

## 5. SHORT-TERM AND LONGER-TERM CAPITAL IMPROVEMENT PROGRAMS

A key goal of SJJPA is to build upon the State's efforts to improve the performance and increase the frequency of the San Joaquins and expand ridership through increased awareness of the service and the development of new ridership markets. SJJPA has developed an aggressive \$1.5 billion "Estimated 10-Year Capital Improvement Program" to expand the capacity of the San Joaquins Corridor. This chapter details this program, as well as identifying specific projects in SJJPA's Short-Term and Longer-Term Capital Programs.

### Estimated 10-Year Capital Improvement Program

In coordination with the State, BNSF, and UPRR, SJJPA is in the process of implementing its Estimated 10-Year Capital Improvement Program (see Figure 5.1), which will transform the San Joaquins Corridor to one that will not only vastly improve intra-Central Valley and inter-Central Valley-Bay Area travel, but also performs as an efficient feeder service to the State's future high-speed rail (HSR) system. The improvements for this program will benefit multiple agencies and other rail services, and are consistent with the 2018 Draft State Rail Plan. A major feature of this program is creation of a new passenger rail corridor along UPRR's Sacramento Subdivision between Sacramento and Stockton, on which San Joaquins trains are envisioned to share tracks and stations with Altamont Corridor Express (ACE) rail service. Improvements associated with Sacramento Subdivision are consistent with CHSRA's Connected Corridor North Study to bring early implementation of HSR to Sacramento. The Estimated 10-Year Capital Improvement Program also maintains and optimizes service to the Bay Area and improves safety and security along the entire San Joaquins Corridor. Ultimately this program of improvements is designed to allow for hourly service from Sacramento to Fresno, while maintaining service levels in the other segments of the San Joaquins Corridor.

Elements of the Estimated 10-Year Capital Improvement Program include:

**Corridor Capacity Enhancements for Additional Daily Round-Trips:** This program includes the 8th and 9th Daily Round-Trips, which are detailed in the Short-Range Capital Improvement Program. It also includes additional round-trips to eventually achieve hourly service between Sacramento and Fresno,

which are discussed in the Longer-Term Capital Improvement Program. Capacity enhancements are also currently being evaluated between Stockton and Oakland.

**Morning Express Service:** This early-morning service is currently being implemented from Fresno to Sacramento and the Bay Area and is intended to open up new markets related to business travel and leisure day trips. This program is detailed in the Short-Range Capital Program. Additionally, SJJPA is exploring implementing a Morning Express Service Fresno and Bakersfield in the longer-term.

**New Maintenance and Layover Facilities:** To support the 8th and 9th Daily Round-Trips, two layover facilities will also be needed as part of the Short-Term Capital Improvement Program. To provide additional service between Sacramento and Fresno (eventually hourly), a new maintenance facility will be needed as part of the Longer-Term Capital Improvement Program.

**Safety and Improvements:** SJJPA is in the process of planning and implementing projects that will improve safety throughout the San Joaquins Corridor, including station lighting upgrades, improved pedestrian crossings at the tracks, new fencing along sections of the corridor with high incident rates, etc.

**New Stations:** As part of the 8th and 9th Daily-Round Trips and establishing service along the Sacramento Subdivision, the SJJPA is currently working to implement up to six new stations north of Stockton, including Lodi, Elk Grove, and four in Sacramento. A new station in Oakley is also being planned, as is a relocated station in Madera. These are contained in the Short-Term Capital Improvement Program. New stations will also be considered as part of any extension of service north of Sacramento. SJJPA is also implementing numerous station enhancement and parking projects to ensure a high-quality passenger experience.

**New Equipment:** To enable additional round-trips and extensions of service, additional trainsets will be necessary beyond what is currently being procured by the State of California. In the Short-Term Capital Improvement Program, additional trainsets are included for the 8th and 9th Daily Round-Trips. To reach hourly

Table 5.1: Estimated 10-Year Capital Improvement Program

| Estimated 10-Year Capital Improvement Program<br>(\$ Millions)  |                      |
|---|----------------------|
| Project   | Cost                 |
| Corridor Capacity Enhancements - Additional Daily Round-Trips to Reach Hourly Service (Fresno - Sacramento) <sup>1</sup>  | \$600                |
| Corridor Capacity Enhancements (Stockton - Bay Area) <sup>2</sup>   | \$200                |
| Projects Related to Initiation of Sacramento Morning Express Service <sup>3</sup>   | \$5                  |
| Projects Related to Initiation of Bay Area Morning Express Service <sup>4</sup>   | \$4                  |
| Projects Related to Initiation of Fresno/Bakersfield Morning Express Service <sup>5</sup>   | \$6                  |
| New Maintenance and Layover Facilities  | \$64                 |
| Safety Improvements (Grade Crossings Improvements/Fencing/Road Closures, etc.)  | \$38                 |
| New Stations <sup>6</sup>   | \$208                |
| Service Extensions  | \$175                |
| New Equipment   | \$200                |
| <b>TOTAL:</b>   | <b>\$1.5 Billion</b> |
| <p><sup>1</sup> Improvements needed to enable 8th and 9th Daily Round-Trips between Sacramento and Fresno are defined in SJJPA's/SJRRC's TIRCP application. Additional capacity enhancement projects and/or capital access fees will be required to allow achieve hourly service between Sacramento and Fresno, such as double-tracking, eliminating hold-outs at stations and increase capacity at the Cabral Station rail hub.</p> <p><sup>2</sup> Improvements to allow additional train slots between from Stockton to Oakland as necessary to ensure enough capacity exists for both San Joaquins and Capitol Corridor Services.</p> <p><sup>3</sup> Projects include the Temporary Layover Facility in Fresno and parking/station enhancements.</p> <p><sup>4</sup> Projects include various parking/station enhancements.</p> <p><sup>5</sup> SJJPA is considering initiating a Fresno-Bakersfield Morning Express Service after construction of HSR is substantially complete. Improvements may include additional parking and station enhancements.</p> <p><sup>6</sup> Up to eight new stations are being planned along along the Sacramento Subdivision service extension (four in Sacramento plus stations in Elk Grove, Lodi and two more north of Sacramento). Madera and Oakley would also see new stations. Additional stations are being considered, but are beyond the 10-year horizon.</p> |                      |

service between Sacramento and Fresno, another order of trainsets will be needed (see the Longer-Term Capital Improvement Program).

**Service Extensions:** In conjunction with the 8th and 9th Daily Round-Trips, SJJPA is working to extend service along the Sacramento Subdivision to new locations in Sacramento. Details are contained in the Short-Term Capital Improvement Program. In the longer-term, extensions north of the Sacramento Region and to the Oakland Coliseum/Airport are being considered.

During implementation of this ambitious capital improvement program, SJJPA will continue to work with the State to:

- Secure funding for future projects;
- Ensure that projects meet the delivery schedule;
- Minimize the construction impacts of projects;
- Maximize the benefits of projects on overall service performance; and

- Coordinate with CHSRA regarding grade separations or improvements being done to the BNSF track as a result of the implementation of the initial construction of the HSR system.

The Estimated 10-Year Capital Improvement Program consists of a Short-Term Capital Improvement Program (0-5 years) and a Longer-Term Capital Improvement Program (5+ years), both of which are detailed below.

### Short-Term Capital Improvements

SJJPA is currently focused on implementing a substantial Short-Term Capital Improvement Program over the next five years. The Program contains four areas of improvements: Morning Express Service, 8th and 9th Daily Round-Trips, Other Station Projects, and Corridor and Other Projects (see Table 5.2).

#### Morning Express Service

To increase ridership and help demonstrate the need for improved service to Sacramento, SJJPA has been working with CalSTA, Caltrans, Amtrak, UPRR, and BNSF to initiate the “Morning Express Service” (Morning Express), in which trains start at the mid-corridor location of Fresno Station and arrive around 8 a.m. in Sacramento and the Bay Area, enabling the San Joaquins to serve the increasing demand for business travel to these markets. As a result of this effort, Morning Express to Sacramento began on May 7, 2018 and is planned to begin to the Bay in mid-2019.

Historically all San Joaquins trains have run the entire length of the San Joaquins Corridor (i.e. between Oakland-Bakersfield and Sacramento-Bakersfield), which made it infeasible to have an early-morning train arrival at economic centers in Sacramento and the Bay Area due to the long travel times from Bakersfield. As a result, schedules for the San Joaquins have not been well timed to provide attractive service for business travel or round-trip leisure travel done during a single day. This situation will change after the inauguration of the Sacramento Morning Express.

SJJPA and its partners are currently working to implement improvement projects for Morning Express, including:

- Temporary Layover Facility in Fresno (to allow for the storage of two trainsets);

- Parking expansions at key stations, including Stockton ACE (Cabral), Modesto, Turlock-Denair, Merced, and Fresno Stations;
- Re-design of the Antioch Station; and
- Station enhancements, including improved lighting, fencing, improved signage, landscaping, etc.

SJJPA is utilizing a variety of funding sources for capital improvements related to the Morning Express program, including State Minor Capital funds, Cal OES safety and security funds, CMAQ, and matching funds from cities and counties within the San Joaquins Corridor. 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 and 9th Daily Round-Trips

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 next step being the implementation of the 8th and 9th Daily Round-Trips.

Many of the required capacity improvements for the 8th Daily-Round Trip are completed or will be completed shortly between Stockton and Fresno. These improvements consist primarily of double-tracking projects (see Tables 5.2). There are also plans to install second platforms at four stations over the next few years, which will reduce holdouts, thereby increasing capacity.

Determining improvements needed between Sacramento and Stockton for the 8th and 9th Daily Round-Trips have been more complicated. Running additional passenger trains on the UPRR’s Fresno Subdivision will be very difficult in the near-term. Given this situation, SJJPA began exploring the option of utilizing the Sacramento Subdivision, a parallel UPRR-owned rail corridor to the west in coordination with CalSTA, CHSRA, Caltrans, SJRRC, and the Central Valley Rail Working Group. Feasibility studies by SJJPA/SJRRC and CHSRA determined that the Sacramento Subdivision was the most viable alternative for expanded passenger rail service from the San Joaquin Valley to Sacramento, and UPRR has indicated there is potential

Table 5.2: San Joaquins Corridor – Short-Term Capital Projects

| San Joaquins Corridor - Short-Term Capital Projects<br>(\$ Millions)   |                 |                    |                    |                 |               |
|--|-----------------|--------------------|--------------------|-----------------|---------------|
| Improvement Program/Project<br>(0-5 Years)   | Project<br>Cost | Funding<br>Secured | Funding<br>Sources | Lead<br>Agency  | Status        |
| <b>Morning Express Service</b>   |                 |                    |                    |                 |               |
| Temporary Layover Facility - Fresno  | \$1.7           | \$1.7              | Cal OES            | SJJPA           | Construction  |
| Modesto Station Parking Lot  | \$0.4           | \$0.4              | LTF                | City of Modesto | Construction  |
| Turlock-Denair Station Parking Lot   | \$0.29          | \$0.29             | Minor Cap/Cal OES  | Stanislaus Co.  | Construction  |
| Stockton (Cabral) Station Parking Lot  | \$1.3           | \$1.3              | CMAQ               | SJJPA/SJRRRC    | Construction  |
| Station Enhancements - Antioch   | \$0.3           | \$0.3              | Cal OES            | SJJPA/City      | Construction  |
| Station Enhancements - Security Cameras  | \$1.5           | \$1.5              | Minor Cap/Cal OES  | SJJPA           | Construction  |
| Station Enhancements - Other <sup>1</sup>  | \$2.3           | \$2.3              | Minor Cap/Cal OES  | SJJPA           | Construction  |
| <b>8th and 9th Daily Round-Trips</b>   |                 |                    |                    |                 |               |
| Track Improvements - UPRR Sac. Sub   | \$149.1         |                    | TIRCP              | SJJPA/UPRR      | Planning/Env. |
| Track Improvements - BNSF Stock. Sub   | \$20.0          |                    | TIRCP              | SJJPA/BNSF      | Planning/Env. |
| New Stations (Lodi, Elk Grove, 4 in Sac.)  | \$111.5         |                    | TIRCP              | SJJPA           | Planning/Env. |
| Track Extension (RMF to Cabral Station)  | \$23.7          | \$23.7             | Prop1A/CMAQ/Other  | SJRRRC/UPRR     | Planning/Env. |
| New Rolling Stock (2-new 6-car trainsets)  | \$87.6          |                    | TIRCP              | SJJPA           | Planning/Env. |
| Merced-LeGrand Dbl. Tracking (Seg. 2)  | \$23.2          | \$23.2             | ITIP               | Caltrans/BNSF   | Construction  |
| Stockton-Escalon Dbl. Tracking (Seg. 3)  | \$20.5          | \$20.5             | ITIP               | Caltrans/BNSF   | Construction  |
| Stockton-Escalon Dbl. Tracking (Seg. 4)  | \$23.0          | \$23.0             | ITIP               | Caltrans/BNSF   | Construction  |
| Layover Facility - Fresno  | \$15.9          |                    | TIRCP              | SJJPA           | Planning/Env. |
| Layover Facility - Natomas   | \$17.7          |                    | TIRCP              | SJJPA           | Planning      |
| Merced Station Dbl. Platform/Trackwork   | \$10.3          | \$10.3             | ITIP               | Caltrans/BNSF   | Design/Const. |
| Other Stations Dbl. Platform/Trackwork <sup>2</sup>  | \$36.0          | \$36.0             | ITIP               | Caltrans/BNSF   | Planning      |
| Capital Access Fees  | TBD             |                    | TIRCP/SRA          | SJJPA           | Planning      |
| <b>Other Station Projects</b>  |                 |                    |                    |                 |               |
| Wasco Station Recontruction  | TBD             |                    | CHSRA Funds        | CHSRA           | Design        |
| Madera Station Relocation/Expansion  | \$26.7          |                    | TIRCP              | SJJPA           | Planning/Env. |
| New Oakley Station   | \$8.6           |                    | TIRCP              | SJJPA           | Planning/Env. |
| Allensworth Accessibility Improvements   | \$0.3           | \$0.3              | Cost Savings       | SJJPA           | Planning      |
| New Parking Lots   | TBD             |                    | Cost Savings/SRA   | SJJPA           | Planning      |
| Station Enhancements - Other <sup>3</sup>  | \$0.1           | \$0.1              | Minor Cap/Cal OES  | SJJPA           | Planning      |
| <b>Corridor and Other Projects</b>   |                 |                    |                    |                 |               |
| Stockton Wye   | \$8.7           |                    | TBD                | UPRR            | Planning      |
| Platform Accessibility for High-Floor Cars   | TBD             |                    | TBD                | SJJPA           | Planning      |
| Positive Train Control - Host Railroads  |                 |                    | Cal OES/UPRR/BNSF  | UPRR/BNSF       | Construction  |
| Positive Train Control - Amtrak  |                 |                    | Caltrans           | Amtrak          | Construction  |
| Onboard Information System (OBIS)  | \$25.0          | \$25.0             | Caltrans           | Caltrans/CCJPA  | Design/Const. |
| Increasing Operating Speeds (e.g. 90mph)   | TBD             |                    | TBD                | SJJPA           | Planning      |
| Cal PIDS Replacement/Upgrade   | \$0.9           | \$0.9              | Cost Savings/SRA   | SJJPA/CCJPA     | Planning      |
| Safety Improvements <sup>4</sup>   | TBD             |                    | TBD                | SJJPA/CCJPA     | Planning      |
| <b>Notes</b>   |                 |                    |                    |                 |               |
| <sup>1</sup> Consists of a variety of station improvement that include lighting, signage, landscaping, repairs, and other projects.                        |                 |                    |                    |                 |               |
| <sup>2</sup> Projects may include new platforms at Modesto, Turlock-Denair, and Fresno Stations.   |                 |                    |                    |                 |               |
| <sup>3</sup> Consists of non-Morning Express Service station improvement that include lighting, signage, landscaping, repairs, and other projects.         |                 |                    |                    |                 |               |
| <sup>4</sup> Safety improvements could include upgrades lighting, security cameras, fencing, and at-grade crossings, as well as grade seperation projects. |                 |                    |                    |                 |               |
| Source: Caltrans Division of Rail and Mass Transportation and SJJPA, 2018.   |                 |                    |                    |                 |               |

to provide passenger service on this corridor. In 2017, SJJPA's Board adopted the Sacramento Subdivision as the preferred corridor to pursue for future service expansion to Sacramento.

SJJPA has been engaged in planning and environmental work over the last year to determine needed improvements to establish passenger rail service along the Sacramento Subdivision as part of the development of a Transit and Intercity Rail Capital Program (TIRCP) grant application. SJJPA has worked in partnership with San Joaquin Regional Rail Commission (SJRRRC) on the TIRCP application, as the SJRRRC-managed Altamont Corridor Express (ACE) rail service would share the tracks and stations along the Sacramento Subdivision with San Joaquin trains between Sacramento and Stockton. On January 12, 2018, SJJPA and SJRRRC submitted a joint TIRCP to CalSTA. On April 26, 2018 CalSTA announced that the SJJPA/SJRRRC "Valley Rail" application was awarded \$500.5 million to expand San Joaquin and ACE services.

The following improvements related to the 8th and 9th Daily Round-Trips (see Table 5.2) were developed and included in the TIRCP application:

- Track Improvements (UPRR Sacramento Subdivision);
- New Stations (six along the Sacramento Subdivision, including Natomas, Old North Sacramento, Midtown, City College, Elk Grove, and Lodi);
- Track Extension (Stockton Cabral Station to the ACE Maintenance Facility);
- Layover Facilities (in Natomas for the Northern Terminus and in Fresno for the Southern Terminus of the expanded service);
- New Rolling Stock for the San Joaquin (two new 6-car trainsets); and
- Capital Access Fees.

With TIRCP funds now awarded, SJJPA-SJRRRC will move forward on constructing improvements for the Stockton-Sacramento segment along the Sacramento Subdivision. These improvements will also lay the groundwork for additional round-trips to Sacramento in the future for the San Joaquin and ACE services.

### **Other Station Projects**

In addition to the station projects associated with the

Morning Express and 8th and 9th Daily Round Trips, SJJPA is currently involved in several other station projects.

**Wasco Station:** The high-speed rail alignment goes directly through the Wasco Station site, necessitating a re-design and re-construction. SJJPA is working to ensure that high-quality access to the station is preserved during and after construction (which will be performed by the CHSRA).

**Relocated Madera Station:** SJJPA is working with CHSRA, Madera County, and the City of Madera to relocate the Amtrak station in Madera County. 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. The new station would also be co-located with the planned HSR station to provide a direct connection between San Joaquin and high-speed rail trains. Therefore, the new location should aim to reduce the costs and impacts of developing this large multi-modal hub station facility.

**New Oakley Station:** SJJPA is working with the City of Oakley on the development of the new station. SJJPA included the station in its portion of the TIRCP application. The City of Oakley will also be providing matching funds for the parking and other station facilities.

### **Other Station Projects Include:**

- Allensworth Station - Platform and accessibility improvements (currently in planning);
- New parking lots in Merced, Fresno, and other stations as needed; and
- Station Enhancement Projects – lighting, signage, landscaping, repairs, etc. (non-Morning Express Stations).

### **Corridor and Other Projects**

**Stockton Wye:** This project will provide a connector track between the UPRR Fresno Subdivision and the BNSF Stockton Subdivision, which will result in enhanced capacity of train movement within the busy rail environment of Stockton. This project supports SJJPA goals of increase capacity in the San Joaquin Corridor and the frequency of San Joaquin trains.

**Platform Accessibility for High-Floor Cars:** SJJPA cur-

rently operates two trainsets that consist of Comet Cars, which have high-floors, requiring passengers to utilize steep stairs to embark/disembark trains. This limits accessibility and slows boarding, increasing the dwell time of trains at stations. Additionally, the State is procuring new single-level passenger rail cars, which also have high-floors. There is a possibility these rail cars may be assigned to the San Joaquins. To improve accessibility and speed boarding for existing and future high-floor passenger cars, SJJPA is currently exploring the possibility of installing Mini-High Platforms (small sections of the platform that are raised to the same height as the high-floor rail cars and accessible via a ramp from the lower part of the platform) at all existing and planned San Joaquins stations.

**Positive Train Control:** Federal law requires that a Positive Train Control (PTC) system be implemented by December 31, 2018. Caltrans Division of Rail and Mass Transportation and Amtrak have completed work for the onboard installation of the PTC equipment on the cab control cars and locomotives. The UPRR is nearing completion, while BNSF has already completed trackside installation of PTC equipment. The entire PTC system will be tested and initiated to meet the federal deadline of December 31, 2018. More information about PTC can be found in the Safety and Security Chapter of this Business Plan.

**Onboard Information System:** Amtrak and the State are currently developing a more robust information display system for on all three state-supported services, include the San Joaquins. This is called “Onboard Information System” (OBIS). Staff is currently working with Amtrak and CCJPA to provide input as OBIS is developed. Initiation of OBIS is scheduled for late 2019.

**Increasing Operating Speeds:** Increasing the operating speed of the San Joaquins in key locations could reduce travel times, and improve reliability (i.e. on-time performance) in the San Joaquins Corridor. It could also help eliminate a costly crew change in Merced due to running times between Oakland and the Bay Area being just over six hours. In coordination with BNSF, UPRR, and Caltrans, SJJPA will work to identify locations along the San Joaquins Corridor where key track improvements (such as curve realignments) could increase speeds, potentially to 90 mph in certain locations. Any increase in speeds, especially if as high as 90 mph, should be balanced against

the need for increased costs in maintenance of the tracks.

**Cal PIDs Replacement/Upgrade:** The Passenger Information Display System for California’s Intercity Rail Services – or Cal PIDS – is the network of digital information signs present at all station platforms. The current generation of digital signs that make up Cal PIDS have limited capabilities and are reaching end of their useful lifespan. This project, in partnership with CCJPA, will upgrade the entire Cal PIDS system, including the replacement and upgrade of all platform digital signs and back office systems that support them.



***Safety Improvement Projects (Lighting, Security Cameras, Fencing, At-Grade Crossing Improvements, Grade Separations, Wayside Horns, and Quiet Zones):*** SJJPA currently is conducting comprehensive station area assessments for safety. Related projects being pursued include improving lighting and security camera infrastructure at both stations and platforms, walkways, parking lots, and other station improvements. Another high priority for SJJPA is to discourage trespassing along the corridor by installing fencing in high-incident areas.

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.

Two approaches to ensuring at-grade crossing safety while also reducing community impacts are the use of Wayside Horns and the development of Quiet Zones. 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 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.

Grade separations at busy crossings are also effective in increasing safety. Given the high cost, these projects require a large effort. SJJPA will work with local jurisdictions to determine any locations that are candidates for a grade separations and to look for funding sources.

### **Longer-Term Capital Improvements**

SJJPA is developing a comprehensive program of improvements to increase the frequency of trains beyond the 8th and 9th Daily Round-Trips, reduce travel time, increase ridership, and improve service reliability of the San Joaquins. Longer-term improvements are identified below. The development of these projects will require further review by SJJPA and is subject to approval from the State, Union Pacific, BNSF, local and regional agencies, and other interested parties.

### **Hourly Service (Sacramento and Fresno)**

In addition to maintaining a minimum five daily round trips for the entire San Joaquins Corridor, SJJPA aims to continue to increase service between Sacramento and Fresno until hourly frequencies are achieved. This purpose of this increase in frequency is twofold: 1) accommodate increasing demand for business travel and leisure day trips; and 2) provide a connection from Sacramento and Northern San Joaquin Valley to the high-speed rail system at the Madera Station. While improvements being planned as part of the 8th and 9th Daily Round-Trips will go a long way toward preparing the corridor for the future, it is likely additional capacity and other projects will be needed to reach hourly service, especially in the Stockton area and southward toward Fresno.

Elements of achieving hourly service may include: increasing the capacity of Robert J. Cabral Station in downtown Stockton, constructing improvements the Stockton Diamond (i.e. the intersection of UPRR Fresno Subdivision and the BNSF Stockton Subdivi-

sion), double-tracking projects work as necessary, construction of a new maintenance facility, and the procurement of additional rolling stock. The full extent of improvements required to reach hourly service are still being determined. Additionally, optimization of both scheduling and equipment has the potential to reduce the need for physical infrastructure. When optimization studies currently underway at Caltrans and CCJPA are completed, SJJPA will re-evaluate the need for some of the mentioned infrastructure projects. In addition to optimization, capital access fees are being considered as another approach to constructing infrastructure directly.

### **Corridor Capacity Enhancements (Stockton – Oakland)**

Additional track improvements between Stockton and Oakland would improve the reliability of existing service as well as possibly allow for an increase in the number of daily round-trips from the five that operate today. Caltrans has previously identified a variety of improvements between Oakley and Port Chicago that SJJPA is considering. Additionally, significant investment would be required between Port Chicago and Oakland for improvements to allow additional trains to reach all the way to Oakland (from Martinez) for either the San Joaquins or Capitol Corridor. 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.

### **Longer-Term Projects (Under Development)**

In addition to extension of service along the Sacramento Subdivision, SJJPA is investigating additional extensions. SJJPA is currently examining scenarios that could lead to service north of Sacramento. The 2013 State Rail Plan identifies a “San Joaquin Extension to Redding” as a potential expansion of the San Joaquins, and SJJPA is examining this possibility. As first steps, extensions to Yuba City/Marysville and Oroville are under consideration. Another extension of the San Joaquins SJJPA is studying is from the current terminus at Oakland Station to the Oakland Coliseum/ BART Station (currently served by Capitol Corridor trains). Extending the service just five additional miles to this station would provide another direct link between the San Joaquins and BART, as well as new connections to the Coliseum complex and the Oakland Airport via the BART to OAK Automated Guideway Transit service (formerly called the Oakland Airport Connector). SJJPA also will continue to explore the longer-term possibility of having some San Joaquins in the future utilize the Altamont Corridor to bring San Joaquins to additional Bay Area markets.

Another project under consideration is to consolidate Stockton’s two rail stations at Cabral Station, which would enable Stockton to be served by a single station, providing a safer environment for passengers, more secure parking, a direct connection to Sacramento – Fresno/Bakersfield San Joaquins trains, ACE commuter trains, and promote transit-oriented development.

