

## 15. CONSIDERATION OF SERVICE EXPANSIONS AND ENHANCEMENTS

Planning and potential implementation for service expansion and enhancements beyond the state funding requirement for FY 2017/18 and FY 2018/19 will require securing capital improvements, additional operating funding, and institutional agreements. As compared to the Capitol Corridor (15 daily round-trips between Oakland and Sacramento) and the Pacific Surfliner (12 daily round-trips between Los Angeles and San Diego), the potential ridership for the San Joaquins is particularly constrained by its much more limited frequency of service. San Joaquins ridership to/from Sacramento is most severely constrained with only two daily round-trips to Sacramento.

Planning for the enhancement and expansion of the San Joaquins is essential to ensure continued growth and increased benefits to the San Joaquins Corridor and to the State. Based upon the service expansions and enhancements presented in this chapter, a ten-year capital program, estimated at \$1.5 billion, has been developed (see Table 15.1).

### Additional and Improved Service to Sacramento

There is a great potential market for the San Joaquins to Sacramento if the frequency of service can be increased and offered at the right time of day. Currently there are only two daily round-trips between Bakersfield and Sacramento. Northbound San Joaquins trains arrive in Sacramento at 11:20 am and 11:40 pm. Nevertheless, Sacramento station has the fourth highest San Joaquins ridership with about 88,000 rail passengers per year starting/ending a trip in Sacramento, and another 48,000 using the Thruway buses between Stockton and the Sacramento area. SJJPA is working with CHSRA, CalSTA, Caltrans, SJRRC, and the Central Valley Rail Working Group (CVRWG) to complete planning efforts and to pursue improvements of the San Joaquins to Sacramento. These studies include the investigation of the UPRR Fresno Subdivision which the San Joaquins operate on, and UPRR's Sacramento Subdivision (located to the east of the Fresno Subdivision, near I-5) between Stockton and Sacramento. Providing improved and frequent service to Sacramento is the greatest focus of the SJJPA 10-year capital program. The goal is to provide hourly service to/from Sacramento within the 10-15 year time frame. This is consistent with the planning

efforts underway for the State Rail Plan and would provide critical connectivity for Phase 1 of high-speed rail service.

### Morning Express Service

To increase ridership and help demonstrate the need for improved service to Sacramento, SJJPA is working with CalSTA, Caltrans, Amtrak, UPRR, and BNSF to initiate the "Morning Express Service." Trains would start at the mid-corridor location of Fresno Station and arrive around 8 am in Sacramento and the Bay Area, enabling the San Joaquins to serve the increasing demand for business travel to these markets.

Historically all San Joaquin trains have run the entire length of the San Joaquins Corridor (i.e. between Oakland-Bakersfield and Sacramento-Bakersfield). This has prevented northbound trains leaving from Bakersfield to arrive in the early morning at economic centers in Sacramento and the Bay Area due to the long travel times. As a result, schedules for the San Joaquins are not well timed to provide attractive service for business travel or leisure travel done during a single day (daily round-trips). Currently, the first northbound train to Sacramento leaves Bakersfield at 6:00 am and arrives at Sacramento at 11:20 am. The first San Joaquins northbound train leaves Bakersfield at 4:25 am and arrives at Oakland (Jack London Square) at 10:26 am.

As a result of this service model, the San Joaquins have been, and continue to be, predominately for extended stay leisure travel – with the average trip length while utilizing the San Joaquins being 4 days. SJJPA believes this dependence on the leisure market is a primary factor in the declining ridership on the San Joaquins, combined with lower gas prices which encourage more leisure travelers to drive. Moreover, there is growing competition in the leisure travel market itself, primarily from intercity private bus operators such as Megabus and Bolt, both of which have shown a growth in ridership in California since they inaugurated service in the State in 2013.

Given this situation, there is a strong impetus for SJJPA to focus more on meeting the needs of business travelers and leisure travelers making daily round-trips that want to avoid peak period traffic in

the morning and evening and the high cost of parking. Numerous stakeholders have expressed a strong desire to pursue a rapid implementation of improved service for business travel, especially to Sacramento. In response, SJJPA is working to implement service to Sacramento by early 2018, and then to the Bay Area by 2019.

To achieve rapid implementation, SJJPA staff has proposed utilizing two existing round-trip trains by moving their starts/ends location from Bakersfield to Fresno so these trains can start their trips at a reasonable time while still arriving by around 8 am in both Sacramento and the Bay Area. SJJPA Board approved Fresno as the location for mid-corridor starts/ends at their July 22, 2016 Board Meeting. Fresno is by far the most heavily used San Joaquins station (for origins and destinations), and best accommodates statewide network integration with high-speed rail and is far enough north to enable early morning arrivals in Sacramento and the Bay Area.

Key improvements to prepare for the Morning Express Service to Sacramento and the Bay Area include:

- Temporary Layover Facility in Fresno (to allow for fast implementation);
- Permanent Layover Facility (which would also include capacity for additional trainsets, including the planned 8th Daily Round Trip);
- Expansion of Parking at Key Stations;
- Station Enhancements; and
- Stockton Wye (New Connection Track).

After demonstrating successful Morning Express Service to Sacramento and to the Bay Area, SJJPA will explore the possibility of running a Morning Express Service between Fresno and Bakersfield.

### **8th Daily Round Trip**

The deployment of the 7th Daily Round Trip between Oakland and Bakersfield on June 20th, 2016 was the first step in increasing San Joaquins service frequency. SJJPA is now focusing on improvements needed to increase frequency of service to Sacramento, with the first step being the implementation of the 8th Daily Round Trip between Sacramento and Fresno.

Several projects have recently been completed, and additional work is under construction towards

completing the required track expansions and other corridor improvements between Fresno and Stockton for an 8th Daily Round Trip (see details about these projects in Chapter 7). Specific projects have not yet been identified for Stockton-Sacramento segment, as SJJPA is still in discussions with CalSTA, Caltrans, CHSRA, and UPRR to determine if the Fresno Subdivision or Sacramento Subdivision will be utilized between Stockton and Sacramento for the 8th Daily Round Trip. Once there is a determination, SJJPA will move forward on the development of a set of capital improvements for the Stockton-Sacramento segment. As part of this process, SJJPA will also lay the groundwork for additional round-trips to Sacramento in the future.

It is a high priority for SJJPA to work with the State to secure the funding necessary for the additional capital improvements and operating funds to enable the deployment of the 8th Daily Round Trip during FY 18/19.



**Table 15.1: Estimated Ten-Year Capital Program**

<b>Estimated Ten-Year Capital Program (\$ Millions)</b>	
<b>Project</b>	<b>Cost</b>
Additional Daily Round Trips <sup>1</sup> (Fresno - Sacramento)	\$600
Additional Daily Round Trips <sup>2</sup> (Fresno - Bay Area)	\$200
Capacity/Speed Enhancements <sup>3</sup> (90 mph and Other)	\$70
Projects Related to Initiation of Sacramento Morning Express Service <sup>4</sup>	\$5
Projects Related to Initiation of Bay Area Morning Express Service <sup>5</sup>	\$17
Projects Related to Initiation of Fresno to Bakersfield Morning Express Service <sup>6</sup>	\$6
Future Maintenance Facility	\$30
Safety Improvements (Grade Separations/Crossings Improvements/ Fencing/Road Closures)	\$100
New Stations/Station Improvements	\$100
New Equipment	\$200
Service Extensions	\$175
<b>TOTAL:</b>	<b>\$1.5 Billion</b>
<sup>1</sup> Improvements needed to enable additional round-trips to Sacramento (including the 8th Daily Round Trip) are still under evaluation. <sup>2</sup> Improvements to enable additional round-trips to the Bay Area include track improvements from Martinez to Oakland Coliseum (est. at \$200-300M) and from Oakley to Port Chicago (est. at \$100M). <sup>3</sup> Assumes annual cost of \$5.0M/yr for capitalized maintenance for track resurfacing for 10 years. <sup>4</sup> Projects include the Temporary Layover Facility in Fresno (\$1.7M) and Parking/Station Enhancements (\$3.6M). <sup>5</sup> Projects include a permanent layover facility in Fresno (\$5.5M), Stockton wye track connection (\$8.4M), and parking/station enhancements (\$3.0M). <sup>6</sup> SJJPA is considering initiating a Fresno-Bakersfield Morning Express Service after construction of HSR is substantially completed between Fresno and Bakersfield. Needed improvements could include additional parking and station enhancements.	

## Service and Capacity Improvements to the Bay Area

In addition to reprogramming the 8th Daily Round Trip to start/end in Fresno, SJJPA is also envisioning any additional service to the Bay Area to start/end in Fresno or further north in the San Joaquin Valley. Additional track improvements between Fresno and Oakland could allow for an increase in the number of daily round-trips from the five that operate today, as well as improve the reliability of existing service. For a list of projects identified that support additional capacity and improved reliability between Fresno and Port Chicago, see Table 7.2. Significant investment would be required between Port Chicago and Oakland for improvements to allow additional trains to reach all the way to Oakland. Additional specific projects still need to be identified to understand the full extent of the improvements needed. SJJPA will work with Caltrans, CCJPA, BNSF, and UPRR to determine the needs that remain beyond the current projects identified.

### New and Relocated Stations

Additional San Joaquins stations in key locations could improve access to the service and increase ridership. Working in partnership with local and regional agencies, SJJPA will assess viable new station locations, and promote the funding, design, and initiation of construction for new stations. Additional potential stations discussed thus far include: Oakley, Hercules, Berkeley, Oakland Coliseum, Elk Grove, North Fresno, and North/West Bakersfield. If the Sacramento Subdivision is selected for future service expansion of the San Joaquins to Sacramento, new stations will need to be developed in Lodi and Sacramento. Elk Grove would also see a new station developed at a different location than the one being examined along the Fresno Subdivision.

SJJPA is working with Madera County Transportation Commission, Madera County, and City of Madera to identify a new location for the Madera Amtrak Station. A new station location is being sought to support the potential for greater ridership and transit-oriented development, improve connectivity and accessibility for transit and automobiles, and reduce the costs and impacts of developing a considerably larger multi-modal hub station facility.

SJJPA is also investigating the potential to relocate

the station location for Bay Area-bound trains from Stockton's San Joaquin Street Station to the Robert J. Cabral Station in downtown, which would enable Stockton to be served by a single station, providing a safer environment for passengers, more secure parking, a direct connection to ACE commuter trains, and promote transit-oriented development. SJJPA is also evaluating the need for parking at all existing and potential San Joaquins stations, which should increase significantly with additional service.

### **90 MPH Maximum Operating Speed and Other Time Saving Projects**

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Increasing the maximum operating speed of the San Joaquins in key locations could reduce travel times and improve reliability. In coordination with BNSF, UPRR, and Caltrans, SJJPA will continue to work to identify cost effective locations where the San Joaquins' maximum speed could be increased to 90 mph. To allow for this, an ongoing capitalized maintenance program is required that would resurface the tracks more frequently. Additionally, working with BNSF, UPRR, and Caltrans, SJJPA will also identify locations along the San Joaquins alignment where key track improvements (such as curve realignments) could increase speeds and further reduce travel times.

### **At-Grade Crossing Improvements, Grade Separations, Wayside Horns, and Quiet Zones**

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Accidents between intercity passenger rail services and vehicles predominately occur where the railroad track and a road cross at the same level. These are called "at-grade" crossings. There are hundreds of at-grade crossings along the San Joaquins route. SJJPA will continue to work with BNSF, UPRR, CCJPA (where the route is shared), and Caltrans to develop a plan and prioritization for at-grade crossing improvements. This will include an inventory of all previous at-grade crossing incidents along the route, potential improvements, and the identification of key crossings which should be prioritized for future grade separation. Grade crossing improvements will increase safety and will also improve the performance of the San Joaquins and freight operations.

Wayside Horns are mounted on poles at an at-grade crossing and emit a sound which is directed at approaching motorists, pedestrians, and bicycles on the roadway. Where these are deployed, they eliminate

the need for trains to use their horns through at-grade crossings. It is estimated that the area of noise impact is about 10% of the area compared to a train mounted horn. Wayside horns have already been successfully deployed on the San Joaquins alignment in the City of Escalon (at four at-grade crossings). The deployment of Wayside horns at other locations along the San Joaquins Route will be evaluated as a way of reducing community impacts from both the San Joaquins and freight operations.

An alternative to wayside horns are quiet zones, where horns are silenced by establishing a "New Quiet Zone." To accomplish this, the jurisdiction with authority of the grade crossing initiates a quiet zone establishment process following the procedures listed in 49 CFR Part 222. One method of establishing a Quiet Zone is to install Supplemental Safety Measures (SSMs) which are physical devices that improve crossing safety. Types of physical improvements that may be implemented to establish a quiet zone may include signage, raised medians or median channelization, and/or quad gates. SJJPA will work with jurisdictions that are seeking to establish a quiet zone along the San Joaquins Corridor.

### **Network Integration Planning**

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CalSTA, in coordination with rail transportation providers throughout California, is developing the "Network Integration Strategic Service Plan for the California Passenger Rail Network." This statewide planning effort includes ridership and revenue forecasts, operations and services planning, capital improvement planning, as well as network integration elements (fare integration, ticketing, joint timetables, etc.). The future improvement of the San Joaquins will be a key element of this planning process. SJJPA is working closely with CalSTA throughout this planning effort which will provide key planning information for enhancing and expanding the San Joaquins.

### **Extensions of the San Joaquins**

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The 2013 State Rail Plan identifies a "San Joaquin Extension to Redding" as a potential expansion of the San Joaquins. As a next step, SJJPA is working with the CIPR Leadership Coalition and CalSTA to establish Sacramento to Redding as an "Emerging Intercity Corridor." Extending rail service north from Sacramento to Redding would extend the San Joaquins 160 miles

along the UPRR rail line serving Yuba, Sutter, Butte, Tehama, and Shasta Counties. This route is currently served by San Joaquins Thruway buses with four daily round trips with stops at: Marysville, Oroville, Chico, Red Bluff, and Redding. In FY 2015 it is estimated that over 21,500 San Joaquins passengers used this Thruway bus connection. The population of the five counties is over 630,000. Redding has the largest population of the cities potentially served with over 91,000, while the combined Marysville/Yuba City's population is nearly 93,000. Chico (home to Chico State University) has approximately 90,000 people, and Red Bluff has just over 14,000.

The Coast Starlight has one daily round-trip along the UPRR rail line (with stations at Chico and Redding), however the southbound Coast Starlight train arrives at Redding at 2:21 am and the northbound train leaves Redding at 3:06 am – providing inconvenient access for travelers from this region. The 2013 State Rail Plan identifies that this corridor was studied in the 1995 “Northern Sacramento Valley Intercity Feasibility Study, Interim Findings Report” but is not included in SACOG’s regional transportation plan. Furthermore Caltrans notes that “UPRR—the owner/operator of this rail ROW—declined to consider additional passenger rail operations in this corridor beyond the daily Coast Starlight.”

SJJPA proposes to work with the State to develop new ridership and revenue forecasts for a potential extension of the San Joaquins 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 Joaquins to Redding.

In addition to the potential extension of the San Joaquins to Redding, SJJPA is investigating continuing the San Joaquins to the existing Oakland Coliseum/ BART (Oakland Airport) Station, which is currently served by the Capitol Corridor. Extending the service just 5 more miles to this station would provide another direct link between the San Joaquins and BART, as well as a new connection to the Coliseum complex, and the Oakland Airport via the BART to OAK Automated Guideway Transit service (formerly called the Oakland Airport Connector). SJJPA will work with the

State and CCJPA to develop initial cost and ridership projections.

SJJPA also will explore the possibility of having some San Joaquins in the future utilize the Altamont Corridor to bring San Joaquins to additional Bay Area markets.

### San Joaquins Thruway Bus Route Pilot Program

Thruway Bus service is a key component of San Joaquins operations, providing important connections to transit systems and tourist destinations, such as Yosemite and San Francisco. Additionally, many routes operate through rural communities, offering corridor-wide connections to San Joaquins trains. However, Thruway service is currently restricted to ticketed Amtrak train passengers which results in the under utilization of bus capacity. Opening key segments of Thruway service to non-rail passengers could reduce



operating expenses, increase ticket revenue, increase public and environmental benefits, and complement/ augment local and regional bus services.

SJJPA is pursuing a Thruway Bus Pilot Program with at least one of the existing San Joaquins Thruway bus routes currently under contract with Amtrak. SJJPA is exploring the possibility of directly contracting with private bus operators or local/regional agency bus operators to provide service to San Joaquins Thruway passengers as part of their existing (or future) bus services. Alternatively, SJJPA is also considering working through Amtrak to partner with such outside bus operators. Amtrak already has two such contractual arrangements with existing intercity bus providers.<sup>1</sup>

The SJJPA is currently examining locations and routes for implementing the Thruway Bus Pilot Program, in coordination with the State and regional transportation agencies. Two routes in particular hold promise. SJJPA is working with Shasta Regional Transportation Agency (SRTA) to explore a re-working of bus service between Sacramento and Redding, which could include adjustments and a possible pilot program for Thruway Bus Route 3 (Stockton-Redding). SRTA recently were granted funding for a “North State Express Connect Business Plan” which will be coordinated with SJJPA. Additionally, SJJPA is in discussions with State Senator McGuire and North Coast transit agencies about creating better bus service, including new connections to the SMART train service. As part of this effort, there is the possibility of implementing adjustments and a pilot program for Thruway Bus Route 7 (North Coast).

The Thruway Bus Pilot Program would need to retain the same quality service experienced by current San Joaquins Thruway passengers, ensuring passengers are still able to:

- Connect to a San Joaquins Station;
- Seamlessly integrate with San Joaquins train service; and

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<sup>1</sup> Amtrak currently contracts with the public agency bus operator Yosemite Area Regional Transportation System (YARTS) to provide Thruway Bus Service to San Joaquins passengers to destinations throughout the Yosemite area. Amtrak also contracts with the private bus operator Orange Belt Stages to provide Thruway Bus Service from Hanford to Visalia and the Central Coast. In both arrangements, the bus operators are able to pick-up non-Amtrak passengers on the bus lines that also serve as a Thruway Bus Route, allowing for more efficient utilization of bus seating capacity.

- Purchase a Thruway ticket via Amtrak’s ticketing services.

### Potential Expansion of San Joaquins Thruway Bus Service

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SJJPA is exploring the possibility of expanding Thruway Bus service to capture additional ridership markets. For example, an additional route is being considered that would serve the travel market between Southern San Joaquin Valley – Silicon Valley. There are many factors that ultimately determine the initiation of new or expanded service, including ridership forecasts and the availability of funding. SJJPA is committed to thoroughly examining the benefits of new Thruway Bus routes before a final determination is made.

