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Daniel S. Little, Executive Director

April 4, 2016

Transit and Intercity Rail Capital Program (TIRCP)
Division of Rail and Mass Transportation
Office of Program and Policy Management (MS39)
P.O. Box 942874
Sacramento, CA 94274-0001

Subject: North State Express Connect – Redding to Sacramento TIRCP Application

Dear Ms. Priebe:

The Shasta Regional Transportation Agency (SRTA), in partnership with the North State Super Region (NSSR), is pleased to submit this TIRCP application for an innovative new program that utilizes electric buses to meaningfully connect the northern third of the state to California's intercity public transportation system.

The barrier to such a service has been the substantial upfront project develop and coordination costs that must be committed on faith that bus funding will somehow materialize. The TIRCP makes this long-standing need for the North State Express Connect attainable. It offers flexibility and funding for all project components essential for the success of this first-of-a-kind service in California. We are committed to getting the service right the first time versus a trial and error approach.

An important component to the proposed I-5 backbone service is the intercity feeder buses that reach into other NSSR counties creating a comprehensive, watershed system. While not essential to the initial start-up, the feeder buses would boost ridership, encourage collaboration, and demonstrate the merits of electric buses in rural counties that have been reluctant to take the first step.

When it comes to state-managed intercity services in California, the NSSR counties have been relegated to the sidelines. Air service is down 75%; Greyhound has pulled back to a couple routes with run times not tailored to the region; and Amtrak service is inconvenient and has not changed in decades. It is time for all this to change. This service can operate on schedules tailored to the North State, often at a lower cost than the single occupant vehicle option -- all

with cutting-edge, zero-emission bus technology. The TIRCP offers the first chance for an intercity service truly designed and collaborated for the needs of the North State.

I authorize and approve the North State Express Connect – Redding to Sacramento TIRCP application.

Sincerely,

Daniel S. Little, AICP, Executive Director
Shasta Regional Transportation Agency (MPO)

DSL/JEP

2. Project Narrative

a. Project Title Page

2.a.i. **Project Title:** North State Express Connect – Redding to Sacramento (NS Express Connect)

2.a.ii. **Location:** Shasta County, Redding; Tehama County, Red Bluff or Corning; Glenn County, Orland; Colusa County, Williams; Sacramento, Downtown Capital Mall Transit Hub, Sacramento Valley Station (Amtrak), Sacramento International Airport

2.a.iii. **Project Mode:** Commuter Bus

2.a.iv. **Project Priority:** NA – sole application

2.a.v. **Lead Applicant Organization Name:** Shasta Regional Transportation Agency

2.a.vi. **Co-Applicant Organization Names:** N/A

2.a.vii. **Amount of Funding Requested**: $ 19,520,470

2.a.viii. **Proposed Match Funding (if any): $** 103,500

2.a.ix. **GHG Emission Reductions:** 0.0058

2.b. APPLICANT POINT OF CONTACT

Jennifer Pollom, MS, AICP, GISP
Senior Transportation Planner
Shasta Regional Transportation Agency (SRTA)
1255 East Street, Suite 202
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2.c. FUNDING REQUEST AND MATCH

TIRCP Funding Requested	Non-TIRCP Match	Leveraged Funding	Total Project Cost
$ 19,520,470	$ 103,500	$11,720,000	$ 31,343,970

Match Source	Amount	Pending Approval (Yes/No)	Timeline for Approval	Deadline for Obligation (O) or Expenditure (E)
In-Kind Match (FHWA PL and FTA 5303)	103,500	Yes	June 30, 2016	June 30, 2020 (E)

2.c.i. Leveraging of other greenhouse gas funds

The North State Express Connect – Redding to Sacramento (the NS Express Connect) coordinates funds from a variety of funding programs including two other greenhouse gas reduction programs: Caltrans' Low Carbon Transit Operations Program (LCTOP) and the Strategic Growth Council's Affordable Housing and Sustainable Communities (AHSC) Program. The Federal Transit Administration 5311 (f), LCTOP, and AHSC funds are the target resources for funding operations of the NS Express Connect program.

Other GHG Coordinating Projects

With regional funds from LCTOP, two new express transit route services in Shasta County are being developed that provide one-bus service to the Redding Downtown Transit Center: the Cottonwood Express and the Crosstown Express. The Redding Downtown Transit Center is a multi-modal hub that provides interregional connectivity to northern California's rural counties, including Trinity, Humboldt, Lassen and Modoc. It is the nexus for the funding from other greenhouse gas programs.

The Cottonwood Express route (under development and implementation using the region's 14/15, 15/16 LCTOP allocation) will be funded for the three full years allowed by the LCTOP. The Cottonwood Express is a new service and uses interlining to extend the bus service that currently serves the city of Anderson (population 10,128) into the community of Cottonwood (population 3,316). This route will run five times a day on weekdays and three times a day on Saturday. $193,185 of LCTOP funds are committed to Cottonwood Express.

The Crosstown Express is being tested currently and will be the most direct connection between the Redding (city population 91,119/urban population 117,731) Downtown Transit Center (west side of Sacramento River) and the Mount Shasta Mall Canby Transfer Center (east side of Sacramento River). It will service the Hilltop Drive hotel corridor, the Redding Civic Auditorium, and Turtle Bay Exploration Park. The route could run two or three times per hour during the times of day to serve start/end times of the school and employees work schedules six days a week (Mon-Sat). $57,001 of

15/16 LCTOP funds are committed to the Crosstown Express, and another $100,000 will be committed in future LCTOP funding cycles.

The City of Redding and K2 Development are applying for funding for the "Redding Downtown Loop & Affordable Housing Project"; an urban infill, complete streets and active transportation project submitted to the Strategic Growth Council's Affordable Housing and Sustainable Communities (AHSC) Program in 2016. The 'Redding Downtown Loop & Affordable Housing Project' adds housing and mobility options required for downtown Redding to function as a true urban core and to effectively reduce per capita vehicle trips and vehicle miles traveled. The AHSC application has five components: 1) the demolition of a vacant and functionally obsolete commercial building in the heart of downtown Redding and new construction of a four story mixed-use project featuring 79 new housing units (56 affordable) and over 27,000 square feet of street level commercial; 2) construction of new complete streets surrounding the redevelopment; 3) construction of a 0.26 mile Class IV cycle track connecting the development to the region's extensive urban trail network; 4) construction of pedestrian and bicycle enhancements to the nearby Redding Downtown Transit Center and 5) implementation of a new transit pass subsidy program to encourage new residents to use transit services. The AHSC project aligns with the goals of the AHSC program by adding high density infill housing and active transportation capital improvements adjacent to a qualifying transit center. $20,000,000 of AHSC funds have been requested to match an additional $20,000,000 of public and private investment.

2.c.ii. Leveraging of other sources

A total of $103,500 in in-kind funding through the FHWA PL and FTA 5303 funding to SRTA are proposed as match for the TIRCP funds. These funds have been committed by SRTA for the NS Express Connect as a method of implementing the goals of the regional Sustainable Communities Strategy and as part of the SRTA responsibilities for regional planning and interregional coordination.

Additionally, $4,295,000 of awarded discretionary funding from other federal, state, local and regional sources will be coordinated with the NS Express Connect. Of the total discretionary funding from other sources, $1,280,000 is directly related to the NS Express Connect. All amounts are described below.

Directly related to NS Express Connect ($1,280,000)

$30,000 discretionary planning funds – In 2015, SRTA applied for and was awarded $30,000 from the Federal Transit Administration Section 5311(f) Intercity Bus Program to study public transportation services to Sacramento, the Sacramento International Airport, and to possibly connect to major ground transit and airport facilities in the Bay Area. The Center for Business and Policy Research at the University of the Pacific is under contract complete the *Shasta Intercity Transportation to Sacramento and the Bay Area Study*. The study findings and recommendations will be presented to the SRTA Board of Directors at the June 2016 meeting.

The Redding Area Bus Authority (RABA) has committed approximately $750,000 of Proposition 1B funds to install shade structures with solar panels. The shade structures will be installed at the RABA maintenance facility and cover their fixed-route fleet of buses. The solar panels will offset the current electricity costs at the maintenance facility. This is the most likely location for the NS Express Connect buses to be stored overnight and where some charging stations will likely be installed.

RABA is also working to acquire and clean up the block to the north of the Redding Downtown Transit Center. The initial intent is to have a larger parking lot for passengers of RABA, Amtrak, Greyhound and

other interregional public transportation providers. RABA and the city have committed approximately $500,000 to convert the block into a parking lot. This is the most likely site for secure passenger parking for riders of the NS Express Connect embarking from Redding.

Coordinated with NS Express Connect ($3,015,000)

$170,000 discretionary technical assistance funds – Nearly $170,000 in SRTA technical assistance grants (Proposition 84 grant funding) have been used to ready the 'Redding Downtown Loop & Affordable Housing Project', including architectural design, structural engineering, civil engineering, traffic/street design and emissions modeling.

$2,400,000 discretionary construction funds – The region's top active transportation priority is a Class IV trail loop connecting downtown Redding to the Sacramento River Trail at two key non-motorized river crossings – the Sundial Bridge and Diestelhorst Bridge. The first phase connecting to the Diestelhorst Bridge is fully funded through a $2,400,000 Active Transportation Program capital grant and local funds (described next).

$400,000 discretionary construction funds – SRTA's Non-Motorized Program provided $400,000 matching funds for the first phase of the Class IV trail loop connecting downtown Redding to the Sacramento River over the Diestelhorst Bridge. The AHSC project will complete the middle portion of this loop through the core of downtown Redding.

$45,000 discretionary planning funds – Planning for the final phase of the Class IV trail loop connecting downtown Redding to the Sacramento River at the Sundial Bridge and Turtle Bay Museum has been funded through a $45,000 grant from SRTA to the city of Redding.

On-going Operations

SRTA will also be applying for future funding through FTA 5311(f), LCTOP and AHSC in the amount of $10,440,000 for ongoing operations of the backbone route (I-5) and feeder routes (partner operations determined through the business plan). The AHSC funding would be associated with a conceptualized affordable housing development near the Redding Downtown Transit Center that would utilize the valuable resource the NS Express Connect program offers. The first two years of the program operations will overlap with the TIRCP project schedule, where TIRCP funding will provide marketing and program evaluation for the operations. Following the exhaustion of the TIRCP funding for program evaluation and performance monitoring, SRTA will replace those funds with another viable funding source such as LCTOP or future TIRCP cycles.

2.d. APPLICANT ELIGIBILITY

SRTA is an eligible applicant as it is a public agency with regional transportation planning responsibility for bus transit service. As the Metropolitan Planning Organization (MPO) for Shasta County, SRTA studies the region's transportation needs, pursues potential funding sources, and makes recommendations for improvements. These choices directly impact the daily lives of Shasta County's residents in a number of ways, including job access, connectivity, environmental quality, public health and safety, access to transportation choices, and the cost of travel.

SRTA funds and coordinates transit services in Shasta County. In addition to the Redding Area Bus Authority (RABA) fixed-route service, SRTA funds coordinated transit service agency (CTSA) services that

provide public transportation for low-mobility groups who are outside of RABA's service area. In addition to church, school and taxi transportation services, there are about 33 transportation service providers in Shasta County which expend an estimated $8 million annually. Coordination of transit services minimizes duplication and provides more efficient and cost-effective transportation.

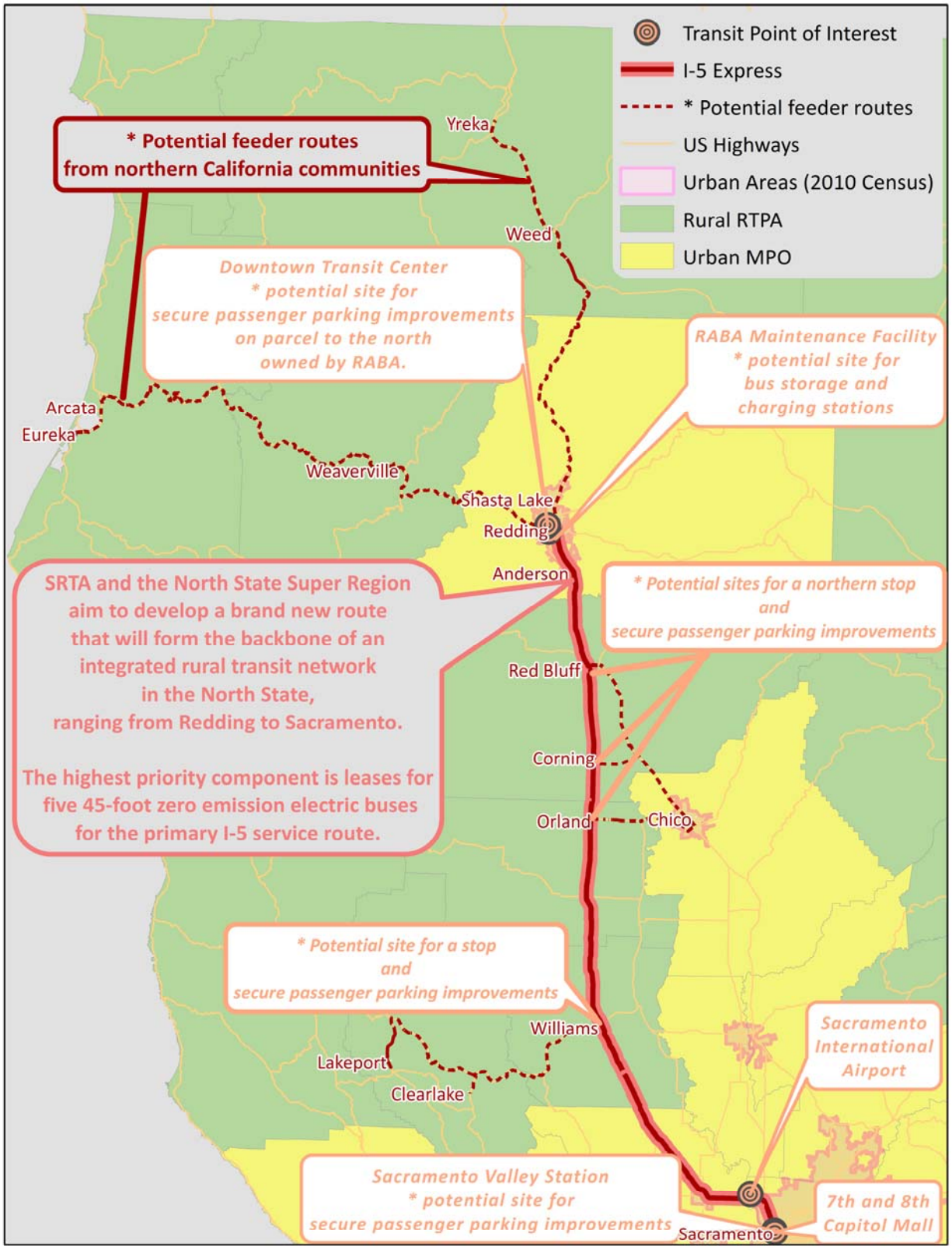
In addition to SRTA as the eligible applicant, the North State Super Region is a project sponsor because of the many benefits identified with the NS Express Connect. The North State Super Region is a consortium of regional transportation planning agencies representing sixteen counties in northern California (Figure 1-North State Super Region Participants) that entered a memorandum of agreement in 2010 to collectively advocate for the rural transportation needs of northern California (www.superregion.org).

Figure 1-North State Super Region Participants

2.e. PROJECT SUMMARY

The NS Express Connect proposes to develop a brand new intercity transit express route that will form the backbone of an integrated rural transit network between Redding and Sacramento with feeder routes linking the counties of Shasta, Modoc, Siskiyou, Humboldt, Lassen, Butte, Trinity, Tehama, Glenn, Lake and Colusa (Figure 2 – Proposed I-5 NS Express Connect). This transformative demonstration project will create new avenues of economic opportunity and mobility for the residents of the North State, who do not currently have access to timely and convenient public transportation to Sacramento. Catering to travelers from the North State area to Sacramento, the program will create an environmentally friendly intercity service that utilizes technology enabled systems such as smartphone mobile ticketing and on-board high speed internet access. It will include feeder bus connections and secure passenger parking areas at termini and strategic locations between Redding and Sacramento while also bringing new transportation opportunities to disadvantaged communities along Interstate 5 (I-5) and its feeder services. The new route will also allow recreational and destination travelers to access the Sacramento International Airport, Sacramento Regional Transit (Sac RT light rail) and the Sacramento Amtrak Station for connections to the Capital Corridor, Coast Starlight, San Joaquin and eventual California High Speed Rail lines. The program will improve air quality by reducing the overall number of automobile trips taken by regular travelers between the identified locations and provide a zero emission transportation option to commuters and recreational travelers.

Figure 2-Proposed I-5 NS Express Connect



2.f. PROJECT DESCRIPTION

Background on Transportation Challenges

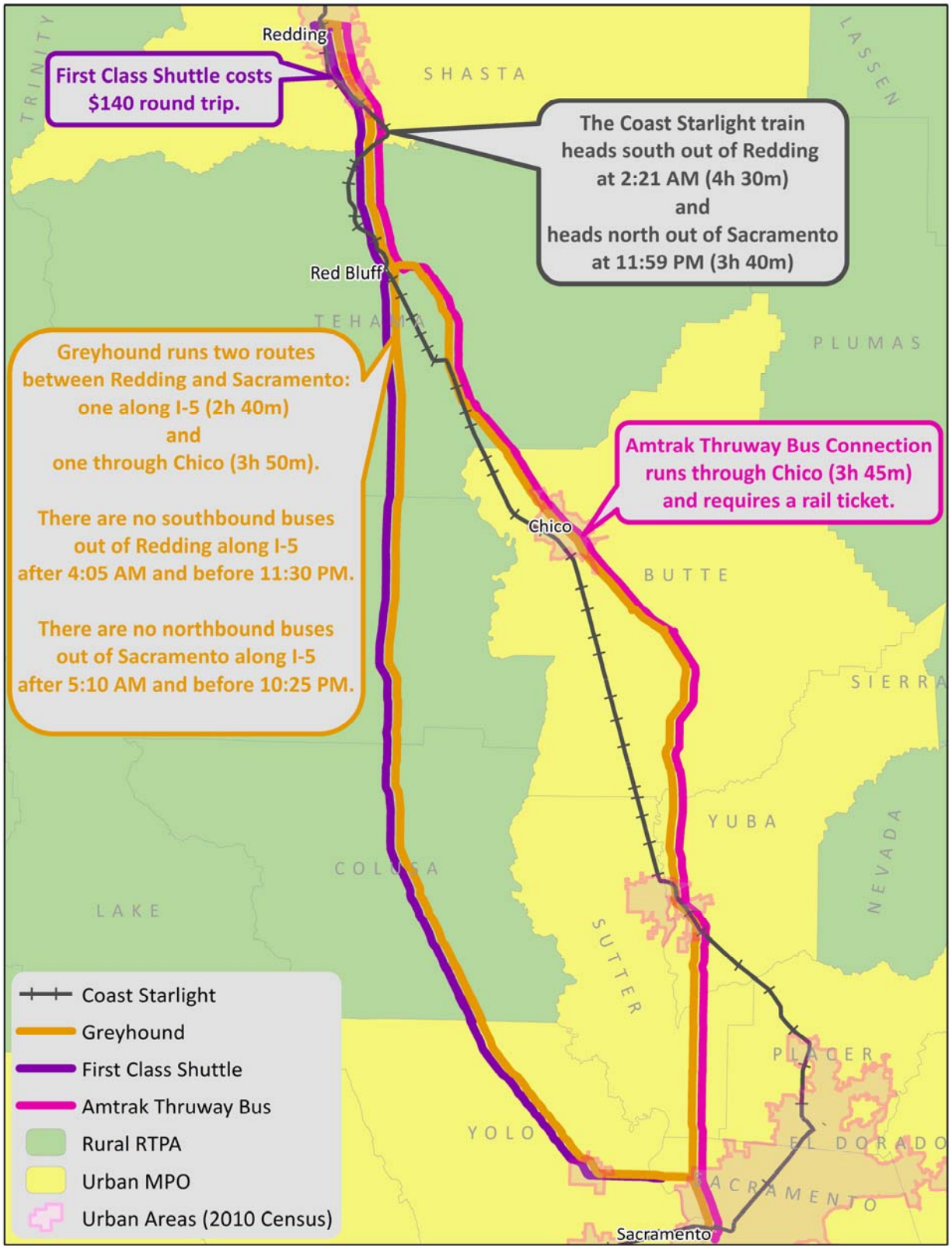
The northern third of California is essentially cut off from the rest of the state in regards to public transportation connections. Existing Amtrak passenger rail connection schedules cater to San Francisco to the south and Seattle to the north and leave the North State with inconvenient stop times in the middle of the night. The other inconvenient travel option is the Amtrak Thruway bus which runs between Sacramento and Redding on State Route 99 but has its own constraints with routing, ticketing, and long travel times. The proposed NS Express Connect will remove the barriers to meaningful intercity travel for North State counties with the proposed new electric bus (E-Bus) backbone service and feeder bus connections as well as recommend improvements to integrate the existing Amtrak Thruway service. (Figure 3 – Existing Services Map)

Rural northern California (for the purposes of this grant includes counties with major access to the I-5 corridor between Sacramento and Shasta County) has historically had transportation challenges that position the automobile as the primary mode choice for interregional travel. This is due to a lack of funding and to some extent, interregional perspective. There are continuous requests for a public transportation option between California's northern counties and the urbanized areas of Sacramento and the San Francisco Bay Area for employment, medical, and recreational trips. The 2015 Regional Transportation Plan for Shasta County explained the need for opportunities to expand interregional public transportation options, with a focus on replacing long-distance interregional vehicle trips to airports and other large-urban destinations (RTP/SCS page 13). However, constrained federal and state funding resources as well as State, local and regional priorities have absorbed available funding resources and left a true interregional service unobtainable.

New funding for transportation is often focused on portions of the state with urban density and a perceived return on investment based on population accessibility. Therefore, rural counties struggle to fund necessary transportation improvements in economically depressed and often geographically challenged areas. Rural local governments lack funding for basic requirements and, as a result, often give new transportation programs low budgetary priority. To combat these inherent challenges, transportation agencies representing 16 counties are collaborating on this demonstration project to provide clean, safe, and meaningful interregional transit service between Redding and Sacramento with intermediate stops strategically placed in between.

The existing options for travel have significant limitations to effective transportation, including accessibility, cost and convenience (Figure 3 – Existing Services Map). The current services include one passenger rail route daily between Sacramento and Redding, daily Amtrak Thruway bus deviating from the proposed NS Express Connect route, limited Greyhound bus service and a costly private shuttle service between Redding and the Sacramento International Airport. The challenges facing these existing interregional connections include limited destinations, inconvenient schedules, poor on-time service, lack of station services, frequent stops, indirect routes, need for transfers, and prohibitive cost.

Figure 3-Existing Services Map



Existing service is inadequate for the following reasons.

- Passenger rail service occurs once daily northbound (3:14 A.M.) and once daily southbound (2:21 A.M). Inconvenient hours, poor on-time service, and lack of station services discourage ridership.
- Amtrak Thruway Bus service to Sacramento and Stockton routinely transports passengers, but tickets are only available as part of a rail trip.
- Greyhound bus service occurs four times daily, northbound and southbound. Frequent stops, indirect routes, inconvenient schedules and bus transfers limit ridership.
- First Class Shuttle service occurs three to four times on weekdays and twice on weekends for Sacramento International Airport passengers. The round trip cost of $140 per passenger can be prohibitive; particularly for seniors, disadvantaged communities and low income populations.

The NS Express Connect will improve mobility for the general public and overcome the challenge of providing an affordable, direct, safe, reliable and environmentally friendly way to connect the North State to the rest of California's intercity transit infrastructure. This will effectively counteract the convenience and affordability of the single occupancy vehicle and elevate public transit as the most cost effective method of travel. This, in turn, will help the State reach the greenhouse gas reduction goals through mode and fuel source shifts.

Expected Users and Beneficiaries and Disadvantaged Communities

The NS Express Connect will combat many of the challenges that the North State has with public transportation. The bus schedule will cater to the needs of its passengers, who will be long-range passengers to the Sacramento Area (and beyond), short-range commuters wishing to travel from city to city, and commuters within disadvantaged communities. According to the California Environmental Protection Agency disadvantaged communities list, the project will serve three disadvantaged communities within Sacramento County and two disadvantaged communities within Tehama County, totaling over 21,000 people. It will provide clean, efficient transportation to the Tehama County disadvantaged communities. It will also reduce vehicle emissions along I-5 as it enters Sacramento, where J Street exits from I-5 through to the Sacramento terminus, thus reducing vehicle emissions as it travels through the three disadvantaged communities in Sacramento. With this clean, reliable, and safe way to travel within the North State, disadvantaged community members will be able to gain affordable access and mobility to destinations providing healthcare, employment opportunities, goods and services.

In addition to disadvantaged communities, the NS Express Connect will serve specific counties that have outlined unmet transit needs for out of county travel. According to the "Coordinated Public Transit-Human Services Transportation Plan" for Glenn County, a service to Tehama County is needed for multiple reasons. First, the project will provide access for Glenn County passengers to services and amenities in Tehama County, which has more stores, professional services and medical services. Seventy-five percent of Glenn County public survey residents described "out of county service as important," which further highlights the need for county-to-county travel. People in these areas want to visit with friends and family, and also make trips to the Rolling Hills Casino, which is one of Tehama County's major destinations.

Colusa County also has a challenging unmet need, which the proposed program could help address. According to the "Coordinated Public Transit-Human Services Transportation Plan" for Colusa County, they need to "increase medical transportation capacity through traditional transit services connecting Colusa County with medical services out of county." One of Colusa County's key destinations is the UC Davis Medical Center in Downtown Sacramento. The proposed program would pick travelers up in Williams and

bring them to the Sacramento transit hub on Capital Mall, and from there travelers could take the light rail or a bus to their final destination.

In addition, one of the six priority strategies for Colusa County's transportation plan was to "expand traditional transportation options for employment in Sacramento." They currently are lacking sufficient transportation to Sacramento, which narrows employment options for the residents of Colusa County. The E-Buses would provide this direct route, which would boost economic prosperity within the county.

Lake County has also expressed a need for effective public transportation to the Sacramento Area. In May of 2015, during a Lake County City Area Planning Council meeting, recommendations were addressed to try to solve the unmet need of "service connecting Lake County to the Sacramento region." The council further discussed that the unmet need for the service may be reasonable to meet only if proper funding could be secured. Mark Wall, the Lake County Transit Authority General Manager, further noted that in the past counties have always focused on "spending all the TDA monies on streets and roads," but now the public has spoken and expressed the unmet need for express transit needs. The proposed program would greatly aid the people of Lake County and help them solve the issue of finding the proper funding to reach the Sacramento Area. The County would only need to add a bus route from their already established Lake Transit Authority to reach the city of Williams.

Project Components

The NS Express Connect contains the following project components, which can be divided into planning, business plan, construction, and operations. The planning phase is currently underway and, while not scalable, is critical to achieving the thoughtful and successful implementation of the project. The business plan phase is the critical step of examining the most cost effective routes and schedules and developing agreements with participating agencies. The construction phase is the procurement of vehicles and construction of infrastructure at identified transit stop and maintenance locations. All of the project phases will be monitored for performance and investment analysis along the way.

The capital for the backbone I-5 service, feeder service, and secure passenger parking upgrades are scalable and can be dialed up or down depending on CalSTA funding availability. Each of these project components were carefully thought out to ensure the greatest chance of successful implementation in a financially sustainable fashion. The NS Express Connect will significantly increase zero emission ridership, reduce vehicle miles traveled, increase passenger safety, and reduce GHG emissions and emissions of other harmful particulate matter. Taken together, they represent a transformational investment in zero emission transit services and will lay the foundation for a more interconnected transit system between the North State and the rest of California.

Because of the innovative nature of this project, it is proposed as a demonstration project. The electric buses and associated charging infrastructure are proposed for leasing with options to buy, which will reduce the financial risk should the demonstration project need adjustments to ensure performance (both technological and ridership) is meeting expectations. The lease/purchases will be structured with options to buy, so that the investment from the lease/purchases will not be lost, if the project moves into a permanent phase of operation. The lease/purchase to buy will allow the project to be scaled if needed as it moves into a permanent phase, as only those routes that demonstrate adequate ridership would receive permanent buses funded through future cycles of the TIRCP or similar programs. The lease/purchase to buy will also allow the project to transition to low emission vehicles if the E-bus technology does not meet the NS Express Connect service needs.

Planning Phase

Planning Study

SRTA is currently implementing a planning study funded by the Federal Transit Administration that will inform the proposed project and "tee it up" for rapid implementation. The study includes a fare analysis that will help set the passenger fares for the NS Express Connect. It will support development of partner collaboration agreements, which would be ready for execution once environmental review is complete. The study will be completed by the end of June 2016.

Business Plan

SRTA plans to implement a service that combines the latest transit-related technologies with the greenest vehicles to craft a long-range transit model that can be emulated throughout the state and the nation. To that end, this project's first step will be the development of a business plan. The development of a thoughtful and thorough business plan will help SRTA create an innovative new route that truly serves the needs of North State commuters and travelers, while also ensuring that state funding will be spent in the most cost-effective way possible. The business plan will identify the details and critical elements that make up a successful transit operation. These elements include:

- Technology-centric electronic ticketing, service coordination and operations system;
- Transfer agreements with Capital Corridor Joint Powers Authority, San Joaquin Joint Powers Authority and Sacramento Regional Transit;
- Development of bus lease/purchase agreements for the main route electric zero emission buses and the feeder route electric zero emission buses and associated charging infrastructure; and
- Determination of the most effective stop locations along I-5 in Colusa County, Tehama County, and/or Glenn County;
- Secure passenger parking locations (options are currently identified);
- Determination of the most effective feeder routes and connectivity options from participating counties; and
- The final executed agreements with project partners.

SRTA will also seek to establish joint ticketing arrangements to enhance transit connectivity with feeder buses.

Capital Phase

The project routes are presented in order of priority.

I-5 Service Route

The project includes lease/purchase of five 45-foot zero emission electric buses (E-Buses) for the primary I-5 service route between Redding and Sacramento. The route is anticipated to run 4 times per day, seven days a week, 365 days a year with buses originating from Redding (southbound 2 buses) and Sacramento (northbound 2 buses) facilities. The fifth bus will be rotated into the system to allow for vehicle maintenance and contingencies. Bus storage and charging for three E-Buses will be installed in Redding and for two E-buses in the Sacramento region. The business plan would identify facilities in both locations. RABA and their contracted operator, Transdev, have expressed that up to four 45-foot E-buses could be

stored overnight at the RABA maintenance facility and that there is sufficient space for the charging stations as well. Sacramento Regional Transit has been preliminarily receptive to overnight storage in their bus yard. The business plan will define the details and develop agreements for bus storage and charging locations.

The route originates at the Redding Downtown Transit Center, where passengers board the main route E-Bus (Figure 2-Proposed I-5 NS Express Connect). The transit center is already served by transit bus service from Modoc, Trinity and Siskiyou and electric feeder buses will be evaluated in the business plan to potentially connect from Humboldt, Trinity and/or Siskiyou Counties. Once seated in a comfortable, secure armchair, passengers will have the option to connect to the internet using a free Wi-Fi service, and at any point throughout their ride passengers will have the option to use the on-board restrooms. As the E-Bus travels down the I-5 corridor, its first stop will be at a strategic location in Tehama or Glenn counties (to be solidified in the business plan). The specific destination will likely be an existing transit facility directly off I-5 utilized by Tehama Rural Area Express (TRAX) or the Glenn Ride. These stops will allow connections from Tehama County, Glenn County, Butte County and Lassen County from the electric feeder bus routes, Amtrak Thruway buses, and other existing transit systems. Continuing southbound, the bus will stop in strategically-located Williams in Colusa County, at the intersection of I-5 and the east west aligned State Route 20. Here again travelers may originate from Colusa and Yuba counties to the east or from Lake and Mendocino counties to the west. Mendocino, Lake, and Colusa counties will be candidates for the electric feeder bus system. Moving into the Sacramento area, the bus will stop at the Sacramento International Airport, where people wishing to fly for either business or leisure will have this connection to state, national, or international destinations. Next, the route will reach the Amtrak Sacramento Valley Station immediately off of Interstate 5 at 4th and I Streets, where passengers can extend their trip by rail connections to the Capital Corridor, Coast Starlight, Altamont Corridor Express (San Joaquin) and eventual California High Speed Rail lines. The final stop will be the Sacramento Regional Transit hub at Capitol Mall between 7th and 8th Streets. Travelers here will be able to make light rail and bus connections to areas within Sacramento and the greater Sacramento region.

Feeder Services

Feeder services are an integral part of the NS Express Connect. The plan calls for five smaller 35-foot zero emission buses for feeder service. The business plan will identify which counties and routes would be served by feeder buses. The candidates are Humboldt, Trinity, Siskiyou, Tehama, Glenn, Colusa, Lake, and Mendocino Counties. Modoc and Lassen would provide feeder service using existing transit system vehicles, as they are located beyond the range of electric buses. The feeders would filter in from the participating counties to one of the three stops along the main I-5 trunk line serviced by the 45-foot electric coach service; which includes the Redding Downtown Transit Center, Tehama or Glenn County and in the City of Williams. Feeder buses expand the service area substantially by opening up access to parts of rural northern California previously unserved by interregional connections. These connections are supported in the regional transportation planning processes by the participating counties, but would be further defined in the proposed business plan. These feeder services are flexible and scalable to meet passenger needs which makes this project component valuable to the overall success of the NS Express Connect.

Transit System Upgrades

Several transit system upgrades are included as part of the NS Express Connect, including the latest technical systems available to commercial transit operations. The program will solicit and explore the

latest technology in web-based and mobile ticketing and transfer systems. These must be compatible or complimentary with existing systems utilized by Sacramento Regional Transit, Amtrak, and eventually California High Speed Rail. Should a comprehensive ticketing and transfer system not be available, SRTA will explore the development of a new system. Included in the vehicle solicitation will be advanced vehicle location systems and the latest web-based monitoring system. This will enhance SRTAs ability to consistently monitor performance of the vehicles, drivers, and system.

E-bus and charging facilities

The NS Express Connect is an innovative new program that utilizes electric buses to meaningfully connect the northern third of the state to California's intercity public transportation system. The proposed I-5 backbone service will use battery electric buses with a minimum range of 200 miles on a single charge. The direct distance between Redding and Sacramento is 165 miles; the minimum range of 200 miles allows for distance to charge sites, distance to stops off freeway, and security in the event of traffic or detours.

Secure passenger parking

Secure passenger parking at E-Bus stop locations will use existing passenger parking areas where they exist and make improvements as necessary. Should new secure passenger parking areas need to be constructed (likely Williams location), progressive design techniques will be used to ensure safety. The programs business plan will provide specific details but will include improvements such as security fencing, lighting, access control, 24-hour security, bike lockers and well-designed bicycle and pedestrian facilities. The E-Bus charging infrastructure will likely be located in a secure vehicle storage and maintenance facility in Redding (RABA) and in Sacramento (Sac RT).

Technology Requirements

SRTA will seek to procure the following types of products in order to implement its components of the proposed project.

Zero Emission Battery Electric 45-foot Over-the-Road Coaches

Through a competitively bid process, SRTA intends to lease/purchase five zero emission battery electric over-the-road coaches in order to provide intercity transportation services. The use of zero emission 45-foot coaches will significantly expand zero emission ridership, which will substantially decrease GHG emissions.

Selection criteria will include the following:

- Utilize a safe battery composition such a LiFe PO4 Iron-Phosphate battery.
- Emit zero criteria emissions; be exceptionally quiet in operation and nearly silent in idle-mode.
- Achieve an average driving range of over 200 miles in order to meet SRTA’s route needs.
- Maintain a long-lasting battery cycle life – ideally over 75% over the typical 12-year bus product lifecycle.
- Meet Buy-America requirements.
- Eliminate the need for particulate traps and the need for oil changes.
- Include an intelligent Battery Management System (BMS) that assists with balancing and charging safety and helps to produce the safest battery on the road.

- Include an energy recovery and battery recharging through optimal regenerative braking that reduces brake component wear.
- Include a bi-directional AC charging that allows full charging from 0 to 100% SOC -preferably under 2 hours.
- Include the ability to use the bus as a mobile generator if necessary.

Zero Emission 35-Foot Feeder Buses

Through a competitively bid process, SRTA intends to procure five zero emission battery electric 35-foot buses in order to provide feeder services that will connect communities along the I-5 corridor to stops along the project's main route. The use of zero emission 35-foot coaches will significantly expand zero emission ridership, substantially decreasing GHG emissions. SRTA will utilize similar criteria outlined for the 45-foot over-the-road coaches to competitively procure its feeder buses.

Ideal Propulsion System

A battery electric bus that utilizes in-wheel traction motors is the ideal propulsion system because it essentially eliminates costly components like engines, transmissions, gear boxes, and the drive shaft and requires no differential mechanism. The power from the motor would be directly transmitted to the wheels, improving efficiency and reducing noise and vibration. With the elimination of an engine and transmission, and by using Fe Batteries without thermal runaway, the only components that need cooling would be the inverters and the motors. Simple air-to-liquid heat exchangers would be all that is required.

Ideal Traction Motor and Controllers

SRTA has certain specification requirements for gradeability, startability, and acceleration time. The ideal product must meet the internal requirements in order to provide reliable route service. Additionally, the ideal product would be designed in such a way that that if one traction motor is completely damaged, the bus can still operate with the remaining motor. The propulsion system should be equipped with sensors at strategic locations to detect temperature, voltage and pressure in real time. When an abnormal status is detected in the system, the controller should disconnect the abnormal component (battery pack, inverter, motor). In an overheat situation, the system should de-rate the power of each component.

Ideal Battery System

SRTA would prefer to procure a product that utilizes a safe battery composition such a LiFe PO4 Iron-Phosphate battery. A common failure in standard Lithium-Ion batteries is swelling upon cycling, causing electrolyte starvation and failure. Fe Batteries do not have a net volume gain on charge and discharge and therefore avoid swelling phenomena entirely. Such batteries also require no additional thermal management from a refrigeration or external cooling system, and would operate in temperatures of up to 140F with no requirement for external cooling. Notably, the Fe Battery has an expected capacity of over 80% after 12 years of transit service, which would ensure an impressive longevity to SRTA's project before requiring replacements.

Smart Bus System

The NS Express Connect will take full advantage of current technology in many aspects, i.e. a smart bus system, including key system interfaces for automated vehicle locators (AVL), computer-aided dispatch

(CAD), and electronic ticketing. Integration of CAD and AVL allows the tracking of vehicle location and schedule adherence in real time. CAD/AVL can also assistance end users with automated trip planning. The ideal on-board electronic ticketing system will interface with the mobile ticketing solution, providing robust data collection and reporting capabilities that track riders and fares paid. SRTA wants the NS Express Connect to have a smart bus system that provides significant operational and planning/scheduling benefits.

Monitoring and Evaluation

The demonstration period of operation will be accompanied by a monitoring and evaluation program. A plan will be developed in conjunction with the business plan. It will measure ridership and estimate greenhouse gas emission reductions and will also include qualitative assessments of passenger satisfaction. A marketing program will also be developed and implemented to inform potential passengers and encourage their use of the NS Express Connect.

2.g. EVALUATION CRITERIA
Primary Evaluation Criteria

1. Reduce greenhouse gas emissions.
Reduction of GHGs

The project will reduce GHGs by inducing mode shift from automobile to electric commuter bus travel along the I-5 corridor and on connecting feeder routes. The project type is considered a New or Expanded Service using the recommended equation:

GHG Emissions Reductions=GHG Emissions of Displaced Autos-GHG Emission of New Service Vehicle

The method section utilized was step 2.A.-Table 3 from the CARB GHG Quantification Methodology guidance. The NS Express Connect will effectively displace 16,297,216 Annual Average Vehicle Miles Traveled by automobiles and reduce GHG emissions by 113,238.62 MTCO2e over the 12-year life of the pilot project.

Model input and assumptions

Projected ridership was measured on commute data between Sacramento and Redding using three amalgamated data sources. This included data from the national American Community Survey (ACS), the Longitudinal Employer-Household Dynamics data, and AirSage data. The counties measured includes those along the main I-5 service line; Shasta, Tehama, Glenn, Colusa, and Sacramento. Additionally, the data included the feeder counties of Humboldt, Siskiyou, Lake and Trinity.

The ACS is generally accepted as the best measure of commute flows for the purpose of work. This data is collected from annual population samples participating in the survey. It details commutes to counties other than the county of residence.

The Longitudinal Employer-Household Dynamics data is derived from tax records that match employee and work addresses. As such, commuter flows are determined with a limiting factor of telecommuting anomalies.

AirSage data refers to commuters as people who predominantly spend their day at a certain location and another location at night. This could include non-traditional commuters such as students, volunteers and family visits which are still considered targets of the NS Express Connect.

These three data sources were projected from data year 2013/14 to 2019, 2021, and 2030 using a .81 average annual growth rate based on Department of Finance growth forecasts and existing commute patterns. Based on the documented commute service requests from included counties regional transportation planning efforts, a 2% initial and annual growth rate for the full 12 years of service was assumed (see section 2.f. *expected users and beneficiaries*). (Figure 4)

Figure 4-Model Inputs

American Community Survey (ACS)	**2013**	**2019**	**2021**	**2030**			
Total Flows	10,599	11,193	11,396	12,337			
Longitudinal Employer-Household Dynamics	**2014**	**2019**	**2021**	**2030**			
Total Flows	35,984	37,648	38,321	41,486			
AirSage	**2014**	**2019**	**2021**	**2030**			
Total Flows	21,062	22,036	22,430	24,283			
	2014	**2019**	**2021**	**2030**			
Combined Data Source Avg.	22,548	23,626	24,049	26,035			
Avg. Daily Ridership (Avg. Annual/260)	86.72	90.87	92.50	100.14			
	Base Ridership Projection (B)	Average Daily + Regular Growth on Data (AR)	SRTA Determined Growth Factor (2%) based on projected service need (G)	AR+G	Average Unlinked Daily Ridership (R)	Days of Operation (D)	Annual Ridership (R*D)
Growth Factor			2%				
Avg. annual aggregated growth based historic trends		1%					
2018	94.25	0.76	1.89	96.90	194	365	70,737
2019	96.90	0.78	1.94	99.62	199	365	72,725
2020	99.62	0.81	1.99	102.42	205	365	74,768
2021	102.42	0.83	2.05	105.30	211	365	76,869
2022	105.30	0.85	2.11	108.26	217	365	79,029
2023	108.26	0.88	2.17	111.30	223	365	81,250
2024	111.30	0.90	2.23	114.43	229	365	83,533
2025	114.43	0.93	2.29	117.64	235	365	85,880
2026	117.64	0.95	2.35	120.95	242	365	88,294
2027	120.95	0.98	2.42	124.35	249	365	90,775
2028	124.35	1.01	2.49	127.84	256	365	93,325
2029	127.84	1.04	2.56	131.44	263	365	95,948
2030	131.44	1.06	2.63	135.13	270	365	98,644
2031	135.13	1.09	2.70	138.93	278	365	101,416

Additional assumptions include availability and timely delivery of 2018 model year engine vehicle by the 2018 projected project start date.

Project scalability and GHG emission reductions

The NS Express Connect is most comprehensive with the concept of integrating the backbone I-5 line and the feeder routes from neighboring counties. However, these components are scalable and could be separated. The minimum required components for producing GHG emissions reductions are provision of the backbone route on I-5. In order to develop the route, a business plan is required, as the integration that is the core function of the TIRCP program must be developed in collaboration with project partners. This collaboration will occur through the development of the business plan. To be functional, this route will need to be supported by capital investments in parking and charging in Redding and Sacramento, a maintenance facility in Redding, and two en route stops (Williams and a Tehama or Glenn County stop to be determined). The project will be most successful if accompanied by a marketing plan and program, which is minimal in cost relative to the capital investments. Monitoring is a required component for GHG funding and the monitoring program will incorporate measures to increase effectiveness of the project, so it is not appropriate for scaling.

Cost per ton of carbon equivalents

The methodology used to quantify emissions reduction and cost savings is based on displacing automobile vehicle miles traveled with zero emission buses. The model calculated 0.0058 MTCO2e per total funds requested based on the proposed twelve year pilot project which aligns with the expected lifespan of the electric vehicles.

GHG Reductions and reporting information

The project reporting will begin with existing commute estimates from the combined source data described in Figure 4. A performance measure database will be defined in the business plan and include records keeping and reporting requirements defined by the California Air Resources Board the CalSTA TIRCP Program Guidelines. This will include monthly ridership and GHG data, quarterly reports and yearly progress. The performance measures for the NS Express Connect will also include compatible performance measures identified in the Regional Transportation Plan for Shasta County and incorporated Sustainable Communities Strategy, as well as feeder agency regional plans.

Qualified reporting and performance measurement will also take place for the impacts of the NS Express Connect on disadvantaged communities. The monitoring program will go beyond tracking ridership and estimating GHG emissions reductions and will include qualitative surveys of riders, operators and project partners to determine operational changes to improve service and further increase ridership.

2. Increase ridership.

Increased ridership

The NS Express Connect will increase ridership through improved bus transit service that connects to major employment centers in Sacramento, international air travel, light and heavy rail and at en route stops that serve rural passengers. It is estimated that the NS Express Connect will serve 72,241 passengers per year in the 2031 pilot program final year (YrF) (See Figure 4 above).

The Center for Business and Policy Research at the University of the Pacific has calculated the residence and workplace flows between Shasta County and other counties that could be served by the NS Express Connect. The complete data set is included in the supporting documentation (Section 4).

The data demonstrates that, in 2013/14, over 22,500 people commuted from Shasta County to Sacramento and between feeder route counties. It is anticipated that an annual increase of .81% will naturally occur based on historic commute growth rates between Shasta County and Sacramento. An additional 2% annual growth rate was added to reflect the new service from year 1 (Yr1) through the pilot project program (YrF). Final year projected annual ridership is expected to be 101,416 passengers. Additional ridership is expected to accrue from service between the two en route stops in Tehama (or Glenn) and Colusa Counties as well as from the feeder system routes.

Assumptions and Approach

The assumptions used for the project are based on existing perceived and real need for a commuter service between Shasta County and the urbanized Sacramento region. As described in the supporting SCS (Shasta and Sacramento) and RTPs, counties peripheral to the I-5 corridor also have a potential ridership draw through the recommended feeder bus program. It is anticipated that with appropriate marketing and outreach through the business plan development phase of the project, ridership will begin at or just below the Yr1 projected 194 riders a day (70,737 annual) between Shasta County and Sacramento, including passengers accessing the I-5 service from feeder systems. At the end of the project's pilot phase, expected ridership jumps to 278 daily (101,416 annual) passengers.

3. Integration of rail and transit.
Integration of rail and transit

The NS Express Connect is purposefully designed to integrate multiple bus transit systems and provide affordable, zero emission connections to rail services in Sacramento. Using I-5 as the backbone of the route, the project will connect with bus transit from 16 rural counties. The selection of the transit stops provides the opportunity for integration. The northern terminus of the I-5 core E-Bus route (Redding Downtown Transit Center) is the ideal receiver of current feeder services from Lassen, Modoc, Del Norte, Humboldt and Trinity counties, either directly or through connections. A long sought feeder route from Siskiyou County to the north of Redding will be a likely contender for the E-Bus feeder program and deliver passengers to the Redding Downtown Transit Center. The current transit provider (Redding Area Bus Authority) serving Shasta County has 10 different routes connecting to the Redding Downtown Transit Center. The NS Express Connect will effectively serve counties from Redding north with access to state and national rail and transit networks that connect in Sacramento (also international air travel at Sacramento International Airport). Along the I-5 E-Bus route, feeder buses will connect travelers from Tehama, Glenn, Butte, Colusa, Lake, Mendocino, and Yuba counties to the Sacramento rail and transit services.

Following the first Sacramento area stop at the Sacramento International Airport, the E-Bus will make a stop at the Sacramento Valley Station which is an important rail hub for Amtrak's Capital Corridor, Coast Starlight, and Altamont Corridor Express (San Joaquin) lines. This is a potential future stop for the California High Speed Rail as well. A key feature of the project is the southern route terminus at the Sacramento Regional Transit hub at Capitol Mall between 7th and 8th.

Multiple light rail and bus routes connect at this location.

In addition, this project is also a future investment as plans for the High-Speed Rail program are beginning to take shape. It is well known that rural areas are often the least discussed when addressing large scale transportation programs. The E-Bus service will serve as this missing link from the proposed High-Speed Rail route, as the most northern stop is currently planned for Sacramento.

Features and agreements for integration

The project is designed with the main route of the E-Bus along I-5 terminating in downtown Sacramento, at a hub for both light and heavy rail. The project will include coordination of schedules and SRTA will seek transfer and joint ticketing arrangements with those rail operators.

The planning study phase of the project will be developing draft agreements during the time that CalSTA and Caltrans are reviewing project proposals. The agreements will include the operators of the feeder buses, Sacramento Regional Transit (for both bus transit and light rail) and the San Joaquin and Capitol Corridor JPAs. The agencies that will likely require agreements for this project include:

- Amtrak and Amtrak Thruway
- Sacramento Regional Transit
- Colusa County Transit
- Tehama County Transit Agency Board
- Siskiyou County Transportation Commission
- Lake Transit Authority
- Redding Area Bus Authority
- Humboldt Transit Authority
- Trinity Transit

Ridership change from integration

The NS Express Connect is likely to generate higher ridership rates with the integration of the feeder buses and the connections to downstream rail and bus transit. By including a feeder service, the mode shift can extend beyond just the I-5 corridor into additional underserved rural areas. By connecting to multiple transit services at the Sacramento terminus, the E-Bus can serve passengers with multiple destinations and trip purposes. Although the E-Bus could be used for short range needs such as downtown Sacramento to the Sacramento International Airport, priority will be given to long-range travel making an integrated ticketing system essential.

4. Improve safety.
Bus Safety

The NS Express Connect will incorporate multiple safety measures, both for the buses themselves and for the en route stops. As described in the technical requirements above, SRTA will procure buses that utilize batteries with safer chemical compositions, such as LiFe PO4. Due to the stable nature of this chemical composition, issues such as cell rupture, overheating, and fire are significantly mitigated, especially when compared to the more volatile batteries found in consumer

light-duty electric vehicles.

Charging Infrastructure Safety

Given the high-power electricity requirements needed to power buses, special attention will be paid to the safety features of the procured charging infrastructure. SRTA will ensure that the following safety features are included in the electric bus charging equipment:

- Over-temperature: will limit power at high temps and will stop charging in extreme heat
- Short-circuit protection: uses a leakage circuit breaker to protect each connection during charging
- Surge protection: limits voltage spikes to charger by blocking or shorting to ground
- Over-current protection: control software that will stop charging if current is over 1.25 times the rated value
- Leakage protection: circuit breaker will trip when current is over 30mA
- Smoke detector: if any smoke is present the charging will stop

For maintenance and firefighter response there is a maintenance switch that cuts off the connection between the batteries and the distribution box to avoid shocks or hazards.

Transit Station Safety

The Redding Downtown Transit Center currently incorporates multiple measures for pedestrian and passenger safety. This includes lighting, 24-hour security and security cameras. Additionally, pedestrians and bicyclists have the appropriate facilities, including ADA accessibility, in and around the station. Each en route stop will be located and designed to minimize hazards to pedestrians, including similar bicycle and pedestrian facilities providing access and within the transit stop.

Secure passenger parking at E-Bus stop locations will use existing passenger parking areas where they exist and make improvements as necessary. Should new secure passenger parking areas need to be constructed (likely Williams location), progressive design techniques will be used to ensure safety. The programs business plan will provide specific details but will include improvements such as security fencing, lighting, access control, 24-hour security, bike lockers and well-designed bicycle and pedestrian facilities. The E-Bus charging infrastructure will be located in a secure vehicle storage and maintenance facility in Redding (RABA) and in Sacramento (Sac RT).

Safety for Disadvantaged or Vulnerable Populations

The preferred buses will have designated seats/locations for the elderly, mobility impaired, very young, and the vision impaired. SRTA anticipates a minimum of two Americans with Disabilities Act compliant wheelchair positions on the buses.

SECONDARY EVALUATION CRITERIA

1. Co-benefits supporting Sustainable Communities Strategy

The project supports both SRTA's Sustainable Communities Strategy (SCS) and the Sacramento Area Council of Governments' Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). The relationship between the project, the relevant sustainable communities strategy and the co-benefits is described below.

1.A. Transit ridership reducing auto VMT and number of auto trips

The NS Express Connect is a direct result of a key strategy identified in the SCS: Expansion of interregional public transportation options, with a focus on replacing long-distance interregional vehicle trips to airports and other large-urban destinations. The project will directly provide mode shift to reduce auto VMT and number of auto trips and will expand transit options for a large region of California that is currently underserved. With its focus on commuters and provision of amenities that make the trip a productive time for work or relaxation, the NS Express Connect will reach a known pool of passengers and provide them with a viable alternative to auto trips. The service will also provide a sufficient number of trips during the day to accommodate passengers that are not daily commuters, such as those traveling for meetings or on personal trips. This expansion of transit service will directly reduce auto VMT.

The project also implements the MTP/SCS strategy for investment in a rural strategy and program for improving transportation systems that affect the economic vitality of rural areas that implement good growth policies. The project originates in Redding, which has established policies supporting good growth for its downtown area (see *1.B. Promoting housing near transit below*) and the E-Bus will support the economic vitality of rural areas by connecting rural northern California citizens with jobs in downtown Sacramento.

1.B. Promoting housing near transit

The project implements the SCS's designation of downtown Redding as a Strategic Growth Area (SGA), by providing long-range commuter service from the Redding Downtown Transit Center. The project will serve housing nearby the transit center, including a high density, affordable housing development that is currently proposed to the Affordable Housing and Sustainable Communities program. The project is mixed use and redevelops a vacant and functionally obsolete commercial building. Implementing the SCS strategy "Incentives for Infill and Redevelopment Projects," SRTA identified these types of projects as targets for pre-development technical assistance grants in its SCS and has provided that funding to the affordable housing project (see *Active Transportation* below for a discussion of the active transportation components of that project). The City of Redding has supported the SCS designation of downtown Redding as a SGA by removing limits on residential density, commercial density and building heights in the downtown core, in keeping with the preference expressed for high density zoning identified in the TIRCP guidelines. Transportation impact fees in downtown core have also been reduced in recognition of the mobility benefits associated with density, proximity to employment, and access to alternative modes. Redding's housing element has also has been certified by the Department of Housing and Community Development as in compliance with state requirements.

1.C. Attracting housing/jobs to transit served area

The SCS identifies location efficiency as the core of its SCS. The underlying premise for the NS Express Connect is to shift travelers from Redding to Sacramento from their cars to transit. The project will thus support housing nearby to the Redding Downtown Transit Center, by offering affordable, convenient transit connecting to services and employment in Sacramento. This will support the SCS designation of downtown Redding as a SGA, a designation that is focused on location efficiency. Destination accessibility is also identified as a key factor (a "D factor") for the success of the SCS. The project will also provide transit options from more rural locations in from other north state counties to jobs in the

downtown core of Redding. By using electric buses, the project will avoid emissions associated with the miles from Redding to Sacramento.

The MTP/SCS establishes a principle of improving the vitality of rural areas. The project will support commuters to Sacramento by providing access to high paying jobs in the urban area, without the GHG and pollutant emissions typically associated with commuter travel. The MTP/SCS Economic Vitality principle calls for establishing efficient connection of people to jobs, which is the major focus of the NS Express Connect.

1.D. Expanding rail and transit

The Shasta County SCS identified Increased Public Transportation Service (SCS Factor #4) as a primary method of reducing VMT and associated GHG emissions. This Factor was supported with a strategy of replacing long distance inter-regional trips with a cleaner option. The NS Express Connect would effectively implement this strategy from the SCS identified to reduce GHG emissions. Additionally, the expansion of interregional transit to neighboring counties will directly result from implementing the NS Express Connect.

1.E. Fostering future projects

Future projects stemming from the NS Express Connect are expected to materialize from the convenience of the service connecting rural areas of the North State to the Sacramento region. Additional feeder bus services from counties like Butte, Sutter and Yolo counties are likely to recognize efficiencies and mobility improvements from a feeder service to the I-5 route. Furthermore, many rural areas in California experience public transit isolation and could benefit from the NS Express Connect model. Potential future projects include a SR 99 service from Tehama County through Butte and Yuba and connecting the foothill counties of Mariposa, Tuolumne, Calaveras and Amador Counties to the Sacramento region. Another route discussed by the north coast regions would run from Del Norte County through Humboldt and Mendocino to connect to the San Francisco Bay Area. The NS Express Connect alone promises to reduce GHG emissions through displacement of automobile trips, but should this model become effective, the State of California could benefit greatly.

1.F. Connecting, integrating and coordinating transit systems

The project will connect with and integrate transit systems from multiple agencies. The Redding Downtown Transit Center is currently served by other transit providers, including the Susanville Indian Rancheria Public Transportation system, Trinity Transit (including service to Arcata via Redwood Transit) and the Sage Stage, which provides service to Alturas in Modoc County. From the transit center, the E-Bus will connect to feeder buses serving other transit systems between Shasta and Sacramento Counties. In Sacramento, the E-Bus will connect to light rail, bus and Amtrak service beyond. The integration of these services supports the Factor 4 of the SCS, Increased Public Transportation Service.

The MTP/SCS emphasizes interconnection of various transit services, calling for better connections and coordinated schedules (Strategy 20.4), coordination of rural transportation service with strategies for successful and cost-effective programs (Strategy 14.5) and integration of transportation with economic development issues and opportunities (Strategy 14.7). The project seeks to coordinate the E-Bus schedules with light rail, bus transit and the Capitol Corridor train through its terminus at Capitol Mall and 7th/8th Street and the development of agreements on transfers and ticketing. The project seeks to

serve rural passengers with cost-effective clean transportation. By supporting commuters in accessing high paying jobs in Sacramento, the project will support the economy of the rural north state, which consistently exhibits higher unemployment rates than the urban areas to the south.

1.G. Clean vehicles

The SCS identifies the strategy of expanding charging infrastructure for electric vehicles and the MTP/SCS calls for implementing the regional plug-in electric vehicle infrastructure plan. This project expands on those strategies by using zero emission, electric buses for commuter transportation.

1.H. Active transportation

The SCS identifies the strategy of "Expanded Bicycle and Pedestrian Infrastructure" as necessary for GHG reductions and calls out the need for enhanced integration of that infrastructure with public transit. The NS Express Connect will connect directly with the Redding Downtown Loop, through the project proposed for the Affordable Housing and Communities program. The project will construct a protected cycle track (Phase 2 of the loop), which extends northward from the Downtown Redding Transit Center to connect to an ATP-funded Class IV bicycle path (Phase 1 of the loop), which in turn connects to trails along the Sacramento River, two bike/pedestrian bridges across the river and Turtle Bay Museum. These bicycle connections are separated from auto traffic, providing the greatest degree of safety for the user.

1.I. Public health

By implementing the strategies focused on electric vehicles and interregional transportation, the project will contribute to reduced pollutant emissions that impact air quality and public health. In particular, ozone precursors are cited as reduced pursuant to the plan. The public health benefits of the GHG emissions reduction strategies in the SCS are cited as important to support of the strategies by communities and local agencies. The use of electric buses will maximize the emissions reductions from the mode shift, as no offsetting emissions and their associated pollutants will occur from conventionally fueled buses.

MTP/SCS Policy 8 calls for support and investment in strategies to reduce vehicle emissions that can be shown as cost effective to help achieve and maintain clean air and better public health. The area nearby to the Capitol Mall – 7th/8th Street terminus of the E-Bus route are subject to high traffic densities and associated ozone precursors and particulate matter pollution, which negatively impact public health. As the E-buses drive into Sacramento, they will be displacing auto emissions which negatively impact three disadvantaged communities along I-5 (Census Tracts 6067007007, 6067005301 and 6067000700).

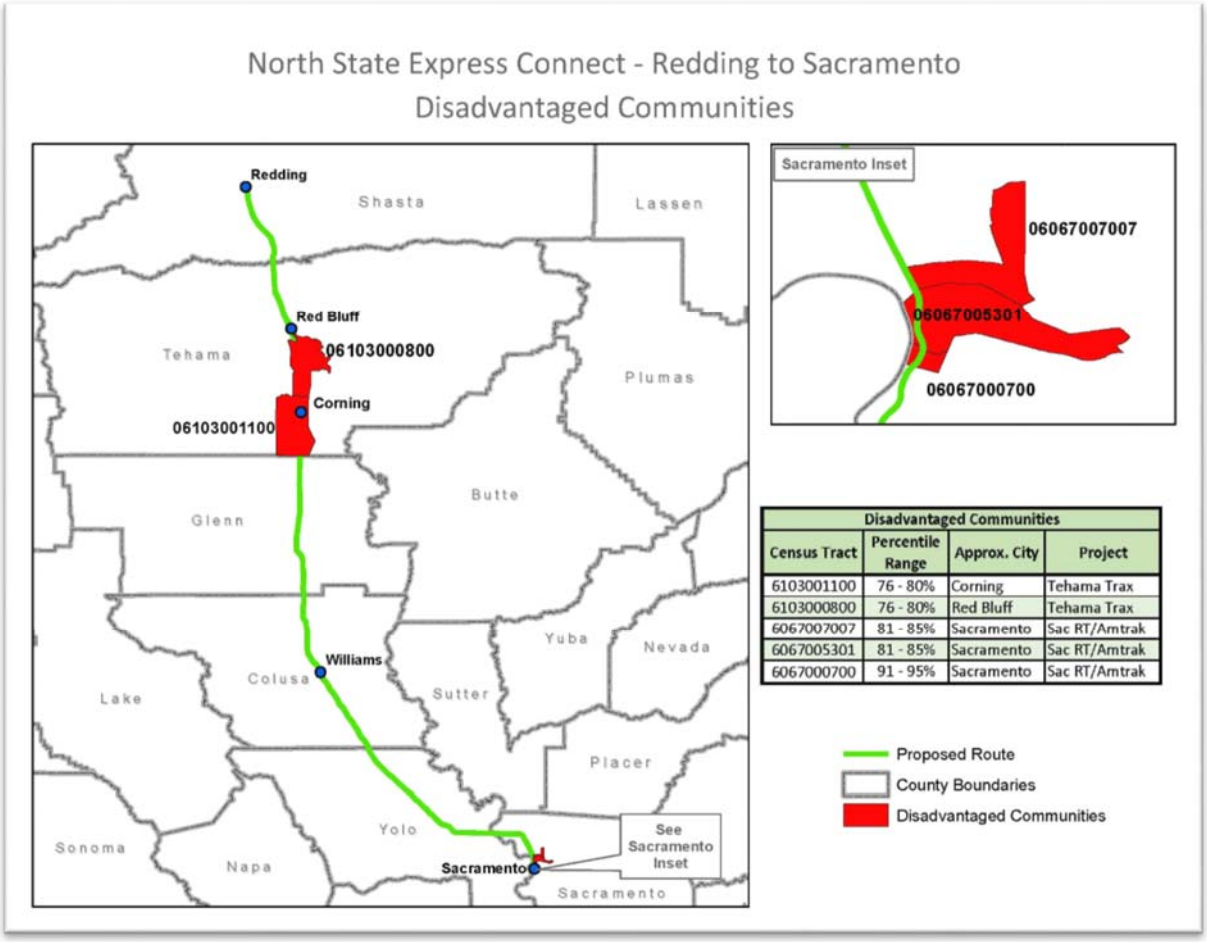
1.J. Air quality outside of GHGs

See *1.I. Public Health* above.

2. Benefits to disadvantaged communities.

Criteria for disadvantaged communities

Four disadvantaged census tracts are located within the service area of the NS Express Connect. The following graphic shows the DACs within the service area.



Disadvantaged Communities			
Census Tract	Percentile Range	Approx. City	Project
6103001100	76 - 80%	Corning	Tehama Trax
6103000800	76 - 80%	Red Bluff	Tehama Trax
6067007007	81 - 85%	Sacramento	Sac RT/Amtrak
6067005301	81 - 85%	Sacramento	Sac RT/Amtrak
6067000700	91 - 95%	Sacramento	Sac RT/Amtrak

The project is located within the DACs of Red Bluff and Corning, and meets the DAC criteria for low carbon transportation with one of the stops proposed for either Red Bluff or Corning. The project will provide greater mobility and access to clean transportation through the use of zero emission buses. The project also meets the criteria for the location of transit projects within a disadvantaged community by providing an en route stop within one of these communities. The en route stop will include charging infrastructure that reduces air pollution at a stop and the zero emission bus will reduce air pollution on the route as it travels through DACs.

The project will travel through three disadvantaged communities in Sacramento and will provide benefits to those disadvantaged communities. The NS Express Connect and will provide greater mobility and access to clean transportation by locating the Sacramento terminus within one half mile of the DACs. The project will also reduce auto emissions along the I-5 Corridor as it comes into Sacramento's downtown, traveling through the three disadvantaged communities. These communities suffer from traffic impacts, which produce ozone precursors and particulate emissions. The project also provides benefits to Sacramento DACs per the transit projects criteria, as it will provide commuter bus connectivity in a zip code that contains a DAC and that connectivity is within a half-mile of a DAC.

Relationship of project to DACs

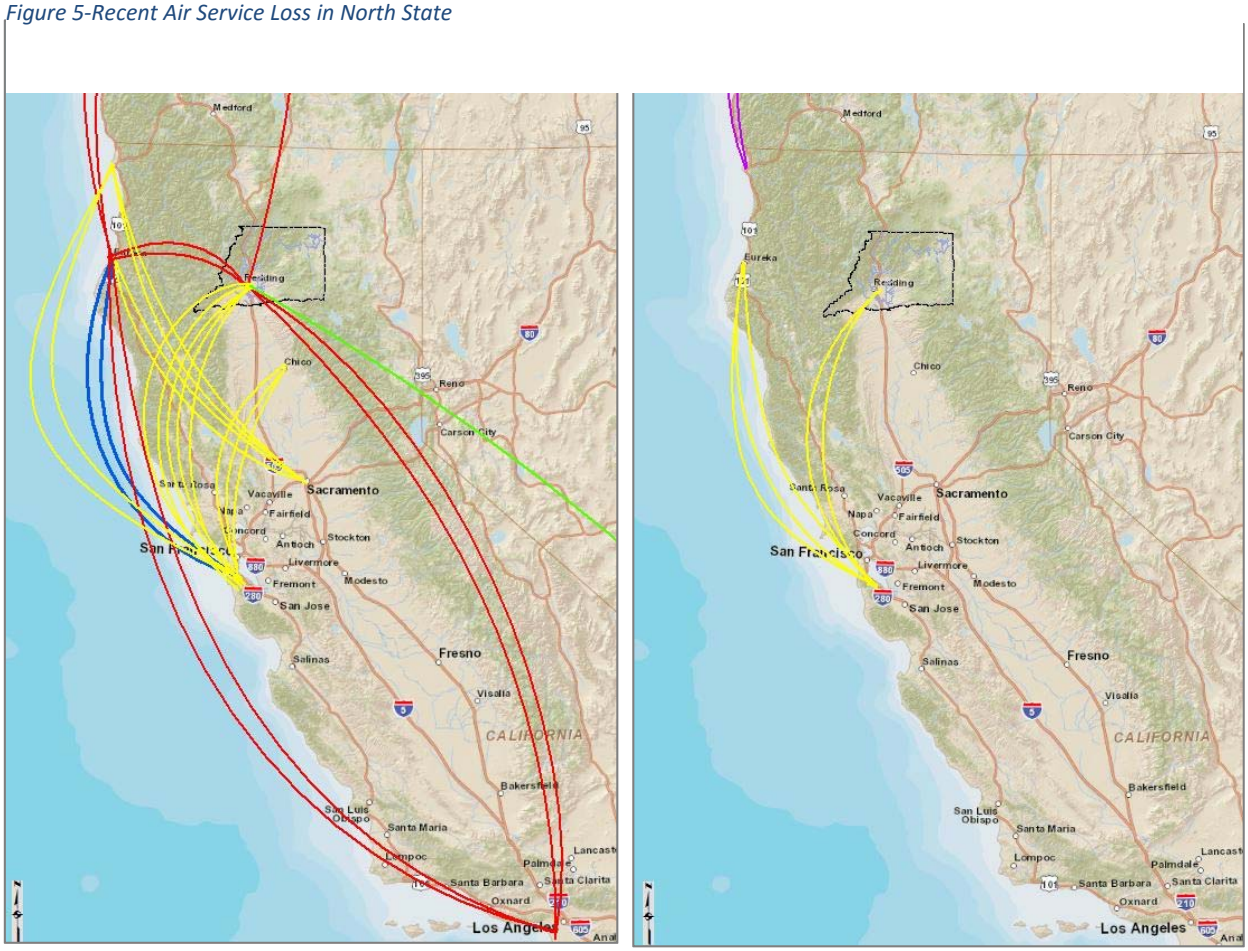
For the Tehama County DACs, the relevance of the project is in providing clean transportation to

services and rail transportation in Sacramento and Redding. The residence and work flow data show Redding to be an important work destination for Tehama County residents, with approximately 3,400 persons commuting from Tehama County to Redding in 2013. Medical services are more robust in Redding than in Red Bluff, and more so in Sacramento. Access to rail service is not currently available to Corning or Red Bluff residents, except in overnight hours when no connecting public transit is available.

3. Rail operator collaboration.

The NS Express Connect implements state agency priorities. One of the eight recommendations by the California Transportation Commission to Caltrans in the 2015 Annual Report to the California Legislature was to reexamine the issue of intercity rail and transit connectivity serving rural areas of the state, particularly those areas with limited access to air service. Historically, there were up to 10 flights out of Redding Municipal Airport to San Francisco, Los Angeles, Las Vegas, Seattle, and Arcata (Figure 5-Left). Today, there are two flights to San Francisco from Redding (Figure 5-Right).

Figure 5-Recent Air Service Loss in North State



Similarly, a long-range goal to have daytime passenger rail service between Redding and Sacramento is in the state's 2013 California Rail Plan, as well in the San Joaquin Joint Powers Authority (SJJPA) 2015 Business Plan. It is discussed as a potential expansion of the San Joaquin service, extending rail service north from Sacramento to Redding 160 miles along the Union Pacific Railroad (UPRR) serving Yuba/Sutter, Butte, Tehama and Shasta counties. The business plan "proposes to work with the state to develop ridership and revenue forecasts for a potential extension of the San Joaquin service to Redding and to develop preliminary cost estimates. If the findings are encouraging, SJJPA will begin

discussions with the local and regional agencies and elected officials within the Redding – Sacramento Corridor as well as their representatives in the State Legislature to determine the level of interest in pursuing the extension of the San Joaquin service to Redding. However daytime passenger rail service is unlikely because UPRR limits use of its tracks for passenger rail beyond the daily (middle of the night) Coast Starlight service.

The NS Express Connect will be coordinated with the Capital Corridor, Altamont Corridor Express, and Sacramento Light Rail. In the coming months, SRTA and coordinating transit agencies will work with the Capital Corridor Joint Powers Authority (CCJPA), SJJPA and Sacramento Regional Transit (Sac RT light rail) to enter into transfer agreements that will allow passengers to transfer free of charge. Also where it is plausible, SRTA and coordinating transit agencies will provide joint ticketing arrangements to enhance transit connectivity.

4. Geographic equity.
Northern California in notoriously underserved by public transit due to its rural character and associated long travel distances between destinations. This proposal seeks to provide an innovative approach to serve an incredibly large geographic area. Through the partnerships fostered through the North State Super Region, eight counties will be connected through zero emission transit service. The service will foster economic opportunity in a region that consistently exhibits unemployment well above the statewide rate.

The North State continually struggles to compete for funding with the more urban regions of the State. This is largely due to quantification challenges as urbanized areas continually rank higher based on population statistical factors. This does not mean the rural areas don't have the financial need to improve transportation in their region. Conversely, rural areas can provide incredible benefit to the State in terms of reducing VMT and GHG emissions because of the long travel distances required. The NS Express Connect would contribute to toward the State's goals of GHG reduction immediately following implementation. This would also assist in addressing geographic equity in respect to program benefits.

The areas directly served by the NS Express Connect include Siskiyou County, Humboldt County, Shasta County, Tehama County, Glenn County, Colusa County, Lake County and northern Sacramento County. However, users from many additional northern California communities that are expected to use the system from a secondary transit connection or using a park and ride method. These communities include Trinity County, Modoc County, Lassen County, and Butte County.

5. Consistency of project with Sustainable Communities Strategy.
The NS Express Connect project is consistent with the goals and methodology identified in the Sustainable Communities Strategy and expressed in the precursor regional blueprint project Shasta Forward (compact growth scenario with reduced VMT). The Sustainable Communities Strategy was developed using the Five "D" Factors affecting automobile dependency and mode choice. These include Density, Diversity, Design, Destination Accessibility and Distance to Transit. The NS Express Connect directly addresses the regional strategy by reducing VMT, providing previously unavailable mode choice and contributing to environmental goals. Through the community outreach efforts, and somewhat surprising in rural northern California, communities are requesting mode choice and especially public transit options.

6. Benefits to goods movement.

The E-Bus service will reduce traffic congestion by replacing automobile trips on interstate 5. The freeway system has or will very shortly reach its capacity for lane expansion. As congestion increases on I-5, the potential for accidents and associated delays increases. This can negatively affect the movement of agricultural goods from the north state to distribution centers in urban areas.

As an example, according to the Tehama County Regional Transportation Plan, “Tehama farmers shipped products across the United States and to over 62 countries all over the world in 2014.” Tehama County relies heavily on trucking to transport its agricultural goods. Interstate 5, their critical corridor for trucking, was identified as “one of the six ‘Corridors of the Future’ identified by the U.S. Department of Transportation in need of multi-state congestion relief initiatives.” The E-Bus service can be another initiative to solve the congestion problem along the I-5 corridor. The table below highlights the regional commodities for Tehama County, in which most are transported using trucking and I-5.

Regional Commodities

Product	Value
Milk	$16,420,200
Walnuts	$169,375,600
Hay/Grains	$1,924,700
Pasture and Range	$13,223,300
Corn	$711,200
Prunes	$18,250,300
Livestock	$40,694,800
Almonds	$48,216,400
Alfalfa	$1,867,500
Table Olives	$30,117,200
Olives, Oil	$6,298,400
Timber	$10,406,000
Nursery Stock	$9,779,100

Similarly, Glenn County emphasized the importance of I-5 and trucking in their Regional Transportation Plan. Interstate 5 has the largest percentage of truck volumes of total traffic within the County. In total from the Colusa County Line to the Tehama County Line there were over 21,000 truck trips in the year 2007. The RTP also stated that “truck travel is anticipated to increase in future years” and with that increase comes congestion and safety challenges. By reducing the automobile trips along the I-5 corridor, good movement will be safer and more efficient.

7. Supplemental funding.

The Federal Transit Administration (FTA) Section 5311(f) Intercity Bus Program provides funds on a competitive basis for transit projects that develop and support intercity bus transportation in rural areas of the state. SRTA will apply for NS Express Connect operating funds through the FTA Section 5311(f) Intercity Bus Program. An estimated $650,000-$870,000 in annual operating expenses is needed for three to four daily round trips running seven days a week between Redding and Sacramento. The majority of this could be offset by fares. The fare amounts and subsidy targets would be the subject of theShasta Intercity Transportation to Sacramento and the Bay Area Study, the NS Express Connect Business Plan, and further policy decisions.

8. Integration across modes of transit.

The NS Express Connect integrates with 8 regional transit systems, the Sacramento International Airport, multiple Amtrak rail lines and an extensive bicycle and pedestrian network around stop locations. The regional transit (and bike/ped) systems include:

Redding Area Bus Authority (RABA)
RABA serves Shasta County and the Redding area with 10 fixed route services connecting directly to the proposed NS Express Connect at the Downtown Redding Transit Center.

Trinity Transit
Trinity County has a regular fixed route transit run between Weaverville and the Downtown Redding Transit Center twice daily on weekdays and every other weekend. This would allow anyone within the Trinity County transit service area to connect to the NS Express Connect for service to Sacramento or points between. In addition, travelers could connect to Humboldt and Del Norte Counties through the interregional connecting lines with Humboldt County's Redwood Transit System and the Redwood Coast Transit system in Del Norte County.

Modoc Sage Stage
Modoc County in the far northeast corner of California has a transit connection traveling to the Downtown Redding Transit Center once a day on Mondays and Fridays.

Tehama Rural Area eXpress
TRAX has 6 routes that connect travelers from all over Tehama County to the Red Bluff Bus and Ride transit hub at Walnut and Rio Streets in Downtown Red Bluff. This location is a planned stop for the NS Express Connect service and will provide service for residents and visitors of Tehama County.

Glenn Ride
The Glenn Ride transit system connects Glenn County to the City of Orland which is another planned stop for the NS Express Connect service. Additionally, Glenn Ride connects the City of Orland with Butte County and the B-Line transit service by traveling to the Downtown Chico Transit Center 7 times a day during the week and three trips a day on weekends.

Colusa County Transit
Colusa County Transit provides service throughout Colusa County and will provide a convenient connection to the NS Express Connect service in Williams on Interstate 5. Colusa Transit has stops in Williams and has identified a potential location for a hub that could accommodate the long range electric buses associated with the subject program.

Lake Transit
In May of 2015, the regional transit agency for Lake County, west of Interstate 5 identified an unmet need that may be reasonable to meet connecting Lake County residents to the Sacramento region. This identified need could very well be served with a route from Lake County east on State Route 20 to connect with the NS Express Connect in Williams.

Sacramento Connections
In Sacramento, the NS Express Connect program will service the Sacramento International Airport for travelers heading to points beyond. It is expected that 2-4 trips daily will head north and south from the airport.

The Sacramento Valley Station located directly off of Interstate 5 in downtown Sacramento will be a critical link for the NS Express Connect to the Capital Corridor rail service to the Bay Area and Auburn. The Sacramento Station also has Amtrak connections to Reno, Nevada on the California Zephyr and the San Joaquin line which heads south to Bakersfield. Additional Amtrak Thruway bus connections can be made at the Sacramento station too.

The southern terminus of the NS Express Connect is the downtown transit facilities located on the Capital Mall between 7th and 8th Streets. This transit hub offers 15 connecting transit bus routes as well as the RT light rail.

Sacramento River Trail
The Downtown Redding Transit Center will soon be connected to over 12 miles of the Sacramento River Trail multi-use trail that is extensively used for recreation, utilitarian and commute transportation. The trail currently connects the east and west commercial and residential parts of Redding to each other as well as to the north-south trail sections. The City of Redding in cooperation with SRTA has plans to connect the Sacramento River Trail to downtown Redding and the transit center. The largest half of this section was funded in Cycle 2 of the Active Transportation Program and will move to construction in 2016. The second section of this connection is proposed to be completed with funding from the Affordable Housing and Sustainable Communities program in the Downtown Loop and Affordable Housing project.

California High Speed Rail
The State's high speed rail project proposes a connection to Sacramento with a possible stop being at the existing Amtrak Sacramento Station. The NS Express Connect will provide direct connection to the California High Speed Rail system should this future be realized.

Amtrak Coast Starlight
The Amtrak Coast Starlight stops at the Redding Downtown Transit Center and will be connected to the NS Express Connect. The current schedule of this route is inconvenient as it stops once in the middle of the night.

9. Expansion of service.
The NS Express Connect is a new service and therefore considered an expansion of service. A financial plan is being developed as part of the Shasta Intercity Transportation to Sacramento and the Bay Area Study. SRTA and a consultant are analyzing current and forecast market demand for intercity transportation services and conducting a viability analysis of regional transit connections. The study will review candidate funding sources for the NS Express Connect and develop a funding strategy.

An estimated $650,000-$870,000 in annual operating expenses is needed for three to four daily round trips running seven days a week between Redding and Sacramento. Much of this would be offset by fares, but other funding resources are likely. For ongoing operations through the pilot program period (2019-2031), an estimated $10,440,00 will be required. The fare amounts and subsidy targets would be the subject of the feasibility study and further policy decisions. SRTA will use the Shasta Intercity Transportation to Sacramento and the Bay Area Study recommendations to apply for operational funding for the intercity bus service through the FTA Section 5311(f) Intercity Bus Program.

Two other funding sources will be targeted for operational funding: LCTOP and the Public Transportation Account. The study will evaluate the LCTOP annual regional allocations from both the Shasta Region and

other NSSR counties that will benefit from the NS Express Connect. Another option is the State Public Transportation Account. SRTA understands that the Public Transportation Account provides funding to the Amtrak Thruway Buses. The study will research these and other funding alternatives.

2.g.i. Benefits and Metrics

Traditional data analysis and performance metrics for transit systems will be part of the ongoing administration duties of the program. This will include ridership data, rider satisfaction data, equipment data, human resource information, scheduling accuracy and overall system effectiveness. Additionally, due to the implementation of a relatively new technology in the electric buses with long range capacity, data regarding the performance of the buses will be robust. Daily, weekly, monthly and annual analysis will be performed and reported to Caltrans and other interested parties.

2.g.ii. Useful Life of Project

The primary assets of the NS Express Connect are the five battery-electric 45-foot coaches and five 35-foot feeder buses. Since the both buses types are relatively new in electric form, the useful life of the products is still be tested and this pilot program will further that testing. Many manufacturers of electric buses claim up to a 15 year life span for their vehicles with potential for longer with battery swaps. As part of our due diligence research, we have found that the operational lifespan for LiFe PO4 batteries in transit applications is at least 12 years. A fleet management plan will be developed as part of the planning study which will enable an acceptable fleet replacement plan. Charging stations and other fixed asset like secure parking and lighting are expected to last 15 years with regular maintenance.

2.g.iii. Connectivity to High Speed Rail

The primary focus of connectivity to California High Speed Rail to the NS Express Connect is through the Capital Corridor Amtrak service to the Bay Area. This would be the most effective way to align with the Phase 1 schedule of the High Speed Rail project. In the future, connectivity to High Speed Rail directly in Sacramento is possible. The California High Speed Rail Authority Draft 2016 Business Plan identifies the connection to Sacramento as a Phase 2 component of the project expected to be developed beyond year 2025 (Attached Map). Though high speed rail station locations in Sacramento have not been analyzed or selected yet, the most effective stop would likely be at or near the existing Sacramento Station stop at 4th and I Streets. This would provide a future direct connection to the NS Express Connect.

2.g.iv. Disadvantaged Communities

The NS Express Connect would directly connect five disadvantaged census tracts with economic and academic opportunities in Sacramento. The new route will also replace many single-occupant commuter trips between Sacramento and Williams, Orland, Red Bluff and Redding. This addresses both the economic and environmental needs of the DACs affected by this project, as identified by the ARB. The connection to Sacramento will allow residents to commute for work or school, directly aiding in disadvantaged people obtaining career training and increasing availability to quality, stable and higher-paying jobs. The connection will also provide the opportunity for many who are already commuting between Sacramento and Willows, Orland, Red Bluff and Redding to use the E-Buses instead. The removal of single-occupant commuter vehicles commuting long distances is in alignment with California and TICRP goals to reduce GHG emissions and reduce exposure to air pollutants within disadvantaged communities.

<u>Attachment 1</u>

See Section 2. Benefits to Disadvantaged Communities.

Disadvantaged communities narrative.
See discussion of DACs in Section 2. Benefits to Disadvantaged Communities.

2.h. IMPACT ON OTHER PROJECTS

This project will have no negative impact on other public projects within the corridor. There are no other publicly operated transit services for Northern California providing a connection between north state communities and Sacramento. There is a regular private shuttle service that runs between Redding and Sacramento International Airport that is cost ineffective for many travelers at $140 each way. This shuttle service may be affected by the proposed project.

2.i PROJECT MANAGEMENT

Project implementation will proceed upon receipt of TIRCP funding. SRTA will serve as the prime contractor, with collaborating agencies as subcontractors. A SRTA staff member will be assigned as the Project Lead who is responsible for the project's delivery and day to day management of the project. The Project Lead will serve as contact for Caltrans, will coordinate project partners, will be the contract manager for consultants hired for the project and will manage budget, timelines and deliverables. It is SRTA's intent to work closely with a transit consultant to assist with the bus lease agreement and dispatch/ticketing software, a marketing consultant for public awareness of the NS Express Connect and a transit consultant for development and implementation of the evaluation program for the project.

During the 5311(f)-funded planning project (which will occur prior to the initiation a TIRCP contract), SRTA and its collaborators will develop a written understanding of project roles and responsibilities. This document will be used for both development of memoranda of understanding and Subrecipient Cooperative Agreements between SRTA and the partners. Each subcontracting agency will identify a project lead to serve on a work team for the project. They will be responsible for the management of budget, timelines and deliverables. SRTA uses a subrecipient cooperative agreement template and it will be used to incorporate flow down provisions from SRTA's prime TIRCP contract, the tasks for which the partner agencies have responsibility, deliverables associated with that task, a timeline for completing the deliverables, budget and invoicing provisions and reporting requirements.

SRTA will use competitive procurement for the consulting services for transit, marketing and program evaluation. Procedures will follow the Shasta Regional Transportation Agency Financial and Accounting Policies and Procedures (Dec 2014) which defines the policies used for procurement. The bus lease/purchases, charging equipment and parking infrastructure will also be competitively bid. It is likely as the buses and chargers will be bid as one project, as electric bus manufacturers typically develop models specific to their buses.

SRTA and its collaborators will also develop a detailed work plan that identifies for each task the outcomes, deliverables, methods and participants. The SRTA Project Lead will establish a schedule for partner agency status meetings and will manage information flow between the partner agencies and Caltrans. The monthly status meetings will include updates on progress on deliverables, identification of potential schedule or scope issues and a check in on risk management parameters. Any potential deviations from scope, schedule or budget will require, at a minimum, written authorization from SRTA, and may trigger the need for subcontract amendments. The monthly status meetings will include discussion of any potential issues that could rise to the level of contractual amendments.

SRTA will use Caltrans's Risk Management Plan template to guide development of a risk management plan for the NS Express Connect. The template plan addresses roles and responsibilities; budgeting; timing; risk categories; definitions; stakeholder tolerances; reporting formats; and tracking. The plan will help SRTA, collaborators, consultants, and contractors to plan for, identify, analyze, communicate, manage, and respond to project risks.

2.j. PROJECT READINESS

2.j.i. Environmental Protection Requirements

Planning for the NS Express Connect is already underway pursuant to the FTA 5311(f) grant. Work under this grant will establish draft agreements among project collaborators while Caltrans and CalSTA review TIRCP proposals and determine awards. The details on the en route stops will be finalized and site information identified. This will allow an allocation request for environmental review to be submitted immediately upon establishment of a TIRCP contract. Environmental review will proceed concurrently with development of a business plan, which will also be submitted as an allocation request immediately upon establishment of a TIRCP contract.

2.j.ii. Key Partnership Agreements

Letters of support have been provided by collaborators for the project and are attached in the supporting documentation. SRTA has initiated a planning study pursuant to 5311(f) funding that will begin developing the partnership agreements.

3. STATEMENT OF WORK DOCUMENT

Project programmng, schedule and budget should not be affected by data that is updated during the 5311(f) planning study. That study may identify additional opportunities for increased ridership, but the proposed scope of work has been developed to respond to those opportunities in the business plan's selection process for feeder routes.

Project Scope

Introduction

The proposed project will demonstrate the use of E-Buses to provide interregional bus services that will connect the northernmost urban area in California to Sacramento, including the Sacramento Airport and downtown Sacramento near the Capitol. The route will originate at the Redding Downtown Transit Center include three stops en route, one in Red Bluff, one in Orland and one in Williams. The project will include a smartphone app for ticketing and establishment of a ticketing system; a marketing program; secure parking for passengers at bus stops; lease/purchase of five electric commuter buses with onboard amenities; procurement of five feeder buses; charging stations and an evaluation program for the demonstration project.

Responsible Parties

SRTA will be the primary responsible party, as denoted in the tasks below. Additional responsible parties are:

- Amtrak and Amtrak Thruway
- Sacramento Regional Transit
- Colusa County Transit
- Tehama County Transit Agency Board
- Siskiyou County Transportation Commission

- Lake Transit Authority
- Redding Area Bus Authority
- Humboldt Transit Authority
- Trinity Transit
- Lake Transit Authority

Project Objectives

The objectives of the project are as follows.

- Demonstrate the viability of bus transit as a mode choice for rural north state citizens to access Sacramento and the Sacramento International Airport.
- Demonstrate the greenhouse gas emissions reductions possible with provision of electric-powered bus transit.
- Evaluate the results of the demonstration project to identify implementation plan for permanent electric bus service between Redding and Sacramento.

TASK 1: PROJECT MANAGEMENT

Subtask 1.1 Provide project management.

- SRTA will submit quarterly reports documenting progress on the project and invoices corresponding to those reports. Submit Final Delivery Report including greenhouse gas reduction metrics and disadvantaged community benefits metrics.
- Responsible party: SRTA
- *Deliverables: 1.A. Quarterly Reports*
  1.B. Invoices
  1.C. Final Delivery Report
  1.D. Final Report of Expenditures

TASK 2: ENVIRONMENTAL REVIEW

SRTA will conduct environmental review under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

Subtask 2.1. Submit allocation request

- Submit Request for Funding Allocation
- Responsible party: SRTA
- *Deliverables: 2.A. Request for Funding Allocation for environmental review*

Subtask 2.2. Conduct consultant solicitation

- Conduct procurement for consultant for environmental review
- Responsible Party: SRTA
- *Deliverables: 2.B. Procurement package including request for proposals, proposals and selection documents*

Subtask 2.3. Complete environmental review pursuant to CEQA and NEPA.

- Conduct an initial study and follow CEQA procedures to complete environmental review and adopt the appropriate document.
- Conduct an environmental assessment and follow NEPA procedures to complete environmental review and adopt the appropriate document.

- Responsible party: SRTA with consultant in collaboration with public agencies that provide transit stops, secure passenger parking, charging equipment or bus storage
- *Deliverables: 2.C. Notice of Determination*
  2.D. Notice of Availability/Finding of No Significant Impact OR Record of Decision

TASK 3: BUSINESS PLAN
SRTA will develop a business plan that includes partner collaboration, dispatch and ticketing.

Subtask 3.1. Submit allocation request
- Submit Request for Funding Allocation
- Responsible party: SRTA
- *Deliverables: 3.A. Request for Funding Allocation for business plan*

Subtask 3.2. Conduct consultant solicitation
- Conduct procurement for consultant for business plan
- *Deliverables: 3.B. Procurement package including request for proposals, proposals and selection documents*

Subtask 3.3. Develop partner collaboration agreements.
- Execute Subrecipient Cooperative Agreements with agencies that provide transit stops, secure passenger parking, charging equipment or bus storage.
- Responsible party: SRTA with consultant in collaboration with public agencies
- *Deliverables: 3.C. Executed Agreements*

Subtask 3.4. Develop dispatch procedures.
- Work with project collaborators to determine feeder buses and schedule for dispatch framework. Integrate with collaborators' dispatch systems.
- Responsible party: SRTA in collaboration with public agencies that provide transit stops
- *Deliverables: 3B. Design, setup and purchase of dispatch software structure*

Subtask 3.5. Develop ticketing procedures.
- Work with project collaborators to develop a smartphone app and establish joint ticketing framework, including pricing, smartphone mobile ticketing, demand pricing and joint ticketing.
- Responsible party: SRTA with consultant in collaboration with agencies that provide connections
- *Deliverables: 3.C. Design, setup and purchase of smart mobile ticketing*
  3.D. Demand pricing structure
  3.E. Joint ticketing structure as outlined in cooperative agreements

Subtask 3.6 Develop draft bus lease/purchase agreements for backbone (I-5) route
- Develop draft lease or purchase agreements for backbone route (I-5 Redding to Sacramento) electric, zero emission buses and associated infrastructure.
- Responsible party: SRTA with transit consultant
- *Deliverable: 3.F. Draft lease or purchase agreements*

Subtask 3.7. Conduct ridership demand analysis and analysis and scheduling coordination
- Analyze current ridership, demand for additional services, existing schedules and potential for

coordination of schedules between transit providers
- Responsible party: SRTA with transit consultant
- *Deliverables: 3.G. Report outlining enhancement recommendations*

Subtask 3.8. Complete final business plan.
- Prepare final business plan incorporating results of subtasks 3.1 – 3.7 and provide one annual update.
- Responsible party: SRTA with transit consultant
- *Deliverables: 3.H. Final Business Plan*
  3.I. Business Plan annual update

4: BUS AND INFRASTRUCTURE CONSTRUCTION
SRTA and its collaborating agencies will establish secure passenger and bus parking, establish dispatch and ticketing, lease or purchase buses and install charging stations.

Subtask 4.1. Submit allocation request
- Submit Request for Funding Allocation for lease or purchase agreements and infrastructure install
- Responsible party: SRTA
- *Deliverables: 4.A. Request for Funding Allocation for construction phase*

Subtask 4.2. Conduct consultant solicitation
- Conduct procurement for consultant for construction phase
- Responsible party: SRTA
- *Deliverables: 4.B. Procurement package including request for proposals, proposals and selection documents*

Subtask 4.3. Lease or purchase backbone (I-5 route) buses.
- Conduct competitive procurement for lease or purchase of five 45-foot, zero emission electric buses for backbone (I-5 route). Award contract to winning bidder.
- Responsible Party: SRTA with consultant
- *Deliverable: 4.C. Lease/purchase contract for backbone buses*

Subtask 4.4. Lease or purchase feeder service buses.
- Conduct competitive procurement for lease or purchase of up to give zero emissions, electric feeder buses. Award contract to winning bidder.
- Responsible Party: SRTA with consultant in collaboration with public agencies operating feeder service
- *Deliverables: 4.D. Lease or purchase contract for feeder service buses*

Subtask 4.5. Build buses.
- Build buses according to specifications in lease or purchase agreements.
- Responsible party: Lessor
- *Deliverables: 4.E. Five 45-foot zero emission electric buses for backbone route*
  4.F. Up to five zero emission electric buses for feeder routes

Subtask 4.6. Install charging infrastructure and provide bus parking.

- Install charging infrastructure for buses in Redding and Sacramento and secure overnight bus parking in Sacramento. Incorporate overnight Sacramento parking in cooperative agreement.
- Responsible party: SRTA contractor
- *Deliverable: 4.G. Documentation of installed charging stations in Redding and Sacramento*

Subtask 4.7. Develop maintenance facility.

- Establish maintenance facility for buses in Redding, including overnight bus storage. Either develop improvements to Redding Area Bus Authority facility including solar power install, or procure storage/maintenance contract.
- Responsible party: SRTA with contractor
- *Deliverables: 4.H. Solar power improvement to RABA facility and RABA contract or maintenance yard and overnight bus storage contract*

Subtask 4.8. Develop secure passenger parking.

- Construct secure passenger parking at origination, en route and terminus sites for backbone bus route.
- Responsible party: SRTA contractor in collaboration with public agencies that provide transit stops
- *Deliverable: 4.I. Secure passenger parking facilities*

Subtask 4.9. Conduct performance monitoring.

- Monitor performance of the NS Express Connect Service.
- Responsible party: SRTA in collaboration with public agencies that provide transit stops
- *Deliverable: 4.J. Update to business plan in response to monitoring*

TASK 5. MARKETING

SRTA will develop and implement a marketing program to provide information to customers and encourage mode shift.

Subtask 5.1. Submit allocation request

- Submit Request for Funding Allocation for lease or purchase agreements and infrastructure install.
- Responsible party: SRTA
- *Deliverables: 5.A. Request for Funding Allocation for marketing phase*

Subtask 5.2. Conduct consultant solicitation

- Conduct procurement for consultant for marketing.
- Responsible party: SRTA
- *Deliverables: 5.B. Procurement package including request for proposals, proposals and selection documents*

Subtask 5.3. Develop marketing plan.

- Develop marketing plan including branding, social media, traditional media, General Transit Speed Specifications, a web map and a smartphone route app. Provide one annual update.
- Responsible Party: SRTA with consultant
- *Deliverables: 5.C. Marketing plan*
  5.D. Marketing plan annual update

Subtask 5.4. Implement marketing.

- Implement marketing plan actions.
- Responsible party: SRTA with consultant
- *Deliverables: 5.E. Record of marketing implementation*

TABLE OF DELIVERABLES	
Task	***Deliverable***
1. Project Management	
1.A.	Quarterly Reports
1.B.	Invoices
1.C.	Final Delivery Report
1.D.	Final Report of Expenditures
2. Environmental Review	
2.A.	Request for Funding Allocation for environmental review
2.B.	Procurement package including request for proposals, proposals and selection documents
2.C.	Notice of Determination
2.D.	Notice of Availability/Finding of No Significant Impact OR Record of Decision
3. Business Plan	
3.A.	Request for Funding Allocation for business plan
3.B.	Procurement package including request for proposals, proposals and selection documents
3.C.	Executed agreements
3.D.	Design, setup and purchase of dispatch software structure
3.E.	Design, setup and purchase of smart mobile ticketing
3.F.	Demand pricing structure
3.G.	Joint ticketing structure as outlined in cooperative agreements
3.H.	Draft lease or purchase agreements
3.I.	Report outlining enhancement recommendations
3.J.	Final business plan
3.K.	Business plan annual update
4. Bus and Infrastructure Construction	
4.A.	Request for Funding Allocation for construction phase
4.B.	Procurement package including request for proposals, proposals and selection documents
4.C.	Lease or purchase contract for backbone route buses
4.D.	Lease or purchase contract for feeder service buses
4.E.	Five 45-foot zero emission electric buses for backbone route

4.F.	Up to five zero emission electric buses for feeder route
4.G.	Documentation of installed charging stations in Redding and Sacramento
4.H.	Solar power improvement to RABA facility and RABA contract or maintenance yard and overnight bus storage contract
4.I.	Secure passenger parking facilities
4.J.	Update to business plan in response to monitoring
Marketing	
4.A.	Request for Funding Allocation for marketing phase
4.B.	Procurement package including request for proposals, proposals and selection documents
4.C.	Marketing plan
4.D.	Marketing plan annual update
4.E.	Record of marketing implementation

MILESTONES	
Date	***Description***
October 2017	Executed Agreements
February 2018	Completion of Environmental review
June 2018	Final business plan
October 2018	Executed lease or purchase agreements for backbone buses
June 2019	Bus delivery and infrastructure completion
June 2019	Marketing plan
July 2019	Begin operations
June 2021	Update to business plan in response to monitoring

Map of Project Location
INSERT JPEG

Project Costs
Following is a table indicating the project cost by subtask and funding source. Costs have been escalated to the proposed year of delivery. Project costs were developed based on several factors, including discussions with bus, mobile ticketing, and transit technology vendors; staff rates based on estimated SRTA staff direct personell and indirect costs; recent contracted consultant rates; communications with collaborating partners including Sacramento Regional Transit and the Sacramento International Airport; recent marketing efforts for new transit service; communications with regional partners on data product purchases and infrastructure investments; communications with electricity providers; and transit costs per service hour.

California State Transportation Planning Agency 2016 Transit and Intercity Rail Capital Program PROJECT BUDGET

Project Title		North State Express Connect - Redding to Sacramento						
		Fund Source						
Task No.		Responsible Party	Total Cost	Grant Amount	Local Cash Match	Local In-Kind Match	Leverage	Deliverable
a	***Preliminary planning***							
a1	Planning study	SRTA/ Consultant	$30,000	$0	$0	$ -	$ 30,000	*Shasta Intercity Transportation to Sacramento and the Bay Area Study*
a2	Draft partnership collaboration agreements	SRTA/ Collaborators	$22,500	$0	$0	$ 22,500	$ -	Draft collaboration agreements with agencies that provide transit stops, secure passenger parking, charging equipment or bus storage
a3	CalSTA project selection	CalSTA	$0	$0	$0	$ -	$ -	N/A
a4	CTC approval	CTC	$0	$0	$0	$ -	$ -	N/A
1	***Project Management (5%)***							
1.1	Administer grant, including quarterly reports on project status, GHG benefits and co-benefits and invoicing.	SRTA	$1,028,570	$1,028,570	$0	$ -		Quarterly reports, invoices, Final Delivery Report, Final Report of Expenditures
2	***Environmental Review***							

2.1	Allocation request	SRTA	$1,500	$1,500	$0	$ -		Request for Funding Allocation for environmental review (concurrent w/Business Plan allocation request)
2.2	Consultant Solicitation	SRTA	$9,000	$9,000	$0	$ -		RFP, proposals, selection documents
2.3	Environmental Review	Consultant/ SRTA/ Collaborators	$45,000	$45,000	$0	$ -		Notice of Determination, Notice of Availability, Finding of No Significant Impact or Record of Descision
3	***Business Plan***							
3.1	Allocation request	SRTA	$1,500	$1,500	$0	$ -		Request for Funding Allocation for Business Plan (concurrent with environmental review allocation request)
3.2	Consultant solicitation	SRTA	$24,000	$24,000	$0	$ -		RFP, proposals, selection documents
3.3	Partner collaboration agreements	Consultant/ SRTA/ Collaborators	$105,600	$105,600	$0	$ -		Executed Agreements
3.4	Dispatch	Consultant/ SRTA/ Collaborators	$157,300	$157,300	$0	$ -		Design, set up and purchase of dispatch software structure
3.5	Ticketing	Consultant/ SRTA/ Collaborators	$367,400	$367,400	$0	$ -		Design, set up and purchase of smart mobile ticketing, demand pricing structure, joint ticketing structure (subsumed in cooperative agreements)
3.6	Draft lease or purchase contract development	Consultant/SRTA	$44,000	$44,000	$0	$ -		Draft lease or purchase contract agreement

3.7	Ridership demand analysis and scheduling coordination	Consultant/SRTA	$110,000	$110,000	$0	$ -		Enhancement recommendations, ridership reporting and survey results
3.8	Final Business Plan and updates	Consultant/ SRTA	$237,600	$237,600	$0	$ -		Final Business Plan and annual update
4	***Bus and Infrastructure Construction***							
4.1	Allocation request	SRTA	$1,500	$1,500	$0	$ -		Request for Funding Allocation for lease agreement and infrastructure install
4.2	Consultant solicitation	SRTA	$18,000	$18,000				RFP, proposals, selection documents
4.3	Lease or purchase of 5 (qty) 45' Electric Coaches	Consultant/ SRTA	$10,382,400	$10,382,400	$0	$ -		Executed lease or purchase agreement for backbone buses
4.4	Lease or purchase of up to 5 feeder buses	SRTA/ Consultant/ Collaborators	$2,274,000	$2,274,000	$0	$ -		Executed lease or purchase agreements for feeder buses
4.5	Bus build	Bus Vendor or Lessor	$0	$0	$0	$ -		Five battery electric backbone buses and up to five feeder buses
4.6	Charging station install	Contractor	$412,500	$412,500	$0	$ -		Installed charging stations in Redding and Sacramento
4.7	Maintenance facility contract or improvements	SRTA/ Contractor	$2,419,800	$1,669,800	$0	$ -	$ 750,000	Solar power improvement to RABA facility or maintenance yard and overnight bus storage contract
4.8	Secure passenger parking improvements	SRTA/ Contractor/ Collaborators	$2,719,800	$2,219,800	$0	$ -	$ 500,000	Construction of secure passenger parking facilities at collaborator sites

4.9	Performance Monitoring	SRTA/ Consultant	$110,000	$110,000	$0	$ -		Monitor performance of the NS Express Connector service and update business plan
5	***Marketing***							
5.1	Allocation request	SRTA	$1,500	$1,500	$0	$ -		Request for Funding Allocation for marketing
5.2	Consultant Solicitation	SRTA	$6,000	$6,000	$0	$ -		RFP, proposals, selection documents
5.3	Marketing Plan	Consultant/SRTA	$73,500	$73,500	$0	$ -		Marketing plan and updates
5.4	Marketing	Consultant/ SRTA	$220,000	$220,000	$0	$ -		Marketing plan implementation
b	***Service Operations***							
b1	5311(f) grant application call	SRTA	$18,000	$0	$0	$18,000		N/A
b2	LCTOP expenditure plan	SRTA	$18,000	$0	$0	$18,000		N/A
b3	AHSC transit operations	SRTA	$45,000	$0	$0	$45,000		
b4	Future operations funding	Contractor/ SRTA	$10,440,000	$0	$0	$ -	$ 10,440,000	N/A
	TOTALS		$31,343,970	$19,520,470	$0	$103,500	$11,720,000	

California State Transportation Planning Agency 2016 Transit and Intercity Rail Capital Program PROJECT TIMELINE

	Project Title	North State Express Connect – Redding to Sacramento	Grantee	Shasta Regional Transportation Agency

		...2015/16					Fiscal Year 2016/17											FY 2017/18											FY 2018/19											FY 2019/20											FY 2020/21										
Task No.		F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
a	***Preliminary planning***																																																												
a1	Planning study																																																															
a2	Draft partnership collaboration agreements																																																													
a3	CalSTA project selection																																																													
a4	CTC approval																																																													
1	***Project Management (5%)***																																																												
1.1	Administer grant, including quarterly reports on project status, GHG benefits and co-benefits and invoicing.																																																												
2	***Environmental Review***																																																												
2.1	Allocation request																																																												
2.2	Consultant Solicitation																																																												
2.3	Environmental Review																																																												
3	***Business Plan***																																																												
3.1	Allocation request																																																												
3.2	Consultant solicitation																																																												
3.3	Partner collaboration agreements																																																												
3.4	Dispatch																																																												
3.5	Ticketing																																																												
3.6	Draft lease or purchase contract development																																																												
3.7	Ridership demand analysis and scheduling coordination																																																												
3.8	Final Business Plan and updates																																																												
4	***Bus and Infrastructure Construction***																																																												
4.1	Allocation request																																																												
4.2	Consultant solicitation																																																												
4.3	Lease or purchase of 5 (qty) 45' Electric Coaches																																																												
4.4	Lease or purchase of up to 5 feeder buses																																																												
4.5	Bus build																																																												
4.6	Charging station install																																																												
4.7	Maintenance facility contract or improvements																																																												
4.8	Secure passenger parking improvements																																																												
4.9	Performance Monitoring																																																												

California State Transportation Planning Agency 2016 Transit and Intercity Rail Capital Program PROJECT TIMELINE

	Project Title	North State Express Connect – Redding to Sacramento	Grantee	Shasta Regional Transportation Agency

		...2015/16					Fiscal Year 2016/17											FY 2017/18											FY 2018/19											FY 2019/20											FY 2020/21										
Task No.		F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
5	***Marketing***																																																												
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b4	Operations																																																												

Project Schedule (SRTA – using Caltrans planning application format)
On the following page is a schedule by subtask for the project. The schedule shows the planning study currently underway. The scheduled was given due consideration for Caltrans requirements; SRTA board meetings; procurement processes; planning, monitoring and reporting; E-bus build; infrastructure installation; and assumed opportunities to apply for operating expenses based on historical calls for projects and expenditure plan deadlines. See previous page.

Funding Sources and Operation and Maintenance (SRTA)
The operations and maintenance for the NS Express Connect program will be developed for specific future funding programs. It is anticipated that the Federal Transit Administration 5311(f) program will be the primary financial foundation for the project. Additional resources will be pursued including LCTOP.

Scalability (SRTA)
While a fully funded capital phase of this project will have the greatest impact on transit ridership, vehicle miles traveled, and greenhouse gas reductions, it is also fully scalable – each of the project components can be dialed up or down depending on funding availability. The components are outlined below, in order of priority.

Long-Range Commuter Service Route

The five 45-foot zero emission battery electric buses are the centerpiece of the project, serving as vehicles of opportunity for the residents of the North State. As such, they are the top funding priority for the project. That said, this element is scalable. A scaled down funding proposal would request $6,330,000 in funding for 3 over-the-road coaches. While the maximum impact on ridership, safety, and greenhouse gas emission reductions will be achieved with full funding, this scaled down version will still achieve significant gains for the North State. Importantly, even a scaled down proposal will still establish a toehold for zero emission transit technology in the North State—the first step in an eventual paradigm shift to completely clean transit in the region.

Transit System Upgrades

Several transit system upgrades are included as part of the NS Express Connect, including the latest technical systems available to commercial transit operations. Should these need to scale down based on available funding, the technical savvy and quality can be reduced. The program will solicit and explore the latest technology in web-based and mobile ticketing and transfer systems. These must be compatible or complimentary of existing systems utilized by Sacramento Regional Transit, Amtrak, and eventually California High Speed Rail. Should a comprehensive ticketing and transfer system not be available, SRTA will explore the development of a new system. Included in the vehicle solicitation will be advanced vehicle location systems and the latest web-based monitoring system. This will enhance SRTAs ability to consistently monitor performance of the vehicles, drivers, and system.
Should other regional transit systems wish to replicate the NS Express Connect project's transit system upgrades, this information and cost effectiveness will be made available.

Feeder Services

Feeder services are integral to reaping the maximum benefits from the project. The plan calls for five smaller zero emission buses for feeder service, likely from Humboldt, Siskiyou, Tehama, Glenn and Lake

Counties. This project element can be increased or decreased, or removed if need be, in order to align with funding availability.

4. Support Documentation
Shasta Regional Transportation Agency
North State Express Connect – Redding to Sacramento

4.a. Certification of cost estimates by Chief Executive Officer
4.b. Support letters
4.c. Metropolitan Planning Organization support letter
4.d. Disadvantaged community information
4.e. Narrative supporting documents

SHASTA REGIONAL TRANSPORTATION AGENCY

1255 East Street, Suite 202 • Redding, CA 96001 • (530)262-6190 • FAX (530)262-6189
E-Mail srta@srta.ca.gov • HOME PAGE www.srta.ca.gov

Daniel S. Little, Executive Director

April 4, 2016

Transit and Intercity Rail Capital Program (TIRCP)
Division of Rail and Mass Transportation
Office of Program and Policy Management (MS39)
P.O. Box 942874
Sacramento, CA 94274-0001

Subject: North State Express Connect – Redding to Sacramento Cost Estimates

Dear Ms. Priebe:

Please accept this letter as certification that I have reviewed the cost estimates and approve the amounts requested in the North State Express Connect – Redding to Sacramento TIRCP application.

Sincerely,

Daniel S. Little, AICP, Executive Director
Shasta Regional Transportation Agency (MPO)

DSL/JEP

San Joaquin
Joint Powers Authority

4.b. Support letters

March 31, 2016

Daniel S. Little
Executive Director
Shasta Regional Transportation Agency
1255 East Street, Suite 202
Redding, CA 96001

Subject: Collaboration on SRTA E-Bus project

Dear Mr. Little:

The San Joaquin Joint Powers Authority supports the Shasta Regional Transportation Agency's (SRTA) capital funding request for an intercity public transportation connection in the I-5 corridor between Redding and Sacramento through the Transit and Intercity Rail Capital Program (TIRCP). We believe that your project will provide a vital and needed connection to our rail service for passengers from the rural areas of Northern California, supporting our efforts to increase ridership. Your use of electric buses align with our agency's objectives reduce greenhouse gas emissions.

We are committed to cooperate with SRTA in the development of this project including, but not limited to, continuing our existing efforts to develop a collaboration agreement, developing and implementing a transit transfer program with integrated ticketing and coordinating on environmental review pursuant to CEQA and NEPA.

Good luck on the grant application.

Sincerely,

_____

John Pedrozo
Chair, San Joaquin Joint Powers Authority

RABA

April 4, 2016

Daniel S. Little
Executive Director
Shasta Regional Transportation Agency
1255 East Street, Suite 202
Redding, CA 96001

Subject: TIRCP North State Express Connect

Dear Mr. Little:

The Redding Area Bus Authority (RABA) supports the Shasta Regional Transportation Agency's (SRTA) capital funding request for an intercity public transportation connection in the I-5 corridor between Redding and Sacramento through the Transit and Intercity Rail Capital Program (TIRCP).

RABA has cooperated with SRTA in the development of this project and will continue to do so. We look forward to working with SRTA on the North State Express Connect. Good luck on the grant application.

Sincerely,

Brian Crane
Executive Director
Redding Area Bus Authority.

REDDING AREA BUS AUTHORITY (www.RABAride.com)
777 CYPRESS AVENUE, REDDING, CALIFORNIA 96001-3396 • (530) 225-4171 • FAX (530) 245-7024

NS Express Connect
Transit
Colusa County Transit Agency
715 D Street
Colusa, CA 95932
(530) 458-0444
kboes@countyofcolusa.org

March 11, 2016

Daniel S. Little
Executive Director
Shasta Regional Transportation Agency
1255 East Street, Suite 202
Redding, CA 96001

Subject: TIRCP I-5 Express Service

Dear Mr. Little:

The Colusa County Transit Agency is pleased to support the Shasta Regional Transportation Agency's (SRTA) capital funding request for an intercity public transportation connection in the I-5 corridor between Redding and Sacramento through the Transit and Intercity Rail Capital Program (TIRCP).

This proposed project has extreme significance for the North State Super Region, but in particular for the transit dependent residents of Colusa County. Colusa County residents' access to out of county travel is currently limited to Sutter County and only once each Friday. This project would provide daily opportunities for access to Glenn, Tehema and Shasta Counties to the North, Yolo and Sacramento Counties to the South, and hopefully access to Lake County as well. These connections are vital to Colusa County as they would provide access to the Sacramento International Airport, job opportunities that would otherwise not be available, and access to medical and other services that are not provided for in Colusa County.

In addition to the benefits for Colusa County residents, the entire region would benefit from a stop located in Williams, CA. Geographically, Williams is located at the intersection of I-5 and Highway 20. Potential ridership from Lake County and further west toward the coast will easily be able to access a stop in Williams. Limited ridership may be gained from Sutter and Yuba Counties as well (Yuba-Sutter Transit already has commuter and express service to Sacramento). If a meaningful connection between Lake and Colusa Counties is made, this will also provide access to Lake County, and possibly Mendocino and Sonoma Counties, for the rest of the region.

The proposed project will achieve CalSTA objectives to 1) reduce emissions of greenhouse gases; 2) increase transit ridership; 3) integrate with rail service, including with the high-speed rail system; and 4) improve transit safety.

The proposed project would remove a significant number of single-occupancy vehicles from I-5 and make meaningful transit and rail connections in Redding, Sacramento, and the state's high-speed rail system. Secured parking at a stop in Williams in Colusa County would increase transit safety. The proposed I-5 Express Service would also achieve secondary evaluation criteria related to VMT, housing, employment, expanding rail/transit, accelerating rail/transit projects, transit integration/connectivity, low/no emission vehicles, active transportation, public health, and air quality.

The Colusa County Transit Agency anxiously looks forward to working with SRTA on intercity service. We have offered in-kind match for staff to collaborate with SRTA on the project. Good luck on the grant application.

Sincerely,

Kent Boes, Transit Manager
Colusa County Transit Agency

Tehama County Transportation Commission
and Regional Transportation Planning Agency
9380 San Benito Avenue • Gerber, California 96035 • (530) 385-1462 • Fax: (530) 385-1189

March 9, 2016 T-16-24

Daniel S. Little
Executive Director
Shasta Regional Transportation Agency
1255 East Street, Suite 202
Redding, CA 96001

Subject: TIRCP I-5 Express Service

Dear Mr. Little:

The Tehama County Transportation Commission (TCTC) supports the Shasta Regional Transportation Agency's (SRTA) capital funding request for an intercity public transportation connection along the I-5 corridor between Redding and Sacramento through the Transit and Intercity Rail Capital Program (TIRCP).

The proposed I-5 Express Service:

- Improves connectivity for residents in Tehama County going both north and south;
- Passes through the middle of Tehama County and more specifically, through Census Tract #6103000800, Gerber – a designated Disadvantaged Community by Cal Enviro Screen;
- Achieves CalSTA objectives to reduce emissions of greenhouse gases, increase transit ridership, integrate with rail service, including with the high-speed rail system, and improve transit safety;
- Is consistent with the Tehama County adopted Coordinated Public Transit—Human Services Transportation Plan.
- Achieves secondary evaluation criteria related to VMT, housing, employment, expanding rail/transit, accelerating rail/transit projects, transit integration/connectivity, low/no emission vehicles, active transportation, public health, and air quality;
- Multiple locations in Tehama County can be considered for a potential stop that meets express service criteria;
- LCTOP funds can be used for Transit Fare Subsidies to help facilitate ridership during startup;

The Tehama County Transportation Commission looks forward to working with SRTA on intercity service. We are in the process of identifying appropriate funding sources to support and partner with SRTA and to offset operating costs. Good luck on the grant application.

Sincerely,

Barbara O'Keeffe
Deputy Director Transportation

TRINITY COUNTY
TRANSPORTATION COMMISSION

31301 State Highway 3
P.O. BOX 2490
WEAVERVILLE, CA 96093
(530) 623-1365 FAX (530) 623-5312

March 17, 2016

Daniel S. Little
Executive Director
Shasta Regional Transportation Agency
1255 East Street, Suite 202
Redding, CA 96001

RE: TIRCP I-5 Express Service

Dear Mr. Little:

The Trinity County Transportation Commission (TCTC) supports the Shasta Regional Transportation Agency's (SRTA) capital funding request for an intercity public transportation connection on the I-5 corridor between Redding and Sacramento through the Transit and Intercity Rail Capital Program (TIRCP).

Local transportation agencies throughout the north state region would benefit from this service as it will provide more regional and national transportation connections at the Downtown Transit Center in Redding. At this time Trinity Transit makes connections with Greyhound and the Capitol Corridor, however, with coordination between our agency's more timely connections, both going to and coming from Sacramento would be beneficial to our local transportation users, and intercity travelers that use Trinity Transit to travel between I-5 and Hwy 101 for their transportation needs.

Trinity Transit ridership would likely increase due to the I-5 Express Service, which would reduce greenhouse gas emissions as more people would be more likely to use public transportation if an express bus to Sacramento was available in Redding.

The TCTC looks forward to working with SRTA on intercity service. Please contact our staff to collaborate on this project. Good luck on the grant application.

Sincerely,

Richard Tippett, Executive Secretary
Trinity County Transportation Commission

MCTC
MODOC COUNTY
TRANSPORTATION COMMISSION

108 S. Main Street
Alturas, CA 96101

(530) 233-6410 Phone
233-3744 Fax

Meets First Tuesday of Even Numbered Months at 1:30 p.m.

March 2, 2016

Daniel S. Little
Executive Director
Shasta Regional Transportation Agency
1255 East Street, Suite 202
Redding, CA 96001

Subject: TIRCP I-5 Express Service

Dear Mr. Little:

The Modoc County Transportation Commission supports the Shasta Regional Transportation Agency's (SRTA) capital funding request to acquire buses (capital) to operate an intercity public transportation connection within the I-5 corridor between Redding and Sacramento through the Transit and Intercity Rail Capital Program (TIRCP).

Sage Stage public transit service currently operates an intercity service from Alturas, CA to Redding, CA Monday and Friday each week. This will provide a connection to Sacramento that can be accessed by our passengers, and it will provide more opportunities for services south of Redding, including high speed rail/rail. Increasing public transit ridership reduces emissions of greenhouse gases, improves mobility, quality of life, air quality, and improves the public's ability to interlink services. Removing barriers to intercity connections and improving service options will provide far reaching benefits for the I-5 corridor.

The Modoc County Transportation Commission looks forward to working with SRTA on the new intercity service. We offer in-kind match for staff to collaborate with SRTA on the project. Good luck on the grant application.

Sincerely,

Debbie Pedersen
Executive Director

MTA
MODOC TRANSPORTATION AGENCY

SAGE STAGE

Modoc Transportation Agency
Sage Stage
108 S. Main Street
Alturas, CA 96101

(530) 233-6410 Phone
233-3744 Fax

March 2, 2016

Daniel S. Little
Executive Director
Shasta Regional Transportation Agency
1255 East Street, Suite 202
Redding, CA 96001

Subject: TIRCP I-5 Express Service

Dear Mr. Little:

Modoc Transportation Agency/Sage Stage supports the Shasta Regional Transportation Agency's (SRTA) capital funding request to acquire buses (capital) to operate an intercity public transportation connection within the I-5 corridor between Redding and Sacramento through the Transit and Intercity Rail Capital Program (TIRCP).

Sage Stage public transit service currently operates an intercity service from Alturas, CA to Redding, CA Monday and Friday each week. This service will provide numerous connections between Redding and Sacramento, and it will provide more opportunities to access services south of Redding, including high-speed rail/rail. Increasing public transit ridership reduces emissions of greenhouse gases, improves mobility, quality of life, air quality, and improves the public's ability to interlink services. Removing barriers to intercity connections and improving service options will provide far-reaching benefits for the I-5 corridor.

Modoc Transportation Agency/Sage Stage looks forward to working with SRTA on intercity service. We offer in-kind match for staff to collaborate with SRTA on the project. Good luck on the grant application.

Sincerely,

Debbie Pedersen
Executive Director
Executive Director
Modoc Transportation Agency/Sage Stage

BCAG
BUTTE COUNTY ASSOCIATION OF GOVERNMENTS

2580 Sierra Sunrise Terrace, Suite 100
Chico, California 95928-8441
(530) 879-2468 FAX (530) 879-2444
www.bcag.org

March 3, 2016

Daniel S. Little
Executive Director
Shasta Regional Transportation Agency
1255 East Street, Suite 202
Redding, CA 96001

Subject: TIRCP I-5 Express Service

Dear Mr. Little:

Please accept this letter as confirmation of the Butte County Association of Governments (BCAG) supports for the Shasta Regional Transportation Agency's (SRTA) capital funding request for an intercity public transportation connection in the I-5 corridor between Redding and Sacramento through the Transit and Intercity Rail Capital Program (TIRCP).

In the absence of high speed rail coming to the north state, we believe your project provides a sensible solution in the meeting the transportation needs for the region. BCAG completed an intercity transit feasibility study 2 years ago. We believe the passengers are there to warrant the service, however the challenge will be ongoing operating costs. We hope your project sheds light to the existing funding restrictions for projects like yours.

BCAG would be glad to participate in any capacity needed to help ensure a successful outcome with your project.

Good luck on the grant application and we look forward to a favorable response from Caltrans.

Sincerely,

Iván García
BCAG Programming Manager

North State Super Region

1255 East Street, Suite 202, Redding, CA 96001
(530) 262-6190 nssr16@gmail.com
www.superregion.org
Lisa Davey-Bates, Chair

March 15, 2016

Daniel S. Little
Executive Director
Shasta Regional Transportation Agency
1255 East Street, Suite 202
Redding, CA 96001

Subject: I-5 Intercity Express Bus Service

Dear Mr. Little:

The North State Super Region (NSSR), is a partnership representing the sixteen northern Regional Transportation Planning Agencies in California, and represents 26% of total land area, and contains 37% of California's state and federal roads.

After discussion and consideration, the NSSR is pleased to sponsor the Shasta Regional Transportation Agency in their request for capital funding through the Transit and Intercity Rail Capital Program (TIRCP) to initiate an intercity public transportation service on the I-5 corridor between Redding and Sacramento.

The NSSR understands the project would provide 3-4 round trips per day from Redding to Sacramento on commuter buses that provide comfort for longer trips (3–4 hours). The proposed project would include 2-3 stops in the sixteen-county North State Super Region (NSSR) along the I-5 corridor, further connecting rural and small urban populations to Sacramento. It will directly benefit rural county intercity transit needs along the I-5 corridor for Siskiyou, Shasta, Tehama, Glenn, and Colusa counties. In addition, Sage Stage (Modoc County), Trinity Transit (Trinity County), and Lake Transit (Lake County) have expressed a desire to coordinate their services with an I-5 Express Service.

The proposed project will achieve CalSTA objectives to 1) reduce emissions of greenhouse gases; 2) increase transit ridership; 3) integrate with rail service, including with the high-speed rail

system; and 4) improve transit safety.

Commuter data shows that the some 1,375 individuals – 450 estimated from Shasta County – commuted every weekday along the I-5 corridor from the North State to Sacramento. The proposed project would remove a significant number of these single occupancy vehicles from I-5 and make meaningful transit and rail connections in Redding, Sacramento, and the state's high-speed rail system. Furthermore secured parking at stops along I-5 would increase transit safety. Finally, an I-5 Express Service would achieve some of the TIRCP's secondary evaluation criteria related to vehicle miles traveled, housing, employment, expanding rail/transit, accelerating rail/transit projects, transit integration/connectivity, low/no emission vehicles, active transportation, public health, and air quality.

The NSSR recognizes the proposed project supports the 2015 Annual Report to the California Legislature by the California Transportation Commission to reexamine the issue of intercity rail and transit connectivity serving rural areas of the state, and a long-range goal of the 2013 California Rail Plan to have daytime passenger rail service between Redding and Sacramento.

The **North State Super Region** has collaborated on several projects of regional significance in the past, and, as a project sponsor, looks forward to working with Shasta Regional Transportation Agency on the intercity bus service from Redding to Sacramento on the I-5 Corridor.

Sincerely,

Lisa Davey-Bates

Lisa Davey-Bates, Chair
North State Super Region

Shasta Living Streets

Better bikeways, trails, walkable cities, transit and vibrant public places

March 18, 2016

Dan Little, Executive Director
Shasta Regional Transportation Agency
1255 East Street, Suite 202, Redding, CA 96001

Re: **Enthusiastic support for TIRCP I-5 Express Service**

Shasta Living Streets enthusiastically supports the Shasta Regional Transportation Agency's capital funding request for an intercity public transportation connection in the I-5 corridor between Redding and Sacramento through the Transit and Intercity Rail Capital Program.

This project will make a significant difference for people and transportation in the communities throughout Shasta County.

We believe our region has an exciting opportunity to build great cities and towns by making bicycling, walking and transit - safe, accessible, and convenient. We believe doing so brings tremendous advantages – it allows families to be healthy and save money on transportation, makes more vibrant and connected communities, and supports our local businesses by helping them attract customers, retain talented staff and attract visitors.

We hear from members, business owners and people in the community on a regular basis. A common concern is the lack of high-quality, convenient and accessible transportation between Shasta County and important neighboring regions, specifically including connections to Sacramento, the San Francisco Bay Area, and Los Angeles. We heard from a focus group just this week that prioritized this transportation challenge as something that caused series struggles for them in their work and daily lives.

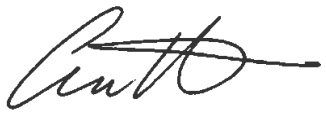
Business owners and professionals
In our region we hear from many business owners and professionals who need to travel to Sacramento, the San Francisco Bay Area, and Los Angeles – they want to do so on with modern, high-quality transit options. We have no such service. These business owners and professionals must drive on their own to and from business meetings, conferences and field office visits.

Parents and individuals
Family members in our area want to visit these other regions for holidays, special events, and recreational opportunities, and they often describe their extreme frustration that they must drive - because we simply have no other reliable, accessible intercity travel option.

Transit-dependent individuals
We hear from members and people in the community who are dependent on transit, and are unable to travel to other regions without finding someone to drive them. We have members who are blind, who do not own a car, or have a vehicle that is not reliable enough to take them long distances. These people are anxious to see improvements in intercity travel options.

Shasta Living Streets looks forward to working with Shasta Regional Transportation Agency on intercity service.

Thank you for improving the health and wellbeing of individuals, families and businesses in our region by ensuring this project receives funding. For so many reasons, this is a transportation priority for family and individual health, local business strength and regional economy.



Anne Wallach Thomas
Executive Director, Shasta Living Streets

From: Manoli, Patricia Sr. - SECH
To: Jenn Pollom
Subject: ---LETTER OF SUPPORT FOR I-5 EXPRESS BUS---
Date: Friday, April 01, 2016 1:00:36 PM
Importance: High

April 1, 2016

Jennifer Pollom, MS, AICP, GISP
Senior Transportation Planner
Shasta Regional Transportation Agency (SRTA)
1255 East Street, Suite 202
Redding, CA 96001

Dear Ms. Pollom:

Please accept this letter in Email form as St. Elizabeth Community Hospital's support of an I-5 Express Bus Service. There are several occasions when a patient has been medically discharged and will need to travel to UC Davis or another facility for further assessment and treatments. In this mix of patients we have those without any means of personal transportation. Having other transportation options would be beneficial not only to the patient and his or her loved ones, but would help our Case Managers in creating a discharge plan should travel outside the community be essential.

It is widely acknowledged that Tehama County can be considered a transportation *desert*. What is available is not always reliable and the destinations are limited. With this proposed extended service our community will have broader choices in arranging for travel needs.

Sincerely,

Sr. Patricia Manoli,
Senior Director Mission Integration/
Spiritual Care/Community Health Services

Dignity Health
St. Elizabeth Community Hospital
2550 Sister Mary Columba Dr
Red Bluff CA 96080
Phone 530 529 8015
Fax 530 529 8009

Patricia.Manoli@dignityhealth.org

March 20, 2016

Daniel S. Little
Executive Director
Shasta Regional Transportation Agency
1255 East Street, Suite 202
Redding, CA 96001

Subject: TIRCP I-5 Express Service

Dear Mr. Little:

My name is Justin Babb and I support the Shasta Regional Transportation Agency's (SRTA) capital funding request for an intercity public transportation connection in the I-5 corridor between Redding and Sacramento through the Transit and Intercity Rail Capital Program (TIRCP).

I am a freelance business consultant in the technology field who would find the benefit of having freedom of transportation to the bay area. I think it would be a great opportunity to increase economic development in the area. I am originally a bay area native and moved to the Redding area for its cost of living. I grew to love the area but find myself frequently making trips to the San Jose and San Francisco area.

An Issue that I currently face if I wanted to work within normal business hours is to travel by car to the bay area. Having increased transportation options like daytime service by train to the bay area would provide additional business opportunity for others and myself. Having amenities like WIFI while making the trip would also make the service more appealing. We would be able to work while we ride. I see opportunity for growth in the area and increased transportation network would be an excellent way to achieve that growth

Thank you for reading my letter, good luck on the grant application.

Sincerely,

Justin Babb
justin.babb@gmail.com

4.c. Metropolitan Planning Organization support letter

1255 East Street, Suite 202 • Redding, CA 96001 • (530)262-6190 • FAX (530)262-6189
E-Mail srta@srta.ca.gov • HOME PAGE www.srta.ca.gov

Daniel S. Little, Executive Director

April 4, 2016

Transit and Intercity Rail Capital Program (TIRCP)
Division of Rail and Mass Transportation
Office of Program and Policy Management (MS39)
P.O. Box 942874
Sacramento, CA 94274-0001

Subject: North State Express Connect – Redding to Sacramento Consistency

Dear Ms. Priebe:

The Shasta Regional Transportation Agency (SRTA) is the Metropolitan Planning Organization (MPO) for the Shasta region. The North State Express Connect – Redding to Sacramento project is consistent with the region's Sustainable Communities Strategies, part of the 2015 Regional Transportation Plan for Shasta County, adopted June 30, 2015. Specifically in Goal #3: Provide an integrated, context-appropriate range of interregional transportation choices, the North State Express Connect facilitates multi-modal connectivity and service schedule alignment between local and interregional modes, including passenger rail, air, and intercity bus transportation.

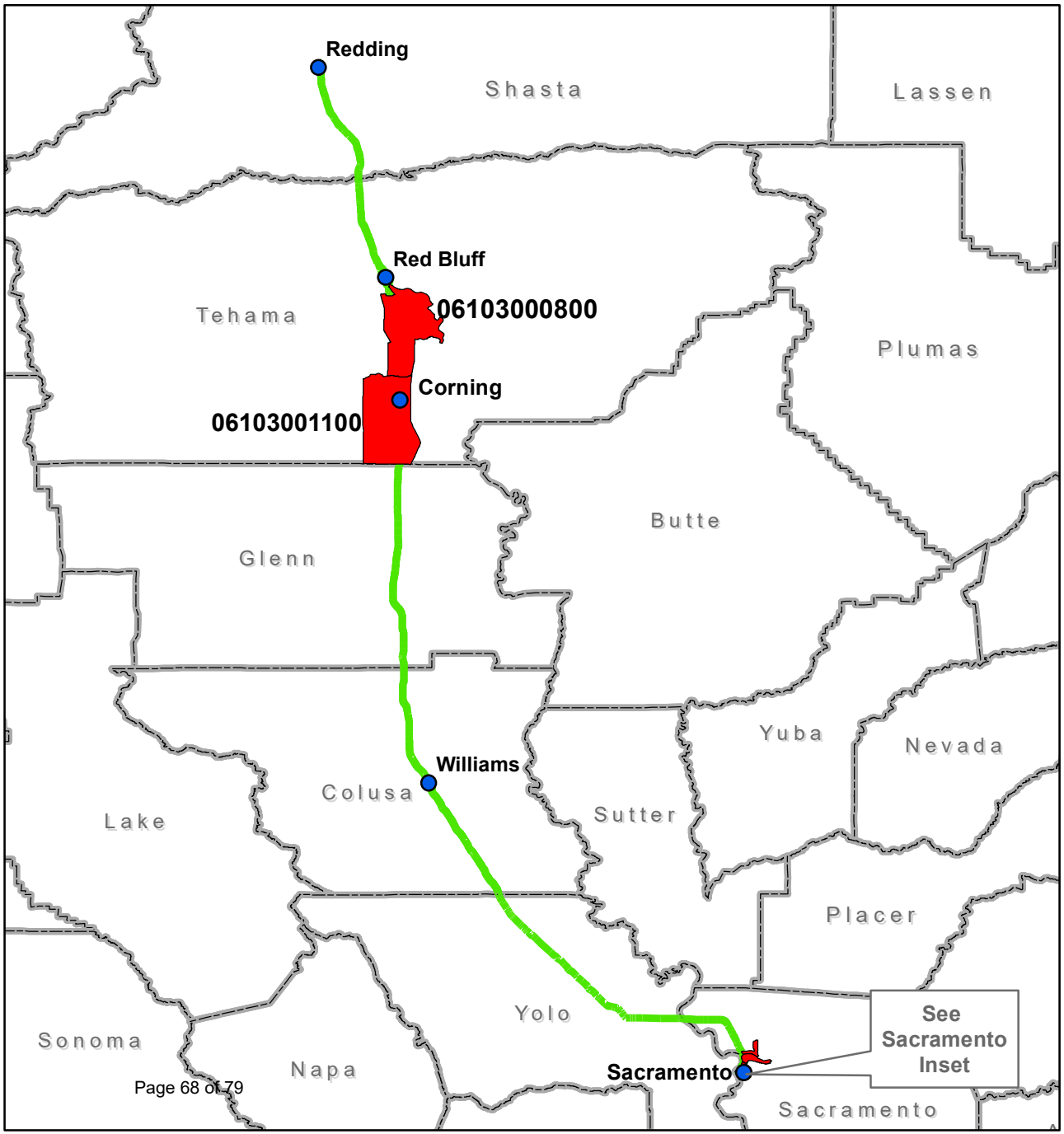
Sincerely,

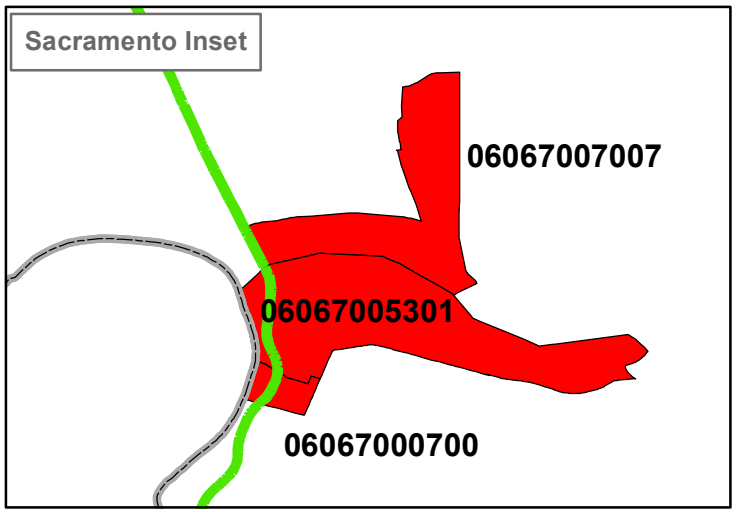
Daniel S. Little, AICP, Executive Director
Shasta Regional Transportation Agency (MPO)

DSL/JEP

North State Express Connect - Redding to Sacramento

4.D. Disadvantaged Communities





Disadvantaged Communities			
Census Tract	Percentile Range	Approx. City	Project
6103001100	76 - 80%	Corning	Tehama Trax
6103000800	76 - 80%	Red Bluff	Tehama Trax
6067007007	81 - 85%	Sacramento	Sac RT/Amtrak
6067005301	81 - 85%	Sacramento	Sac RT/Amtrak
6067000700	91 - 95%	Sacramento	Sac RT/Amtrak

Proposed Route

County Boundaries

Disadvantaged Communities

California Air Resources Board (ARB)
Greenhouse Gas Emission Reduction Calculator for the
California State Transportation Agency (CalSTA)
Transit and Intercity Rail Capital Program (TIRCP)
Greenhouse Gas Reduction Fund
Fiscal Year 2016-17

The California Air Resources Board (ARB) is responsible for providing the quantification methodology to estimate greenhouse gas (GHG) emission reductions from projects receiving monies from the Greenhouse Gas Reduction Fund (GGRF).

This GHG emission reduction calculator accompanies the quantification methodology for the fiscal year (FY) 2016-17 GGRF Transit and Intercity Rail Capital Program (TIRCP) available at: http://www.arb.ca.gov/cc/capandtrade/auctionproceeds/quantification.htm

Instructions: Applicants must use this calculator to estimate the GHG reductions 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 Identify the Project Type(s) and Method(s) needed for the proposed project: The applicant must identify at least one project type from Table 2 that best defines the proposed project. The applicant may identify more than one project component.

Step 2 Determine the inputs needed: The applicant will use the quantification methodology to determine the required project details needed for input into this calculator tool for the applicable project type(s) selected in Step 1.

Step 3 Estimate GHG emission reductions: The applicant will enter the project details identified in Step 2 into this calculator tool to calculate the GHG emission reductions 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:	North State Express Connect-Redding to Sacamento
Contact Name:	Jennifer Pollom, Shasta Regional Transportation Agency
Contact Phone Number:	530-262-6195
Contact Email:	jpollom@srta.ca.gov
Date Completed:	3/31/2016

Inputs Tab:
Cells in yellow with headers in red indicate inputs needed by the project applicant. For each row, applicants must work from left to right and enter all relevant data. Some cells may not be applicable to the project. These cells will turn black and be locked based on inputs. Applicants should use one row per project type and may use as many rows as necessary to characterize all relevant features of the proposed project. Definitions are provided in the definitions tab, including how to determine Year 1, Year F, and adjustment factors. Inputs must be substantiated in the documentation provided to Caltrans and ARB; 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 ARB's efforts to support implementation of GGRF investments, see: www.arb.ca.gov/auctionproceeds
Questions on this document should be forwarded to GGRFProgram@arb.ca.gov
Questions on the TIRCP program should be forwarded to TIRCPcomments@dot.ca.gov

California Air Resources Board (ARB)
Greenhouse Gas Emission Reduction Calculator for the
California State Transportation Agency (CalSTA)
Transit and Intercity Rail Capital Program (TIRCP)
Greenhouse Gas Reduction Fund
Fiscal Year 2016-17

Project Name: North State Express Connect-Redding to Sacramento

Inputs into columns highlighted in YELLOW with **RED headers** are required fields dependent on project type
Must be filled out from left to right

Project Inputs						
Project Type	Transit Service Type	Year 1 (Yr1)	Year F (YrF)	County	Yr1 Days of Operation (D)	Yr1 Average Unlinked Daily Ridership (R)
New/Expanded Service	Bus	2019	2031	Shasta	365	194

Displaced Autos Inputs					New/Expanded Service Vehicle Inputs			
YrF Days of Operation (D)	YrF Average Unlinked Daily Ridership (R)	Adjustment (A)	Length (L)	Annual Average Auto VMT Displaced	Fuel Type	Annual Units of Fuel	Engine Model Year (MY)	Annual VMT
365	278	0.83	320.00	22,878,784.00	Electric/BEV or PHEV		2018	83,200
				-				
				-				
				-				
				-				
				-				
				-				
				-				
				-				
				-				
				-				
				-				
				-				
				-				
				-				

Displaced Vehicle or Fuel Inputs				Net GHG Benefits	Funds Requested	
Fuel Type	Annual Units of Fuel	Engine Model Year (MY)	Annual VMT	Total GHG Emission Reductions (MTCO2e)	TIRCP Funds Requested ($)	Total GGRF Funds Requested ($)
				113238.62	$ 19,520,470.00	$ 19,520,470.00

California Air Resources Board (ARB)
Greenhouse Gas Emission Reduction Calculator for the
California State Transportation Agency (CalSTA)
Transit and Intercity Rail Capital Program (TIRCP)
Greenhouse Gas Reduction Fund
Fiscal Year 2016-17

Project Name:	North State Express Connect-Redding to Sacamento

Results	GHG Emissions (MTCO2e)	Description
Net GHG Benefits	113,238.62	Total GHG Emissions (MTCO2e) from the proposed project.
TIRCP Funds Requested ($)	19,520,470.00	TIRCP Funds Requested for the proposed project.
Total GHG Emission Reductions /TIRCP Funds Requested ($)	0.0058	Emissions per TIRCP funding requested.
Total GGRF Funds Requested ($)	19,520,470.00	Total GGRF Funds Requested for the proposed project If you are applying, have applied, or are planning to apply for additional GGRF funds in FY 2015-16 for the proposed project, enter the combined funding request for all GGRF programs. If you are applying only to TIRCP for GGRF funding, re-enter the TIRCP funds requested in the "Total GGRF Funds Requested ($)".
Total GHG Emission Reductions /Total GGRF Funds Requested ($)	0.0058	Emissions per total GGRF funding requested. This may be the same as the program-specific funding requested UNLESS the same project and phase will seek or has sought funding from other GGRF programs. Applicants must provide details in this case.

California Air Resources Board (ARB)
Greenhouse Gas Emission Reduction Calculator for the
California State Transportation Agency (CalSTA)
Transit and Intercity Rail Capital Program (TIRCP)
Greenhouse Gas Reduction Fund
Fiscal Year 2016-17

Inputs		Description
Project Inputs	Project Type	**For GHG quantification purposes, eligible TIRCP projects fall into the four project types:** **New/Expanded Service**- expansion of transit (e.g., rail (train), bus, ferry, shuttle and vanpool) service through new service or additional routes; **System and Efficiency Improvements**- any system or efficiency improvements that result in increased ridership for existing routes, including projects that increase service levels, reliability, or decrease travel times; **Cleaner Vehicles/Technology/Fuels**- use of cleaner vehicles, technologies, or fuels that result in GHG emission reductions; **Displaced Fuel:** Any system or efficiency improvements that result in displaced fuel from existing transit services, including projects that reduce transit VMT and idling.
	Transit Service Type	Select the transit service vehicle type (e.g. train, bus, ferry, shuttle or vanpool) of the proposed project.
	Year 1 (Yr1)	Select the first year of operation.
	Year F (YrF)	Final year of operation, calculated as "Year 1 + Useful Life." Useful life is the number of years the project is expected to provide net GHG benefits. For new service projects, the useful life is the number of years the service is funded under the proposed project. Useful life: 10 years for advance technologies (i.e., electric, hydrogen fuel cell buses); for others, use Federal Transit Administration guidance available here www.fta.dot.gov/documents/C_5010_1D_Finalpub.pdf.
Displaced Auto Inputs	County	Select the county where the majority of the service occurs
	Yr1 Days of Operation (D)	Use: documented project specific data or default Default: 260 for weekday service or 365 for daily service
	Yr1 Average Unlinked Daily Ridership (R)	Expected daily ridership based on project data. For example, one bus rider commuting round trip per day is two bus trips per day.
	YrF Days of Operation (D)	Use: documented project specific data or default Default: 260 for weekday service or 365 for daily service
	YrF Average Unlinked Daily Ridership (R)	Expected daily ridership based on project data. For example, one bus rider commuting round trip per day is two bus trips per day. Ridership should be calculated as average ridership per day of service, so that D*R is equal to annual ridership expected from the project.
	Adjustment (A)	Adjustment factor to account for transit dependency Use: documented project specific data or system average developed from a recent, statistically valid survey or default Default: 0.5 for local bus service or 0.83 for long distance commuter service, shuttle and vanpool
	Length (L)	Length (miles) of average auto trip reduced Use value based on specific project or lookup by agency by mode from Table D-1. If no data exist by agency, use statewide average by mode from Table D-2.
	Annual Average Auto VMT Displaced	The estimated annual average auto VMT displaced resulting from the proposed project
New/Expanded Service Vehicle Inputs	Fuel Type	For New/Expanded Service projects, select the fuel type of the vehicle proposed for service. For Cleaner Vehicles/Technology/Fuels project, select the fuel type of the vehicle proposed to replace the displaced vehicle.
	Annual Units of Fuel	Only applicable for train or ferry projects. For New/Expanded Service projects, enter the annual units of fuel required for the proposed train or ferry service. For Cleaner Vehicles/Technology/Fuels , enter the estimated annual fuel required for the ferry proposed to replace the displaced ferry. For new trains, when converting from diesel fuel usage to other fuel types, enter the annual gallons of diesel fuel for the displaced train. The method used to calculate GHG emissions assumes that a new fuel type will have the same energy requirements as a diesel counterpart and allow all submitted applications to be compared on a level playing field. For new diesel fueled trains, use annual fuel required for the train proposed to replace the displaced train. Alternatively, the applicant may leave blank and use Train VMT.
	Engine Model Year (MY)	Only applicable for bus, shuttle or vanpool. For New/Expanded Service, select the engine MY of the vehicle proposed for service. For Cleaner Vehicles/Technology/Fuels projects, select the engine MY of the new vehicle proposed to replace the displaced vehicle.
	Annual VMT	Not applicable for Ferry projects. For New/Expanded Service, enter the annual VMT of the vehicle proposed for service. For Cleaner Vehicles/Technology/Fuels projects, enter the annual VMT of the displaced vehicle.
Old Service Vehicle or Displaced Fuel Inputs	Fuel Type	For Cleaner Vehicles/Technology/Fuels projects, select the fuel type of the displaced vehicle. For Displaced Fuel projects, select the fuel type of the fuel displaced .
	Annual Units of Fuel	For Cleaner Vehicles/Technology/Fuels projects, enter the annual fuel consumption of the displaced train or ferry. For Displaced Fuel projects, enter the estimated annual fuel displaced.
	Engine Model Year (MY)	Only applicable for bus, shuttle or vanpool. For Cleaner Vehicles/Technology/Fuels projects, select the engine MY of the displaced vehicle.
	Annual VMT	Not applicable for Ferry projects. Train projects may use fuel or VMT. For Cleaner Vehicles/Technology/Fuels projects, enter the annual VMT of the displaced vehicle.
Net GHG Benefits	Total GHG Emission Reductions (MTCO2e)	The estimated net GHG benefits from the proposed project.
Funds Requested	TIRCP Funds Requested ($)	TIRCP Funds Requested for the proposed project.
	Total GGRF Funds Requested ($)	Total GGRF Funds Requested for the proposed project If you are applying, have applied, or are planning to apply for additional GGRF funds in FY 2015-16 for the proposed project, enter the combined funding request for all GGRF programs. If you are applying only to TIRCP for GGRF funding, re-enter the TIRCP funds requested in the "Total GGRF Funds Requested ($)".

GHG Data Sources

American Community Survey (ACS)	**2013**	**2019**	**2021**	**2030**
Total Flows	10,599	11,193	11,396	12,337

Longitudinal Employer-Household Dynamics	**2014**	**2019**	**2021**	**2030**
Total Flows	35,984	37,648	38,321	41,486

AirSage	**2014**	**2019**	**2021**	**2030**
Total Flows	21,062	22,036	22,430	24,283

	2014	**2019**	**2021**	**2030**
Combined Data Source Avg.	22,548	23,626	24,049	26,035
Avg. Daily Ridership (Avg. Annual/260)	86.72	90.87	92.50	100.14

	Base Ridership Projection (B)	Average Daily + Regular Growth on Data (AR)	SRTA Determined Growth Factor (2%) based on projected service need (G)	AR+G	Average Unlinked Daily Ridership (R)	Days of Operation (D)	Annual Ridership (R*D)
Growth Factor			2%				
Avg. annual aggregated growth based historic trends		1%					
2018	94.25	0.76	1.89	96.90	194	260	50,388
2019	96.90	0.78	1.94	99.62	199	260	51,804
2020	99.62	0.81	1.99	102.42	205	260	53,260
2021	102.42	0.83	2.05	105.30	211	260	54,756
2022	105.30	0.85	2.11	108.26	217	260	56,295
2023	108.26	0.88	2.17	111.30	223	260	57,877
2024	111.30	0.90	2.23	114.43	229	260	59,503
2025	114.43	0.93	2.29	117.64	235	260	61,175
2026	117.64	0.95	2.35	120.95	242	260	62,894
2027	120.95	0.98	2.42	124.35	249	260	64,661
2028	124.35	1.01	2.49	127.84	256	260	66,478
2029	127.84	1.04	2.56	131.44	263	260	68,346
2030	131.44	1.06	2.63	135.13	270	260	70,267
2031	135.13	1.09	2.70	138.93	278	260	72,241

Section C Documentation	Checklist	Title	Sections	Information
Project application	Included	TIRCP Final E-Bus	All inclusive	
Populated calculator tool	Included	TIRCP Final E-Bus GHG	All inclusive	
Project description	Yes	TIRCP Final E-Bus	2.d, 2.f and Figure 2	
Project data support (Step 2.A.Table 3)	Yes	TIRCP GHG Documentation		
Project Type				New/Expanded Service
Transit Service Type				Shuttle
Year 1 (Yr1)				2019
Year F (YrF)				2031
County				Shasta
Yr 1 Days of Operation (D)				365
Yr 1 Averaqge Unlinked Daily Ridership(R)				194
YrF D				365
YrF R				278
Adjustment Factor (A)				0.83
Length of average auto trip reduced (L)				320
Fuel Type				electric
Annual Units of Fuel				blank
Engine Model Year (MY)				2018
Annual VMT				83200

Memorandum of Agreement
North State Super Region

The sixteen California counties of Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Nevada, Plumas, Sierra, Siskiyou, Shasta, Tehama, and Trinity share similar planning issues of a rural nature which include: a shortfall in transportation infrastructure funding, hard hit economies, and population growth. This North State Super Region establishes a partnership of Regional Transportation Planning Agencies (RTPAs) for coordinated planning, to influence state and federal policy, and to support funding and grants for partner transportation agencies.

This document establishes a framework by which the group can operate effectively to achieve its goals.

GOALS

The goals of the North State Super Region are:

- To collaborate on endorsement of projects, share resources and information, and bring political attention to the needs of the area, including interregional roads, transit, and goods movement.
- To unite as a larger voice to influence state and federal policy and funding priorities.
- To coordinate compliance with state and federal requirements, including blueprint planning and air quality regulation.
- To share and generate innovative ideas for project delivery and funding, among others.

COMPOSITION

Members are the RTPA Executive Directors in the sixteen counties of the Super Region. Outside persons or groups, including federal agencies, Caltrans, California Transportation Commission and other state agencies, universities, and private and non-profit groups may be invited for the purpose of sharing expertise, leadership or information.

The North State has three basic geographic divisions: valley, mountain, and coastal areas. As these areas have similar issues that bind them together, subgroups may be formed to achieve a particular goal common to these geographic areas. This does not detract from the solidarity of the larger group, but rather makes collaboration of smaller groups more effective.

MUTUAL UNDERSTANDING

a. Participation. The signatories designate the current participating Executive Directors, their designees or successors. Participation is voluntary. Neighboring counties that find they share similar interests are welcome to join this collaborative group.
b. Activities. Regional transportation planning priorities are the focus of the group. Needs of the regions and priorities of the group should be central to the partnership's activities. Efforts include collaboration and support of mutual interests, research of current issues and trends, and their effect on the group's

interests, letters to federal and state representatives, and formation of subcommittees to address specific topics.

c. Funding. No dues are required for this effort. Individual participation and effort are to be absorbed by the respective planning agencies. Grants and other funding sources may be explored by participants for concentrated efforts.
d. Decision making. Consensus will be sought for the groups will.
e. Meetings. Initial meetings will be held biannually, in the spring and fall, and located in areas convenient for the group at large. The agency sponsoring the meeting will be responsible for choosing a specific location, agenda and handout preparation, and invitations.

SIGNATORIES TO THE MEMORANDUM OF UNDERSTANDING

We acknowledge the above as our understanding of the foundation and basis of the North State Super Region.

Jon Clark, Butte CAG — Date 10/20/10

James Bell, Colusa Co TC — Date 10/20/2010

Tamera Leighton, Del Norte LTC — Date 10/20/2010

John Linhart, Glenn Co TC — Date 10/20/10

Marcella Clem, Humboldt CAOG — Date 10/20/10

Lisa Davey-Bates, Lake Co City/Area Planning Council — Date 10/20/10

Larry Millar, Lassen Co TC — Date 10/20/10

Phil Dow, Mendocino COG — Date 10/20/10

Pam Couch, Modoc Co TC — Date 10/20/2010

Daniel Landon, Nevada Co TC — Date 10/20/10

Dan Little, Shasta Co RTPA — Date 10/20/10

For Tim Beals, Sierra Co TC	10-20-2010 Date
For Thomas L. Anderson Tom Anderson, Siskiyou Co LTC	11/22/10 Date
Gary Antone, Tehama Co TC	10-20-10 Date
Richard Tippett, Trinity Co TC	10-20-10 Date
Marty Byrne, Plumas Co TC	11-16-10 Date

STATE OF CALIFORNIA ● DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

General Instructions

☑ New Project					Date:	4/4/16
District	**EA**	**Project ID**	**PPNO**	**MPO ID**		
02						

County	**Route/Corridor**	**PM Bk**	**PM Ahd**	**Project Sponsor/Lead Agency**	
VAR	VAR			Shasta Regional Transportation Agency	
				MPO	**Element**
				Shasta	

Project Manager/Contact	**Phone**	**E-mail Address**
Jennifer Pollom	530-262-6915	jpollom@srta.ca.gov

Project Title

North State Express Connect – Redding to Sacramento

Location, Project Limits, Description, Scope of Work ☐ See page 2

Zero emission electric bus commuter service along the I-5 corridor, including feeder bus service from adjacent rural counties. Components include development of a business plan; environmental review; leasing of five electric commuter buses with five electric feeder buses; installation of charging equipment at origination (Redding) and terminus (Sacramento) of commuter bus route and two en route stops; improvements to a maintenance storage facility at the origination; improvements to provide secure parking at origination, terminus and en route stops, marketing and service operations.

☑ GHG Reductions ☑ Integrated Service ☑ Increase Ridership

Component	**Implementing Agency**
PA&ED	Shasta Regional Transportation Agency
PS&E	Shasta Regional Transportation Agency
Right of Way	NA
Construction	Shasta Regional Transportation Agency

Purpose and Need ☐ See page 2

The project will provide zero emission transit where existing options for travel have significant limitations to effective transportation, including accessibility, cost and convenience. The current services include one passenger rail route daily between Sacramento and Redding, one daily Amtrak Thruway bus deviating from the proposed project route, limited Greyhound bus service and a costly private shuttle service between Redding and the Sacramento International Airport. The challenges facing these existing interregional connections include limited destinations, inconvenient schedules, poor on-time service, lack of station services, frequent stops, indirect routes, need for transfers, and prohibitive cost.

Project Benefits ☐ See page 2

Reduction in automobile vehicle miles travelled, reduction in greenhouse gas emissions, reduction in air pollutants other than greenhouse gasses, enhanced access to jobs and medical destinations for disadvantaged communities

☑ Supports Sustainable Communities Strategy (SCS) Goals ☐ Disadvantaged Communities

Project Milestone			**Proposed**
Project Study Report Approved			
Begin Environmental (PA&ED) Phase			10/01/16
Circulate Draft Environmental Document	**Document Type**		07/01/17
Draft Project Report			06/01/18
End Environmental Phase (PA&ED Milestone)			02/01/18
Begin Design (PS&E) Phase			01/01/17
End Design Phase (Ready to List for Advertisement Milestone)			06/30/18
Begin Right of Way Phase			N/A
End Right of Way Phase (Right of Way Certification Milestone)			N/A
Begin Construction Phase (Contract Award Milestone)			07/01/18
End Construction Phase (Construction Contract Acceptance Milestone)			06/30/19
Begin Closeout Phase			06/30/19
End Closeout Phase (Closeout Report)			06/30/20

STATE OF CALIFORNIA ● DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

Date: 4/4/16

District	County	Route	EA	Project ID	PPNO	
02	VAR	VAR				
Project Title:	North State Express Connect – Redding to Sacramento					

Proposed Total Project Cost ($1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)				55,500				55,500	
PS&E				1,348,400				1,348,400	
R/W SUP (CT)									
CON SUP (CT)				1,028,570				1,028,570	
R/W									
CON					17,088,000			17,088,000	
TOTAL				2,432,470	17,088,000			19,520,470	

Fund No. 1:	**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)				55,500				55,500	Cal STA
PS&E				1,348,400				1,348,400	
R/W SUP (CT)									
CON SUP (CT)				1,028,570				1,028,570	
R/W									
CON					17,088,000			17,088,000	
TOTAL				2,432,470	17,088,000			19,520,470	

Fund No. 2:									**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. 3:									**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									