	**Funding Agency**
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

Fund No. 9:								**Program Code**
	Proposed Funding ($1,000s)							
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	**Funding Agency**

STATE OF CALIFORNIA ● DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

Date: 1/11/18

District	County	Route	EA	Project ID	PPNO	
75	ALA, SAC, VAR	Capitol Corridor				
Project Title:	Northern California Corridor Enhancement Program (NCCEP)					

E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

Fund No. 10:								**Program Code**
Proposed Funding ($1,000s)								
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	**Funding Agency**
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

APPENDIX E: KML FILE OF TRANSIT ROUTES

Please find a downloadable KML file of transit routes at the project location available at the link below:

CCJPA ITP 2018_KML.kmz