STAFF REPORT

DATE: October 25, 2021

TO: Sacramento Regional Transit Board of Directors

FROM: Laura Ham, VP, Planning and Engineering

SUBJ: SACRT FINAL NETWORK INTEGRATION PLAN

RECOMMENDATION

Motion to Approve.

RESULT OF RECOMMENDED ACTION

The Final Network Integration Plan will be transmitted to Caltrans, satisfying SacRT's commitment to do so under its 2018 Transit and Intercity Rail Capital Program grant.

FISCAL IMPACT

There is no fiscal impact associated with the finalization of the Final Network Integration Plan. There will be fiscal impacts, in the future, based on the actions associated with the Plan; however, those will be addressed in the Sacramento Regional Transit District (SacRT) Operating Budget or the Capital Budget accordingly.

DISCUSSION

As a condition of SacRT's 2018 grant under the Transit and Intercity Rail Capital Program (TIRCP) which funds 20 new low-floor light rail vehicles (LRVs), SacRT is required to prepare a Network Integration Plan, the preparation of which is funded by the TIRCP grant and the purpose of which is to assure that grant expenditures will be compatible with the California State Rail Plan.

The scope of work for the Network Integration Plan includes operations planning for several upcoming capital projects, including conversion to low-floor LRVs, 15-minute headways to Folsom, the Sacramento Valley Station (SVS) Loop project, bus circulation to the planned new SVS, statewide fare integration, and new San Joaquin/ACE service to Sacramento.

The Network Integration Plan is not an action item or a service change; however, it advances operational readiness from a conceptual level to a pre-implementation level of analysis (i.e., it evaluates numerous operating alternatives for passenger capacity, system limitations, schedule reliability, fleet availability, cost-effectiveness, etc.).

The earliest change would be in 2023 and would require public review and subsequent Board action. The horizon year for the Plan is 2027.

The Plan has been reviewed by SacRT Planning, Light Rail Operations, Light Rail Maintenance, Engineering, and Grants as well as officials from partner agencies and organizations, including Capitol Corridor Joint Powers Authority (JPA), San Joaquin JPA, City of Sacramento, Downtown Railyards Ventures, Kaiser Permanente, Sacramento Area Council of Governments (SACOG), Caltrans, and other regional transit agencies.

The Draft Plan was made available for public comment via SacRT's web site from June, 7, 2021 through July 31, 2021. Public comments were provided from the City of Sacramento, Downtown Railyard Venture, LLC, Kaiser Permanente, and one member of the public, and are included and responded to in Appendix D of the final plan.

Final Network Integration Plan

Regional Transit

Network Integration Plan

October 25, 2021

Executive Summary

The 2018 California State Rail Plan articulates a vision of intercity rail, commuter rail, and local mass transit integration, making the rail system easier to access and use. To further this vision, the California State Transportation Agency (CalSTA) and the California Department of Transportation (Caltrans) have been funding rail integration plans in various parts of the state to better integrate transit with the state rail system. The Sacramento Regional Transit (SacRT) Network Integration Plan is one of those plans.

SacRT Network Integration Vision

The common theme running through all state-sponsored Network Integration Plans is how to provide better connections between local transit and the state rail system. In Sacramento, that system consists of the *Capitol Corridor* and the *San Joaquins* intercity trains, which are sponsored by Caltrans and operated by their respective Joint Powers Authorities. In the future, two new *San Joaquins* roundtrips will be added on the Union Pacific Railroad's Sacramento Subdivision, stopping at a Midtown Station along the 20th Street corridor. Additionally, the Altamont Corridor Express (ACE) commuter rail service, operating today between Stockton and San Jose, is planning an extension to Sacramento with multiple arrivals and departures. These trains also will stop at the Midtown Station.

SacRT serves Sacramento Valley Station (SVS) today with the Gold Line light rail transit (LRT) service and two local bus routes, the 30 and the 38. The Gold Line operates with mostly 15-minute headways between SVS and Sunrise and 30-minute headways between Sunrise and Folsom. SacRT also serves the Midtown area, with the Blue Line and Green Line stopping nearby at 16th Street Station and the 62 Freeport bus route running along 19th Street and 21st Street, providing a connection to and from Downtown Sacramento.

Network Integration Elements

The realization of improved integration of intercity rail, commuter rail, and SacRT LRT and bus services envisioned in this plan rests on four elements. These elements are:

Infrastructure improvements. These are physical improvements to the transit network—some to be implemented by SacRT and some by other agencies—that will play key roles in future service integration. These include the following projects, some of which are actively underway and some of which are still in the planning stages:

- The SVS Area Plan, which includes the Bus Mobility Center (a multi-level bus terminal), an elevated concourse and circulation deck connecting to the light rail station, and other improvements at SVS. At least four SacRT routes could make use of the BMC in the near-term.

- The SVS Loop, which includes a north–south double-track alignment for the Gold Line and Green Line through Sacramento Valley Station and along 7th Street to North B Street. Also included is a new Railyards Station to serve a new Major League Soccer (MLS) stadium and surrounding development.

- Double-tracking portions of the Gold Line at Glenn and Hazel Stations, which will allow for 15-minute headways between Sunrise and Folsom.

- Conversion of SacRT's existing high-floor light rail vehicle (LRV) fleet to low-floor LRVs, which will facilitate faster boardings and alightings.

- Station upgrades to allow for level boarding with the new low-floor fleet.

- The Midtown Station serving future ACE commuter and *San Joaquins* intercity trains. SacRT will provide local connections at the Midtown Station.

- The Downtown / Riverfront Streetcar linking SVS with West Sacramento.

Light Rail Service Improvements. These are new concepts to expand LRT service, enhancing mobility options.

- 15-minute headways between Sunrise Station and Folsom Station. Headways are limited to 30 minutes today. The aforementioned double-tracking through Glenn Station is a prerequisite for this service improvement.

- Peak short-tripper trains to provide supplemental service between Sunrise Station and SVS during the weekday commute periods.

- Gold and Green Line interlining—that is, extending the Gold Line to 7th & Richards / Township 9 Station, which will require the aforementioned double-tracking of 7th Street between F Street and North B Street.

- Special event service for the MLS stadium, including both special event trains and augmented regular-service trains.

Bus Service Improvements. These include potential modifications to Routes 30, 38, 51, and 62, including service to the BMC, new touch-and-go stops at 5th Street / G Street, and a new bus terminal in the Railyards area. Rerouting the 142 Airport service following a reconfiguration of the northbound I-5 on-ramp from I Street is also being considered. For Midtown Station, potential improvements to Route 62 could facilitate connections for ACE and *San Joaquins* passengers.

Fare and Information Systems Integration and Customer Experience. CalSTA, Caltrans, and intercity and local transit partners have initiated the California Integrated Travel Project (Cal-ITP) to unify and simplify fare collection and trip planning throughout the state. Cal-ITP seeks to achieve this goal by ensuring access to reliable and accurate real-time transit information, reducing friction in payments, and creating a statewide eligibility verification program. SacRT is participating in the Cal-ITP development.

Recommendations

The Network Integration Plan concludes with recommendations for capital investments, phased implementation of LRT and bus service changes, and fare and information integration that will provide SacRT riders with a more seamless, expeditious, and user-friendly experience. Highlights include:

- More double tracking of the Gold Line east of Sunrise Station and prioritization of the 7th Street double track to ensure service reliability and provide more operational flexibility.

- Phased rollout of 15-minute headways on the Gold Line between Sunrise Station and Folsom Station, starting first with weekday peak-period service only and expanding to all-day service, seven days a week, in later years.

- Three peak short-trippers between Sunrise Station and SVS. These trains mitigate the loss of seated capacity consequent with the conversion to two- and later three-car low-floor trainsets from four-car high-floor trainsets.

- Future interlining of the Gold Line and Green Line between SVS and Richards Boulevard / Township 9, which will streamline LRT operations in Downtown Sacramento, improve operating cost efficiencies, and accommodate future ridership growth.

- Special event LRT service serving the future MLS stadium using interlined Gold Line and / or Blue Line trains.

- Initiation of detailed analysis to identify and move forward with a preferred solution for new storage tracks to replace the Gold Line's SVS tail tracks and accommodate event service staging for the MLS stadium.

- Extending Routes 30, 38, 51 and 62 to the SVS BMC in the near-term, and extending Routes 30 and 38 to a new Railyards terminal in the long-term.

- Continued coordination with the City, the Railyards master developer (Downtown Railyard Venture), and individual parcel developers on identifying a preferred option for a new Railyards bus terminal.

- Increase peak-period frequency on Route 62 to facilitate connections at Midtown Station, particularly in the interim until completion of the new mainline platform at City College Station to allow for cross-platform transfers with the Blue Line.

- Continued participation in the Cal-ITP project.

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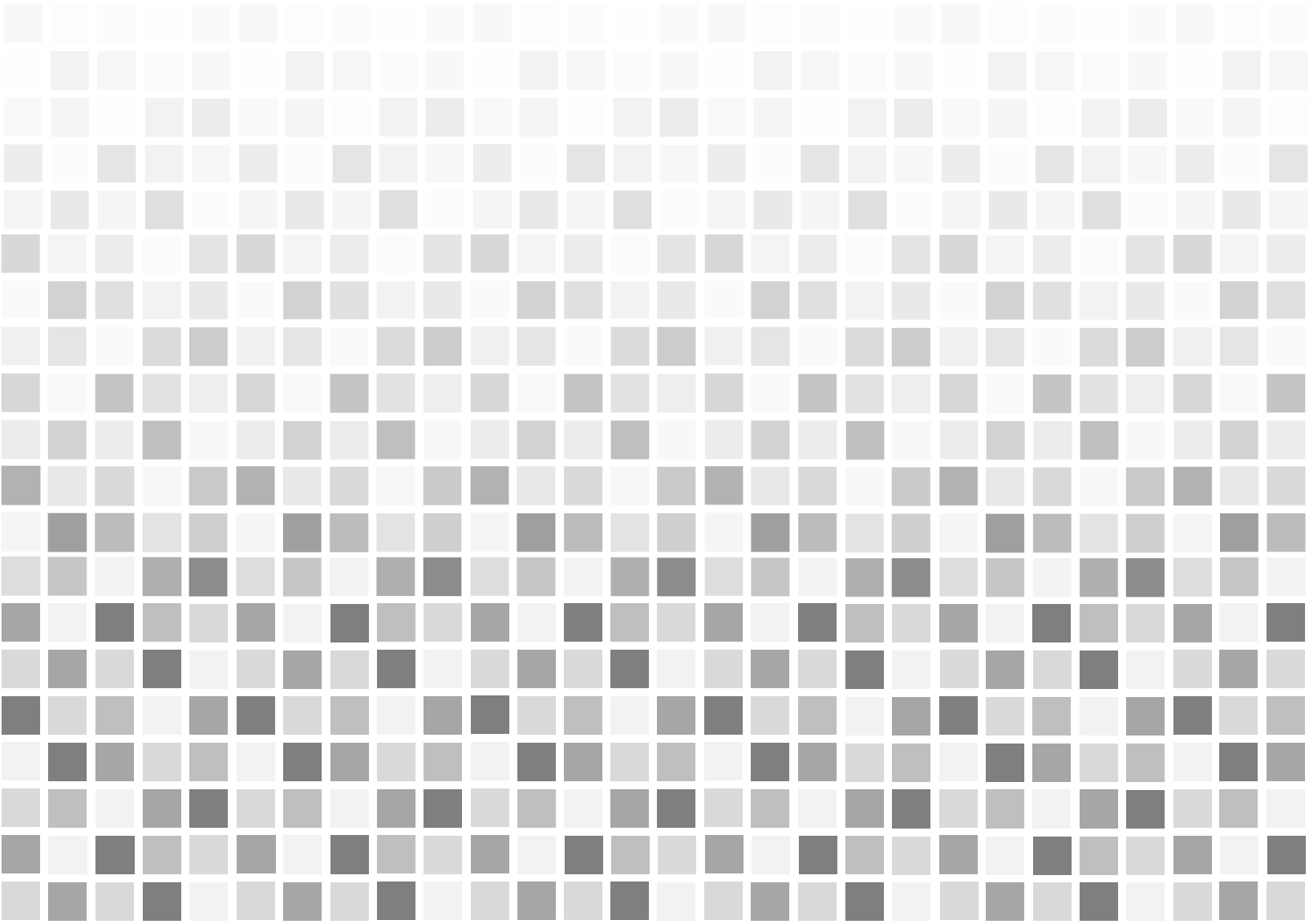


1.1 SacRT Profile

The Sacramento Regional Transit District (SacRT) began operation on April 1, 1973, with the acquisition of the Sacramento Transit Authority. In 1971, California legislation allocated sales tax money for local and statewide transit service and created the organizational framework for SacRT pursuant to the Sacramento Regional Transit District Act.

An 11-member Board of Directors is responsible for governing SacRT. The Board is comprised of four members of the Sacramento City Council, three members of the Sacramento County Board of Supervisors, and one member each from four additional city councils (Rancho Cordova, Citrus Heights, Folsom, and Elk Grove). The Board is responsible for, among other things, approving contracts, planning service and capital projects, passing ordinances, adopting the budget, appointing committees, and hiring SacRT's General Manager / Chief Executive Officer (GM / CEO). SacRT's GM / CEO is responsible for carrying out the policies and ordinances of the Board, overseeing SacRT's day-to-day operations, and appointing the executive management of the various divisions.

SacRT provides bus, light rail transit (LRT), and paratransit service 365 days a year. SacRT's entire bus and LRT system is accessible to the disabled community.

1.2 California State Rail Plan

The vision of the 2018 California State Rail Plan calls for statewide passenger rail service—inclusive of high-speed rail, intercity corridor services, and commuter rail services—to be fully integrated with urban mass transit systems. The overarching goal of the Rail Plan is the creation of a seamless and convenient integrated rail-transit network that will attract riders in ever increasing numbers. To this end, the California State Transportation Authority (CalSTA) and California Department of Transportation (Caltrans) have provided funding and oversight for network integration plans in various parts of the state.

According to the Passenger Rail Investment and Improvement Act (PRIIA) of 2008 and subsequent legislation, states are called upon to periodically produce state rail plans as a requirement to secure federal support for rail projects. State rail plans should identify improvement projects including plans for service improvements.

1.3 Network Integration Plans

A major outcome of the 2018 California State Rail Plan has been the initiation of several Network Integration Plans in various parts of the state. These plans are aimed at both improving rail service and connections between local transit and the state rail system. These plans have been enabled by the availability of state funding, typically provided through the Transit and Intercity Rail Capital Program (TIRCP). Network Integration Plans are in process in Alameda, Contra Costa, Monterey, San Luis Obispo, and Santa Barbara counties, as well as Sacramento County. Another plan is slated to begin in summer 2021 for Los Angeles County.

1.4 SacRT Network Integration Plan

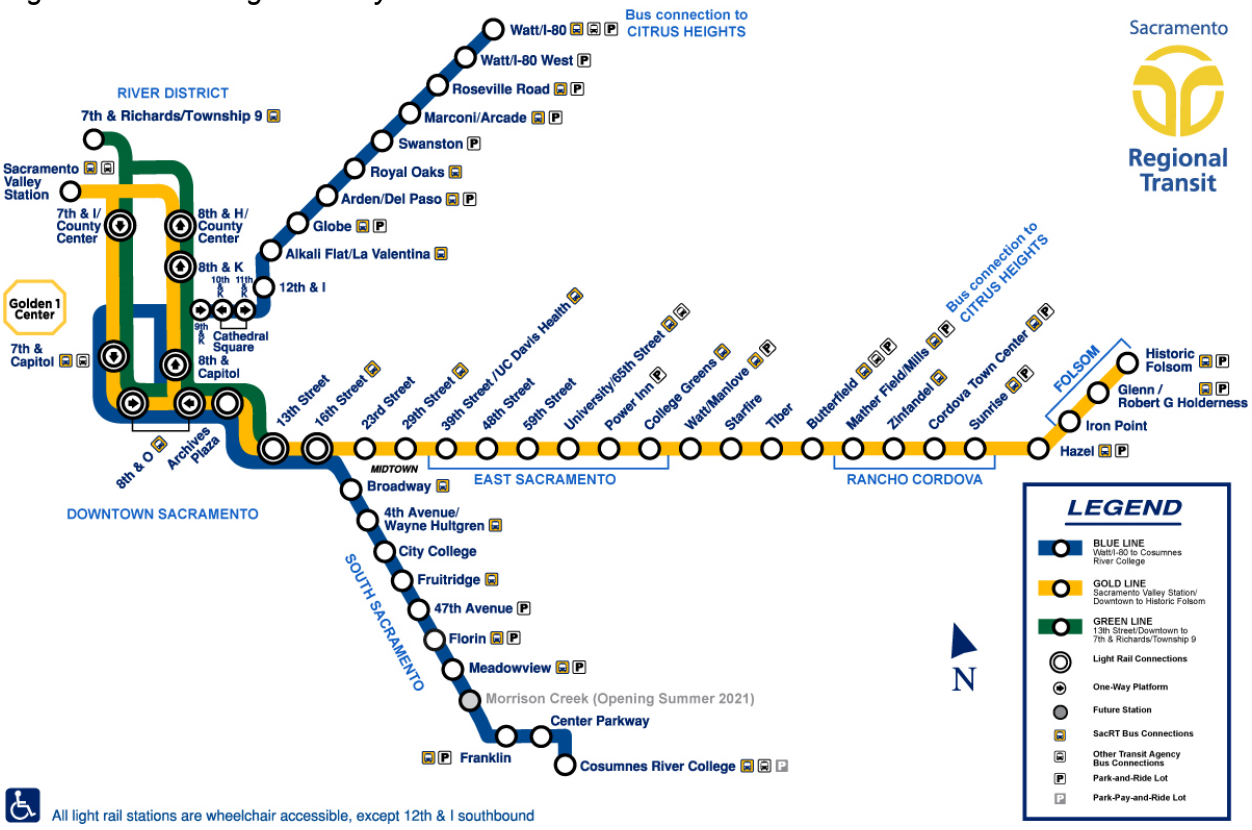
In 2018, SacRT received a $40.5 million TIRCP award from Caltrans. The award for SacRT's Accelerating Rail Modernization and Expansion in the Capital Region Program included the procurement of 20 low-floor light rail vehicles (LRV)—thirteen replacement vehicles and seven

expansion vehicles—to support 15-minute weekday service on the Gold Line between Sacramento and Folsom and the eventual operation of three peak express trains in the peak-hour direction.

A condition of the award requires SacRT to develop a Network Integration Plan, focused on how to improve connections for SacRT's Gold Line and local buses with the Amtrak-operated *Capitol Corridor* and *San Joaquins* trains at Sacramento Valley Station (SVS). SVS is also a stop for two Amtrak long-distance trains and Amtrak Thruway buses.

The SacRT Gold Line LRT service connects Downtown Sacramento with Rancho Cordova and Folsom, as well as with SacRT's Blue and Green Lines. Various bus operators either serve SVS directly or stop nearby, including Yolobus, Amtrak Thruway, and SacRT (Routes 30 and 38), among others.

Figure 1: SacRT Light Rail System



This Network Integration Plan focuses on how the Gold Line and local bus services might be reconfigured to provide more convenient access to SVS. The plan considers several major capital projects, including the City of Sacramento's SVS Area Plan, a new configuration for Gold Line trains to serve SVS, double-tracking to allow more frequent Folsom service, the arrival of low-floor LRVs, and a new Midtown commuter rail station, among other things.

1.5 Related Projects

This section summarizes relevant projects for future Gold Line service and for bus connections at SVS and the future Midtown Station.

1.5.1 Sacramento Valley Station Area Plan

Sacramento Valley Station is located at the edge of Sacramento's central business district. Starting with the City of Sacramento's purchase of the SVS site and historic building in 2006, a three-phase transformation of the station into a multi-modal regional transportation hub has been underway. This SVS Area Plan is generally focused on the blocks immediately south of the station platforms with numerous interrelated projects. These include the SVS Loop project to redesign the Gold Line approach and terminal into a double-tracked "through" station, and the Bus Mobility Center (BMC), a terminus for local and regional buses as well as for Amtrak Thruway bus routes serving SVS. The Gold Line's existing tail tracks at the station will also be removed upon identification of replacement storage, in order to facilitate construction of the BMC and development of adjacent City property.

1.5.2 Railyards

Located just to the north of SVS, the Railyards is one of the nation's largest infill development projects. The redevelopment of the historic 244-acre site, originally the western terminus of the 1860s Transcontinental Railroad, will integrate the area into Sacramento's downtown districts, effectively doubling the size of Downtown Sacramento. The project includes a dense, mixed-use residential neighborhood, a shopping and market district, a County courthouse, a Kaiser Permanente medical campus, a soccer stadium, and a history museum. Separately, the California Department of General Services is also advancing the Richards Boulevard Office Complex (RBOC) on a site just north of the Railyards in the River District. SacRT has plans for a new Railyards LRT station to both serve the surrounding neighborhood at large and facilitate special event service for the future 21,000-seat Major League Soccer (MLS) stadium.

1.5.3 Downtown/Riverfront Streetcar

In 2016, Caltrans awarded $30 million in TIRCP funding for the Downtown / Riverfront Streetcar, a proposed streetcar line between Sacramento and West Sacramento via SVS. Originally envisioned as a much larger system with 19 stations, the project has since been refined to a 1.5-mile route between SVS and Sutter Health Park in West Sacramento. The project will impact the Gold and Blue Lines, whose tracks streetcars will use to access the SacRT maintenance facility in north Sacramento.

1.5.4 Valley Rail and Midtown Station

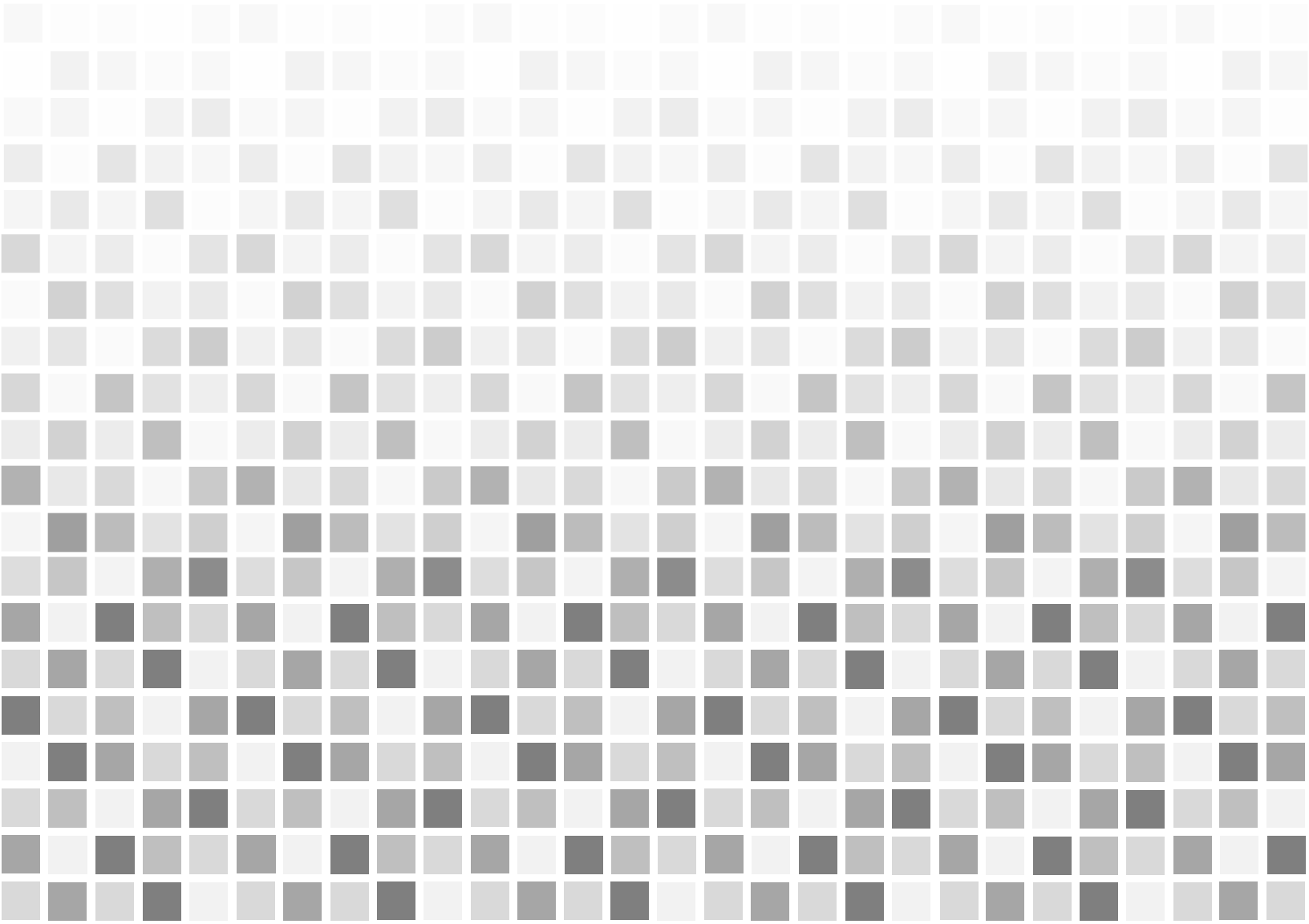
As part of the Valley Rail program to improve rail service in the San Joaquin Valley, the San Joaquin Regional Rail Commission (SJRRC) and San Joaquin Joint Powers Authority (SJJPA) have plans to operate expanded Altamont Corridor Express (ACE) and *San Joaquins* service on the Union Pacific Railroad (UP) Sacramento Subdivision, which parallels 20th Street through central Sacramento. The plans include a new Midtown Station, located between P and S Streets. The SacRT Gold Line crosses the Sacramento Subdivision just south of the planned station on

an elevated structure, while the Blue Line runs parallel to the subdivision between S Street and City College, the envisioned long-term transfer point for ACE and *San Joaquins* trains and the Blue Line. For the near term, passengers will be able to transfer to / from the Blue and Gold Lines at the 16th Street Station or connect with SacRT's Route 62 bus running along 19th and 21st Streets.

1.5.5 Airport Extension

The SacRT Green Line to the Airport project will extend light rail service 12.5 miles north from Downtown Sacramento to Natomas and the Sacramento International Airport. The new line includes 13 stations and a new multimodal bridge over the American River. The project's first phase from Downtown to the 7th & Richards / Township 9 Station, was completed in 2012. Future phases will progress by one or more segments further north toward the Airport. SacRT has completed a number of environmental documents for the project, but further progress is dependent on securing a funding source for construction. Future interlining of the Gold and Green Lines, as discussed later in this plan, would allow for one-seat rides connecting the airport with SVS and Folsom.

2 SacRT Service Integration Vision



2.1 Goal: Improved Integration with the State Rail System

The common theme running through all state-sponsored Network Integration Plans is how to provide better connections between local transit and the state rail system. In Sacramento, that system consists of the *Capitol Corridor* and the *San Joaquins* intercity trains, which are sponsored by Caltrans and operated by their respective Joint Powers Authorities. In the future, two new *San Joaquins* roundtrips will be added on the Sacramento Subdivision, stopping at the Midtown Station. Additionally, the ACE commuter rail service, operating today between Stockton and San Jose, is planning an extension to Sacramento along the same route, with multiple arrivals and departures at Midtown Station. In the long-term future, high-speed trains connecting to Stockton, Modesto, Merced, and beyond will also serve SVS as part of Phase 2 of the statewide high-speed rail system.

Two Amtrak long-distance intercity trains—the *Coast Starlight* and *California Zephyr*—also stop at SVS.

2.1.1 Capitol Corridor Service Improvements

Prior to the COVID-19 pandemic, the *Capitol Corridor* operated 15 roundtrips (weekdays) and 11 roundtrips (weekends) between Sacramento and Oakland, with some trains continuing between Oakland and San Jose. North of Sacramento, one daily roundtrip continued to and from Auburn. Amtrak Thruway buses provide connections at SVS to Reno.

While service has been cut by approximately 50 percent due to the pandemic, the Capitol Corridor Joint Powers Authority (CCJPA) has plans for a sequence of weekday service improvements for *Capitol Corridor* trains at Sacramento Valley Station in the near-, medium- and long-term.

- *Near term (by 2026)*
    - 3 roundtrips Sacramento–Roseville, with 1 roundtrip continuing to Auburn
    - 15 roundtrips Sacramento–Oakland (pre-pandemic service level)
- *Mid-term (date to be determined)*
    - 10 roundtrips Sacramento–Roseville, with 1 roundtrip continuing to Auburn
    - 15 or more roundtrips Sacramento–Oakland
- *Long-term (date to be determined)*
    - 10 roundtrips Sacramento–Roseville / Auburn
    - 2 to 4 trains per hour per direction Sacramento–Oakland

Ongoing *Capitol Corridor* planning work involves moving toward hourly-based schedules, with half-hourly schedules during peak periods on weekdays, without adding more roundtrips. While the aforementioned changes integrate well with the Gold Line's base 15-minute headways, the need may remain for improved integration during evenings and weekends, when *Capitol Corridor* and Gold Line trains are less frequent.

2.1.2 *San Joaquins*/ACE Service Improvements

Prior to the pandemic, the *San Joaquins* operated two roundtrips between Sacramento (SVS), Stockton, and Bakersfield and five roundtrips between Oakland, Stockton, and Bakersfield. Amtrak Thruway buses provide a bridge between Bakersfield and Los Angeles. At SVS, Thruway connections are provided to Chico and Redding.

Despite service cuts due to the pandemic, the San Joaquin Joint Powers Authority (SJJPA), like the CCJPA, is planning for more service by 2026:

- 2 roundtrips daily between Natomas, Sacramento (Midtown), and Fresno / Bakersfield
- 2 roundtrips daily between Sacramento (SVS), Fresno, and Bakersfield (pre-pandemic service level)

The San Joaquin Regional Rail Commission (SJRRC) is also planning an extension of ACE commuter rail to Sacramento, including the following service by 2026:

- 1 roundtrip weekdays between Natomas, Sacramento (Midtown), and San Jose
- 3 roundtrips weekdays between Natomas, Sacramento (Midtown), and Merced
- 1 roundtrip weekdays between Natomas, Sacramento (Midtown), and Stockton

2.2 Key Network Integration Elements

This section summarizes the four key elements of SacRT's network integration planning. Subsequent sections of this plan discuss these elements in detail.

2.2.1 Infrastructure Improvements

Several capital projects, either underway or being planned, are essential in contemplating network integration for SacRT. While some projects will facilitate improved frequency and reduced dwell time, others will provide enhanced service reliability and expanded accessibility and connectivity. These capital projects are:

- The SVS Area Plan, which includes the Bus Mobility Center (a multi-level bus terminal), an elevated concourse and circulation deck connecting to the light rail station, and other improvements at SVS. At least four SacRT routes could make use of the BMC in the near-term.

- The SVS Loop, which includes a north–south double-track alignment for the Gold Line and Green Line through Sacramento Valley Station and along 7th Street to North B Street. Also included is a new Railyards Station to serve a new Major League Soccer (MLS) stadium and surrounding development.

- Double-tracking portions of the Gold Line at Glenn and Hazel Stations, which will allow for 15-minute headways between Sunrise and Folsom.

- Conversion of SacRT's existing high-floor light rail vehicle (LRV) fleet to low-floor LRVs, which will facilitate faster boardings and alightings.

- Station upgrades to allow for level boarding with the new low-floor fleet.

- The Midtown Station serving future ACE commuter and *San Joaquins* intercity trains. SacRT will provide local connections at the Midtown Station.

- The Downtown / Riverfront Streetcar linking SVS with West Sacramento.

All of these infrastructure improvements and their timelines are discussed in detail in Chapter 0.

2.2.2 LRT Service Improvements

Chapter 0 discusses service improvements for the Gold Line. These include:

- 15-minute headways between Sunrise Station and Folsom Station. Headways are limited to 30 minutes today. The aforementioned double-tracking through Glenn Station is a prerequisite for this service improvement.

- Peak short-tripper trains between Sunrise Station and SVS during the weekday commute periods.

- Gold and Green interlining—that is, extending the Gold Line to 7th & Richards / Township 9 Station, which will require the aforementioned double-tracking of 7th Street between Railyards Boulevard and North B Street.

- Special event service for the MLS stadium, including both special event trains and augmented regular-service trains.

2.2.3 Bus Service Improvements

Chapter 0 discusses potential modifications to bus routing and schedules, including service to the BMC in the near-term, transitioning to touch-and-go stops at 5th Street / G Street and service to a new Railyards bus terminal in the long-term. Rerouting the 142 Airport service following a reconfiguration of the northbound I-5 on-ramp from I Street is also considered. Potential improvements to Route 62 are also considered to facilitate connections for ACE and *San Joaquins* passengers at Midtown Station.

2.2.4 Fares and Information Systems Integration and Customer Experience

In addition to the physical and operational improvements described in the preceding sections, a key component of network integration is the coordination of fares and customer information, as discussed in Chapter 0. The trend toward smart cards and mobile ticketing apps has prompted CalSTA, Caltrans, and intercity and local transit partners to initiate the California Integrated Travel Project (Cal-ITP) to unify and simplify fare collection and trip planning throughout the state. Cal-ITP seeks to achieve this goal by ensuring access to reliable and accurate real-time transit information, reducing friction in payments, and creating a statewide eligibility verification program.

2.3 Other Integration Efforts

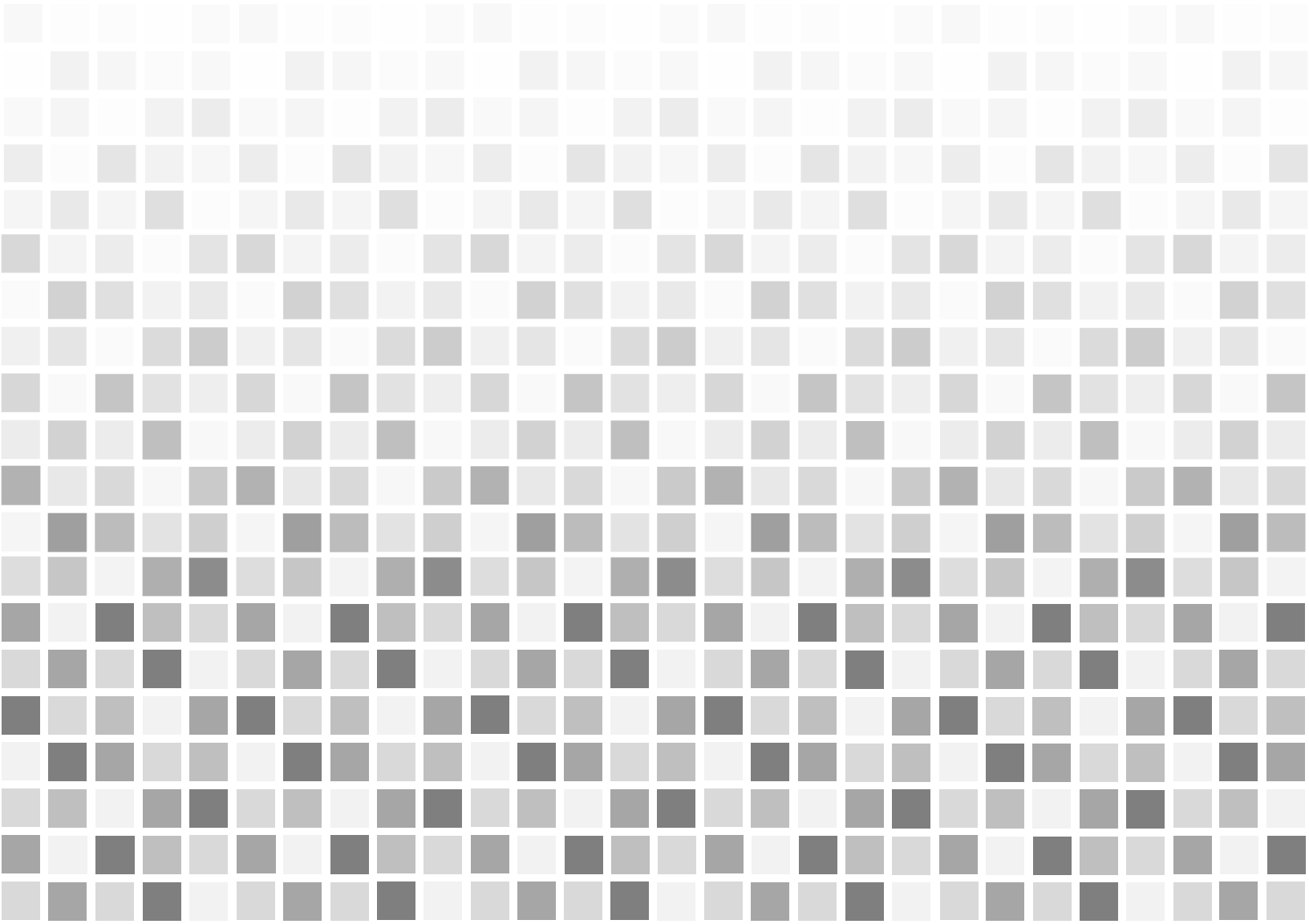
In April 2020, CalSTA awarded the CCJPA, together with its co-applicants—the City of Sacramento, SacRT, and the Railyards developer, Downtown Railyard Venture, LLC—a total of $3.9 million in TIRCP grant funding for SVS-related projects. The bulk of the funding will go to a new north-side station access route to connect SVS with the future Railyards Plaza in the Central Shops Historic District. However, the award also includes dedicated funding for three additional service integration efforts for SVS and Downtown Sacramento:

- An I-5 Northbound Ramp Reconfiguration Study, a Caltrans Project Study Report (PSR) to analyze a reconfiguration of the I-5 northbound ramp at I Street and 3rd Street that could allow north- and southbound bi-directional freeway access for buses serving SVS's future Bus Mobility Center

- A Bus Layover Facility Study to determine suitable locations for a facility to accommodate zero emission charging infrastructure for regional and local buses

- A Downtown Sacramento Service Integration Study—with CCJPA, SACOG, the City of Sacramento, and local and regional bus operators—to support route modifications and timing adjustments that better synchronize Sacramento's regional bus system with intercity rail and local transit needs and to identify the full benefits of improved bus and light rail infrastructure at SVS

3 Infrastructure Improvements

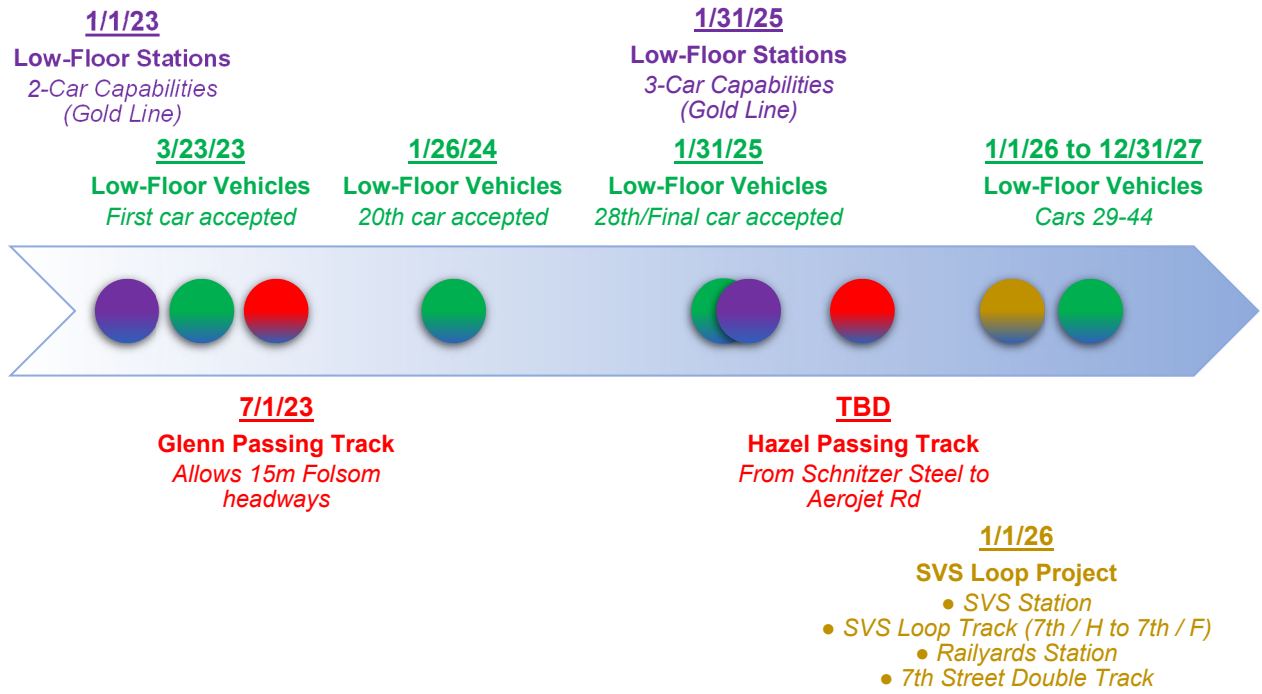


This chapter describes future planned infrastructure improvements that are relevant for light rail and bus service integration:

- Section 3.1 describes existing facilities and infrastructure at SVS.
- Section 3.2 describes changes to SVS facilities and infrastructure as part of the SVS Area Plan, including the Bus Mobility Center, realigned light rail station, and other components.
- The subsequent sections describe key RT capital projects, including the SVS Loop (Section 3.3), Gold Line double track in Folsom and Rancho Cordova (Section 3.4), and low-floor fleet and station conversion (Section 3.5).
- Section 3.6 describes the future Midtown Station for ACE and the *San Joaquins*.
- Section 3.7 describes the planned Downtown / Riverfront Streetcar connecting SVS with West Sacramento.

Figure 2 summarizes key SacRT capital projects and their expected completion dates.

Figure 2: Timeline of SacRT Capital Projects



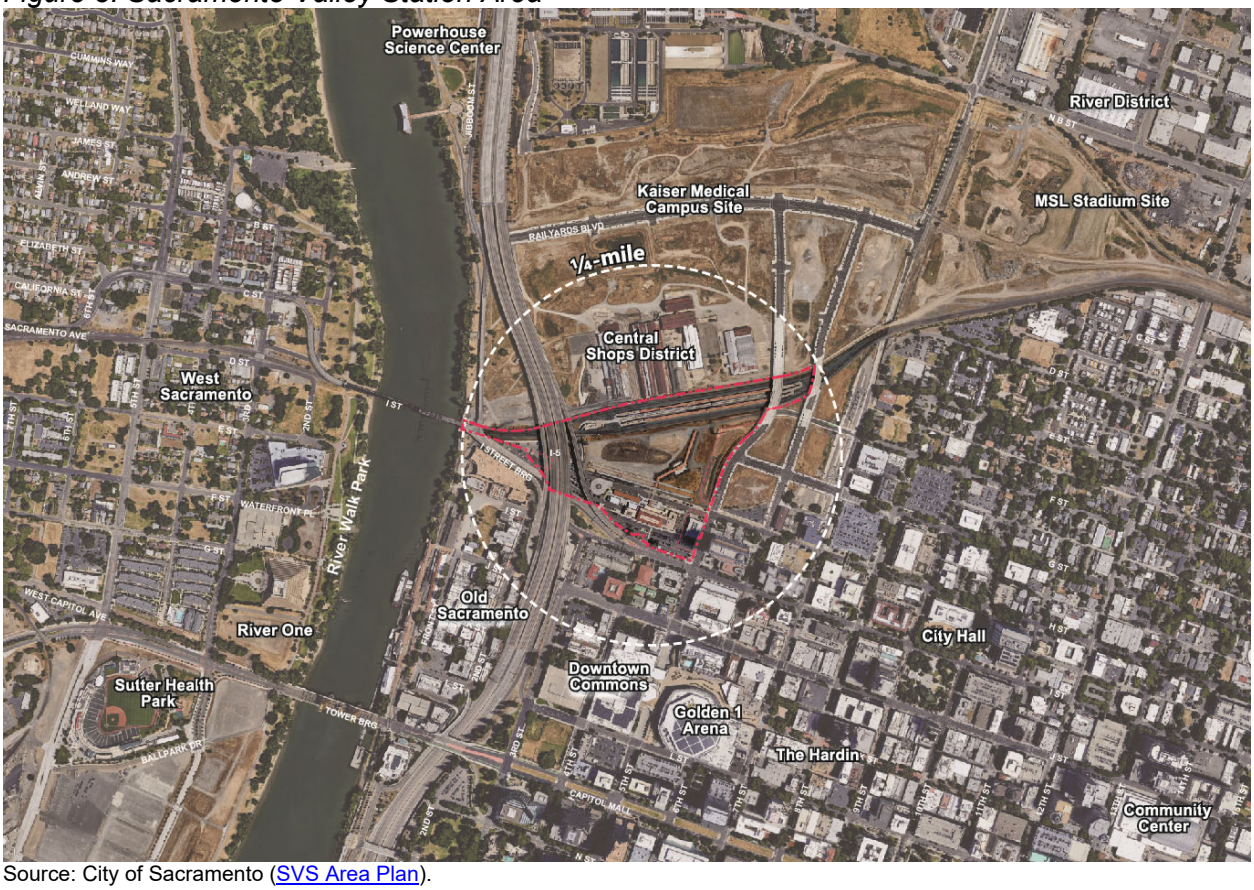
Note: The Hazel passing track is not funded at this time, and an expected completion date has yet to be determined.

3.1 Sacramento Valley Station

3.1.1 Station Area

The existing SVS station area is illustrated in Figure 3.

Figure 3: Sacramento Valley Station Area



Source: City of Sacramento (SVS Area Plan).

Sacramento Valley Station is located at the northwest corner of Downtown Sacramento[2] and is roughly bounded by 5th Street to the east, I Street to the south, and Interstate 5 (I-5) to the west. To the north, the station abuts the Central Shops Historic District. Nearby surrounding neighborhoods include Old Sacramento (southwest of the station on the opposite side of I-5) and Chinatown (immediately south of the station). Several government offices are located a few blocks east of the station, including City Hall, the Sacramento County Courthouse, and the Federal Courthouse. Additional State government offices are clustered along the Capitol Mall axis but are outside typical walking distance of SVS.

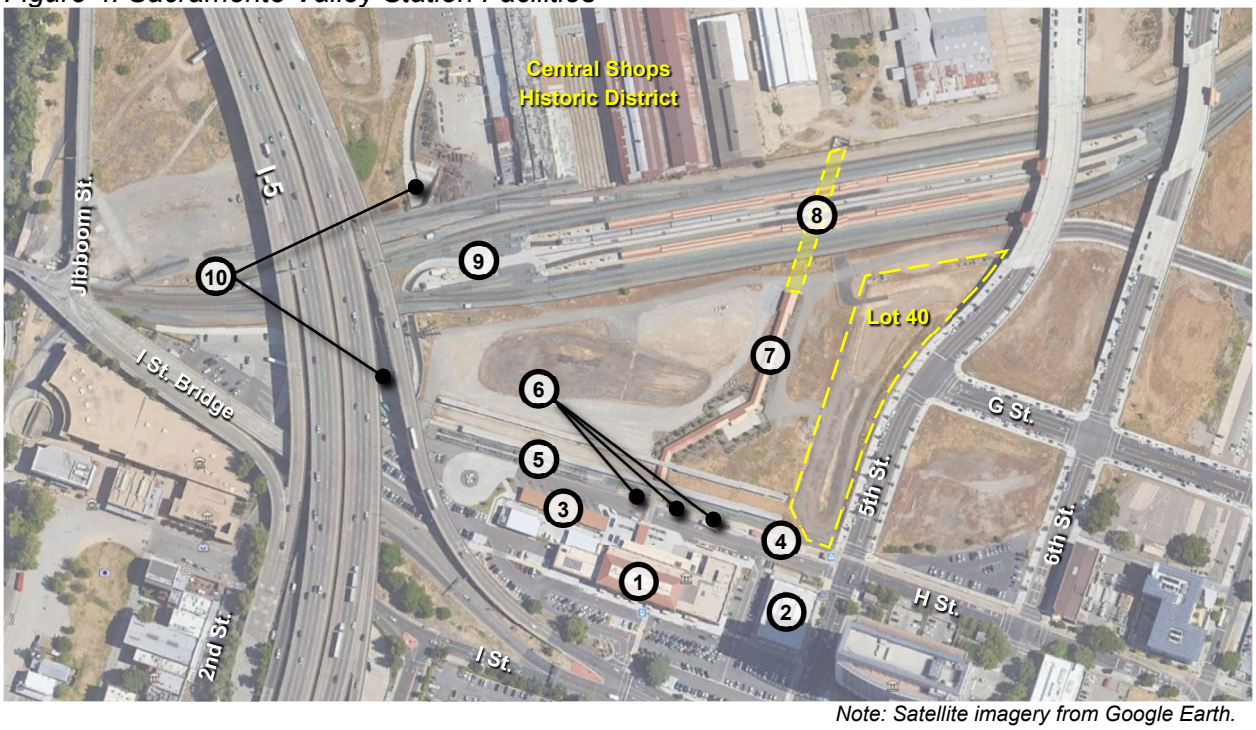
Recent redevelopment including Downtown Commons, the Golden 1 Center, and new Kaiser Permanente medical offices have increased foot traffic and activity in the area. This trend is expected to continue with the redevelopment of the Railyards area north of the station and revitalization in the adjacent River District further north, as well as redevelopment of other potential opportunity sites (e.g., the block bounded by I Street, J Street, 3rd Street, and 4th Street).

3.1.2 Station Facilities

Key station buildings and facilities are illustrated in Figure 4.

[2] The station is located at the northern edge of the central business district, but falls within the Railyards Plan Area, not the adjacent Central City Plan Area.

Figure 4: Sacramento Valley Station Facilities



Note: Satellite imagery from Google Earth.

Legend

1. Historic station
2. REA Building
3. Regional / intercity bus station
4. Light rail platform
5. Light rail tail tracks
6. Local bus berths
7. Covered walkway
8. Passenger tunnel (Steve Cohn Passageway)
9. Service access tunnel
10. Central Shops passageway

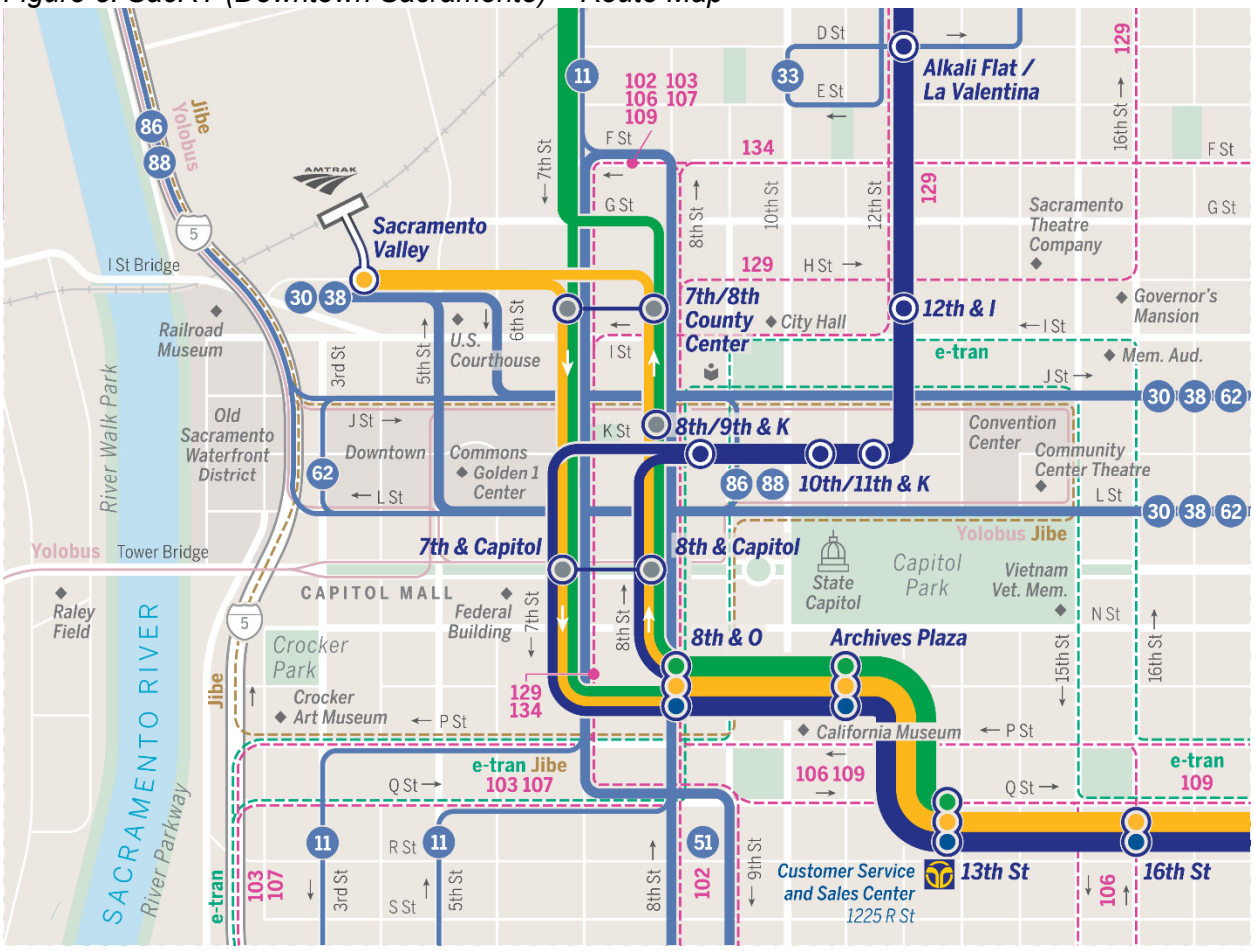
Currently, the station is served primarily by intercity rail services —namely, the *Capitol Corridor* and the *San Joaquins*. Additional long-distance Amtrak service is provided by the *California Zephyr* and *Coast Starlight*. A bus terminal with eight berths for connecting regional and Thruway buses is located at the northeast corner of the historic station building. Detailed information on existing intercity rail services and regional and Thruway bus services at the station is provided in Appendix A.

A below-grade passenger tunnel (the Steve Cohn Passageway) extends underneath the station platforms, connecting to stairs and ramps to / from platform level. At its southern end, the tunnel rises to surface level and connects with a covered walkway that extends south to the H Street "transitway" easement, where passengers can continue to the historic station building, connecting bus services, and SacRT's Gold Line platform.

Existing SacRT Facilities

Existing SacRT service in Downtown Sacramento is illustrated in Figure 5. SacRT facilities at SVS are illustrated in Figure 6.

Figure 5: SacRT (Downtown Sacramento) – Route Map



As illustrated in Figure 5, SacRT service at Sacramento Valley Station consists of the Gold Line (light rail) and two bus routes (30 J Street and 38 Tahoe Park). As illustrated in Figure 6, these services currently enter and exit the station via H Street, where three sawtooth bus bays and a single 325-foot-long side platform (capable of accommodating a four-car light rail train) are located along the north side of H Street immediately west of 5th Street, behind the historic passenger depot.

The Gold Line approach into the station is single-track for its entirety from 7th Street / 8th Street west to the end of the station platform, where a turnout provides two tail tracks capable of accommodating eight total light rail vehicles (LRVs).[3] SacRT buses serving the station use the turnaround loop at the western end of H Street to exit via eastbound H Street.

[3] These tail tracks are used primarily for temporary LRV storage for car cuts (when train length is reduced to two cars during the weekday midday period), as well as for storing disabled trains or dispatching replacement units.

Figure 6: SacRT Facilities at Sacramento Valley Station

Note: Satellite imagery from Google Earth.

3.2 Sacramento Valley Station Area Plan

3.2.1 Three Phases

The planned transformation of the station, including the historic passenger depot, into a multi-modal regional transportation hub over three phases began with the City of Sacramento's purchase of the SVS site and historic building in 2006. Phases 1 and 2, involving realignment of the intercity rail platforms and renovation of the historic station building, are complete. More details on the work completed under these phases is provided in Appendix A.

Work is currently underway on Phase 3, the last and largest of the three phases, encompassing all of the remaining work to develop the entire SVS site. In 2018, the City completed initial conceptual planning for the SVS site, resulting in two potential concepts described in the *Sacramento Valley Station Master Plan* (February 27, 2018). The City has since refined those concepts into a single, preferred plan, publishing a draft plan (the *Sacramento Valley Station Area Plan*) in August 2020. An illustrative plan and rendering of the preferred option are provided in Figure 7 and Figure 8. Completion of all of the planned improvements is not expected until approximately 2040.

Figure 7: SVS Illustrative Plan

Source: City of Sacramento (SVS Area Plan).

Legend

1. Historic station
2. REA Building
3. New station concourse
4. Bus Mobility Center
5. Mid-rise residential
6. High-rise residential
7. Lot 40 (north)
8. Lot 40 (south)
9. Hotel
10. Regenerative utility center
11. Light rail station
12. Pick-up / drop-off
13. Transit plaza
14. 5th Street plaza
15. Civic plaza
16. Chinese Commemorative Garden
17. Dog park
18. Community garden
19. Playground
20. Rock climbing area
21. Skate park
22. Feature plaza
23. Regenerative garden

Figure 8: SVS Station Rendering

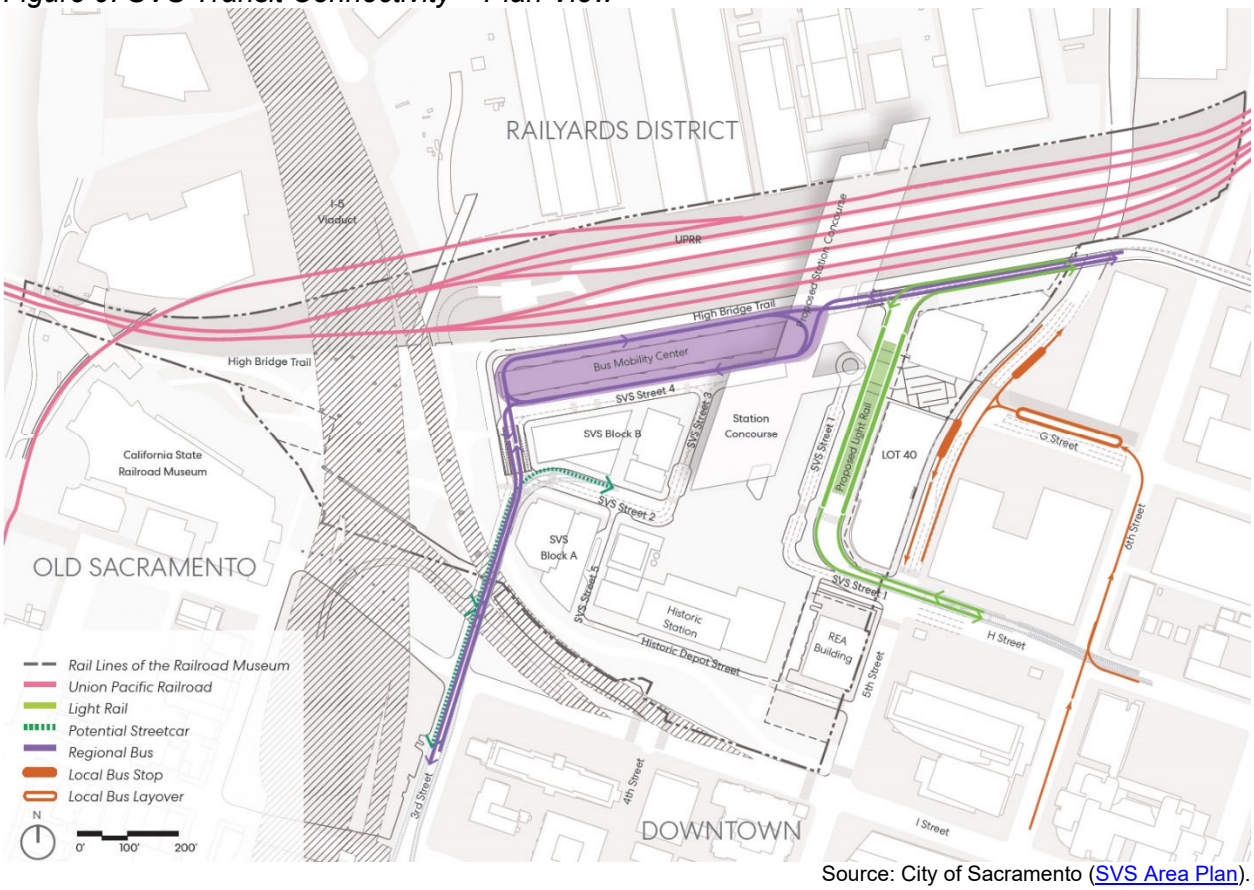
Station at full build-out of SVS Area Plan
Source: City of Sacramento (SVS Area Plan) / Perkins & Will / Steelblue LLC.

Plan and perspective views illustrating proposed transit access at the station under the preferred plan are provided in Figure 9 and Figure 10.

As shown in Figure 9 and Figure 10, SacRT light rail would be realigned along a north–south orientation adjacent to the new station concourse. Also included in the overall program for Phase 3 is an overhead concourse spanning the tracks to connect the SVS area with the Railyards; a new Bus Mobility Center (BMC) for regional and intercity buses at the northwest corner of the station area, with access via new extensions of 3rd Street and F Street; and an alignment for future streetcar service via the 3rd Street extension.

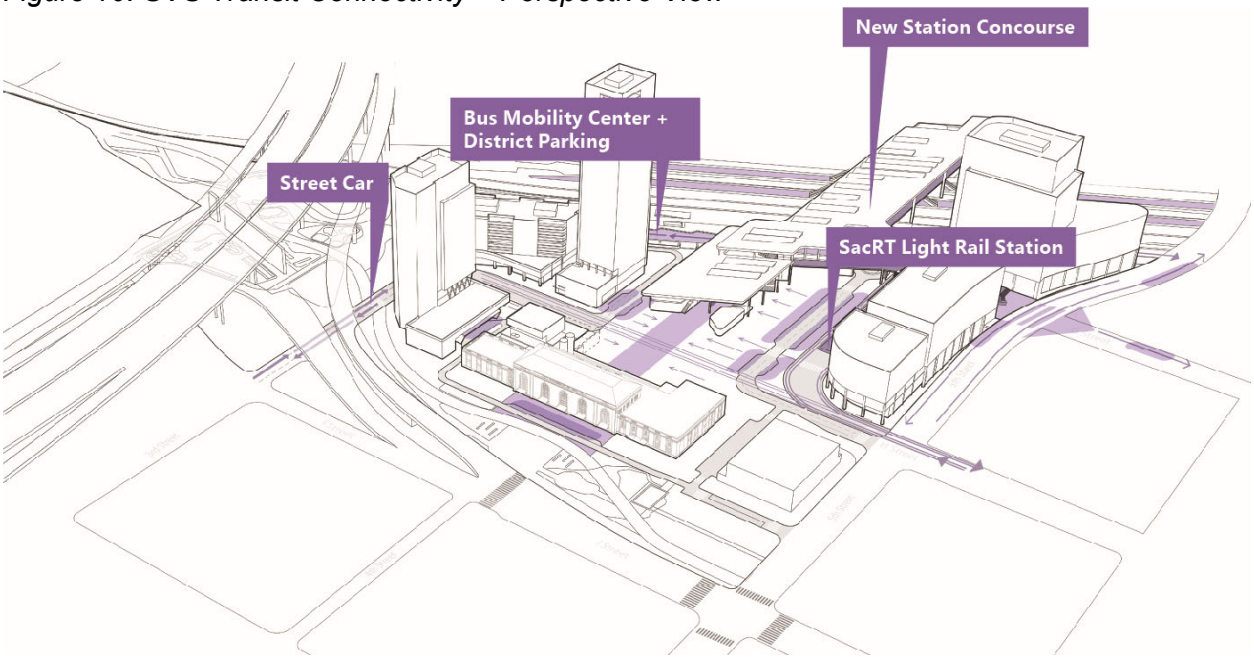
Due to the complexity of the Phase 3 program, a phasing plan has been developed to allow the program to be segmented into a series of smaller projects or sub-phases. The preferred plan envisions approximately four major sub-phases, as illustrated in Figure 11 and summarized in Figure 12. Detailed descriptions of the key components of each sub-phase are provided in the subsequent subsections.

Figure 9: SVS Transit Connectivity – Plan View



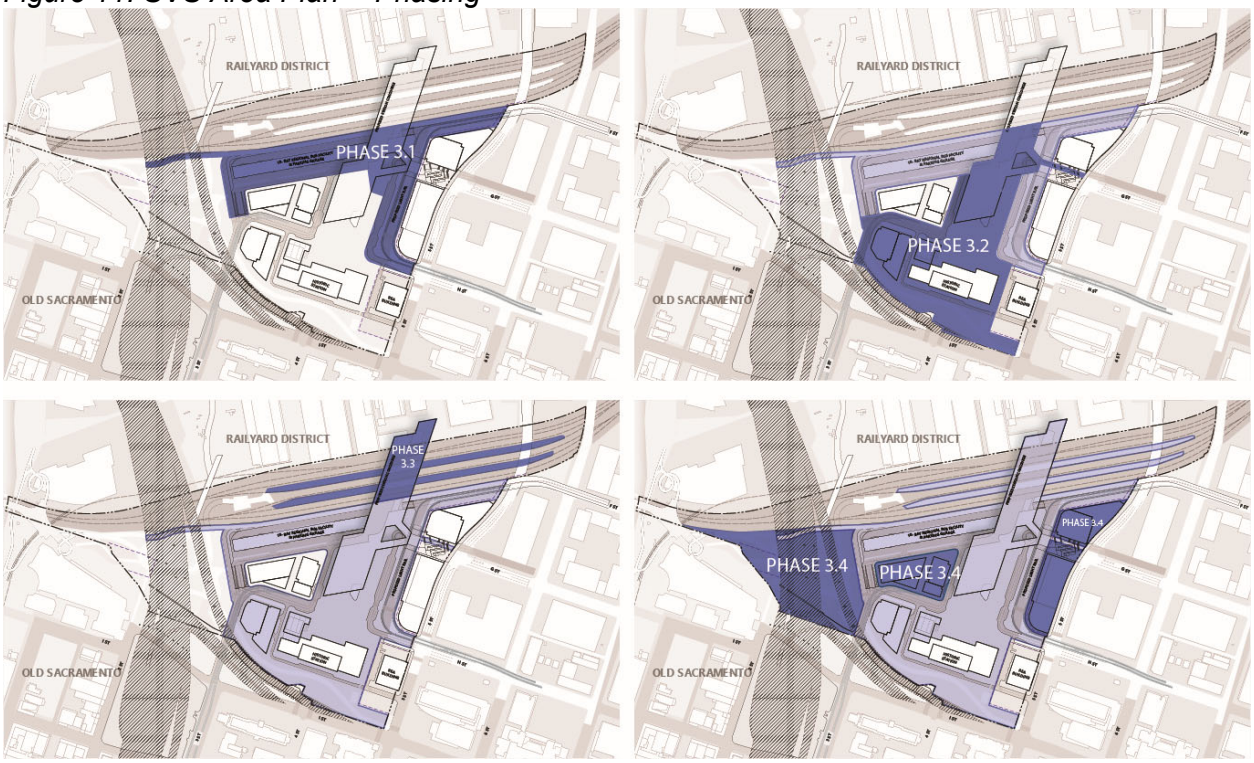
Source: City of Sacramento (SVS Area Plan).

Figure 10: SVS Transit Connectivity – Perspective View



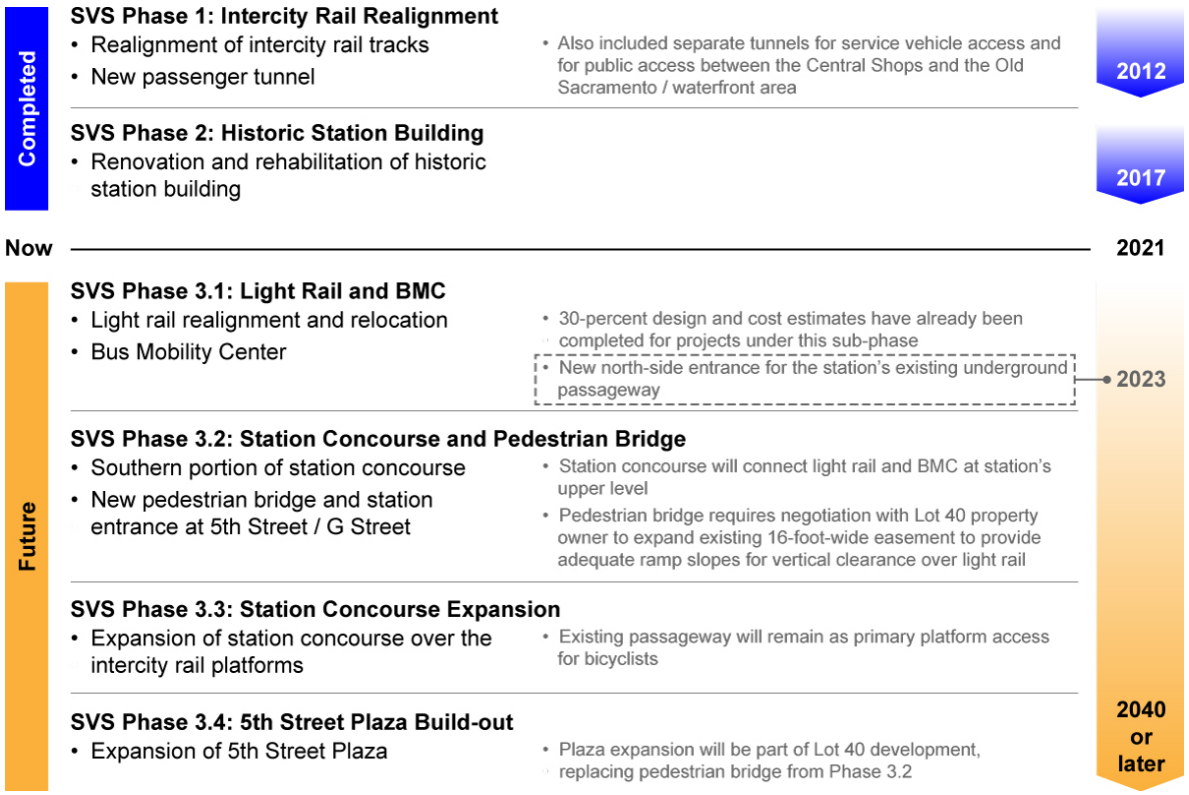
Source: City of Sacramento (SVS Area Plan).

Figure 11: SVS Area Plan -- Phasing



Source: City of Sacramento (SVS Area Plan).

Figure 12: SVS Area Plan – Overall Phasing Summary



3.2.2 SVS Phase 3.1

Bus Mobility Center
The Bus Mobility Center (BMC) will be a two-level regional and intercity bus terminal at the northwest corner of SVS. The upper level will be a 620-foot-long open-air bus plaza with 18 berths in a clockwise island.(4) Amenities for waiting passengers and an operator break room (including two restrooms) will also be provided.(5) Bus access will be provided to / from the future 3rd Street and F Street extensions.

The lower level will contain a public parking facility, bike hub, public restrooms, and staff facilities. The parking level also includes a dedicated pick-up / drop-off area for micro-transit and accessible vehicles(6) and will be designed with a minimum vertical clearance of 10 feet to accommodate most tall electric shuttle bus models. A connection to the station's existing underground passageway will be provided at the northeast corner of the parking level.

The BMC will be partially below-grade, with the upper bus plaza level at +8 feet relative to grade and the lower parking level at -5 feet relative to grade. The existing underground tunnel is at -15 feet relative to grade.

Perspective and plan views are provided in Figure 13 and Figure 14, and a rendering of the bus plaza level is provided in Figure 15.

Light Rail Realignment and Relocation
Demolition of the existing SacRT light rail tracks and platform at SVS and construction of replacement facilities along a new north–south alignment are included within the overall program for Phase 3.1, and are discussed separately in more detail in Section 3.3 as part of the SVS Loop project.

Pedestrian Circulation
The station's existing underground passageway would function as the north–south pedestrian axis, linking the Railyards Plaza / Central Shops Historic District, the BMC parking level, and the SVS transit plaza and SacRT light rail platform.

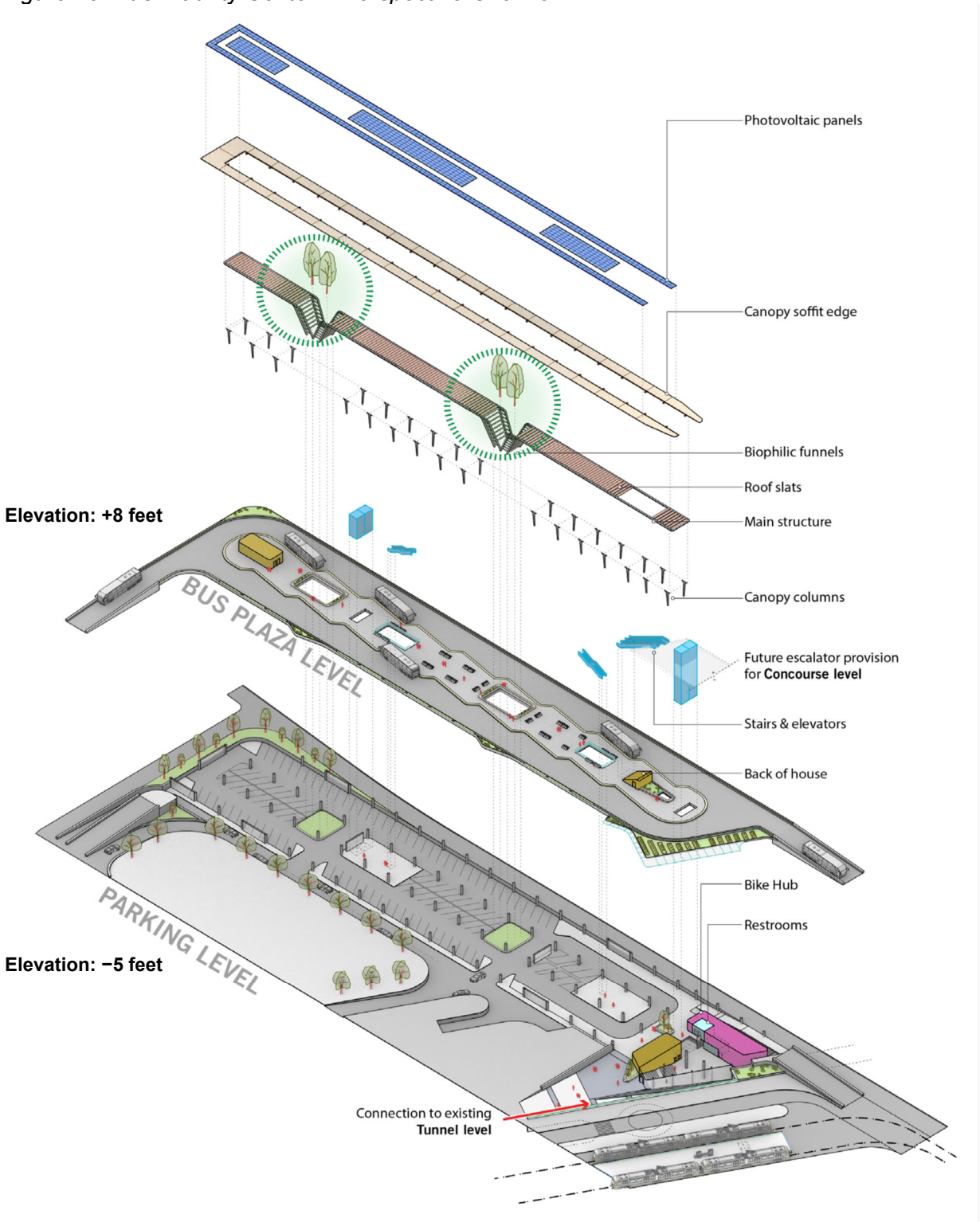
The primary accessible paths of travel are illustrated in Figure 16. The north and south ends of the light rail platform would be approximately 525–625 feet from the BMC elevators to / from bus plaza level. Walking distance on the bus plaza level would depend on the final location of SacRT's berths within the BMC, but it could be up to 600 feet for the berths furthest from the elevators.

(4) Berths will be capable of accommodating buses up to 45 feet in length, with a minimum vertical clearance of approximately 15 feet to accommodate double-decker buses.

(5) The operators' amenities (break room and restrooms) would be located at the far west end of the bus plaza level (Figure 14).

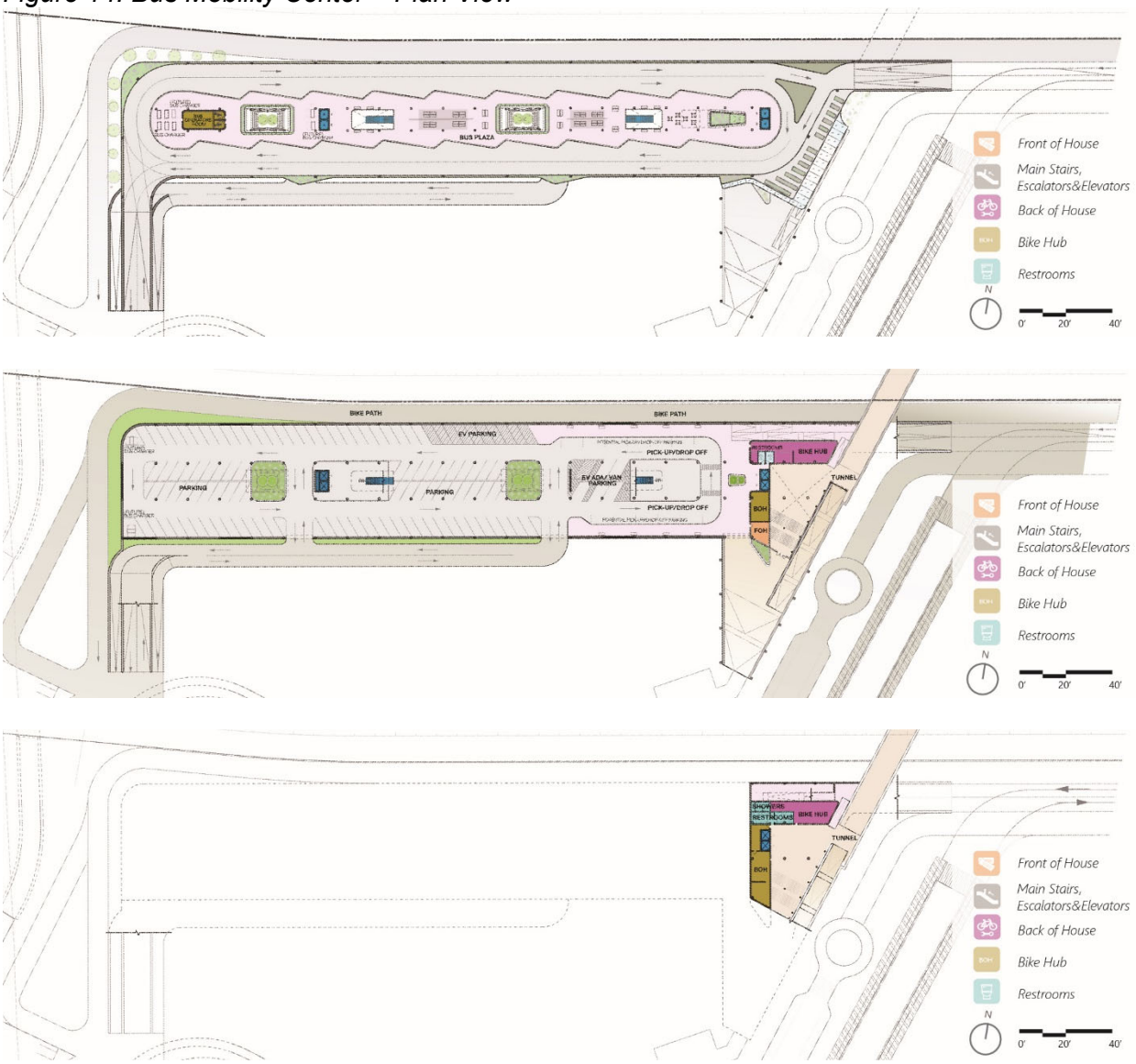
(6) General pick-up / drop-off will be located at street / ground level, between the realigned light rail platform and the existing rampway to the Steve Cohn Passageway.

Figure 13: Bus Mobility Center – Perspective Overview



Source: City of Sacramento (SVS Area Plan).

Figure 14: Bus Mobility Center – Plan View

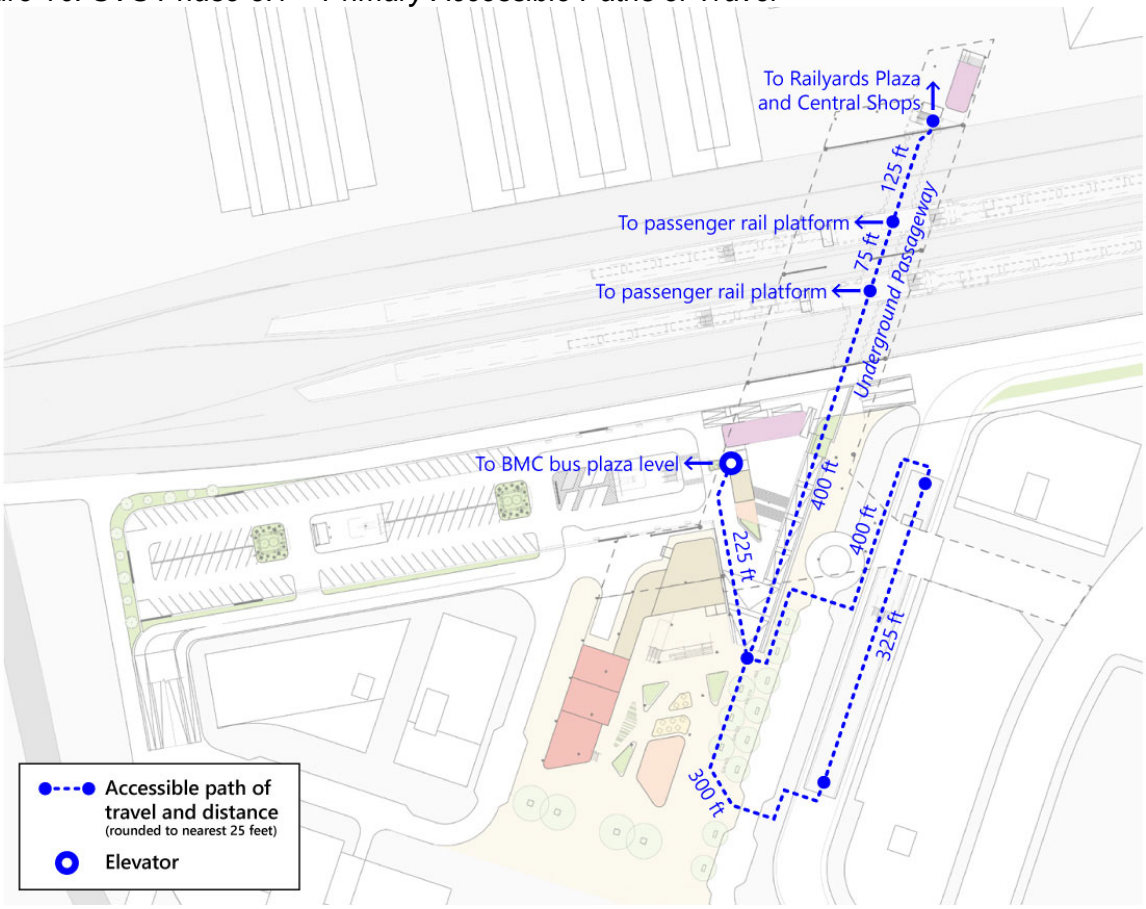


Source: City of Sacramento (SVS Area Plan).

Figure 15: Bus Mobility Center – Bus Plaza Rendering

Source: City of Sacramento (SVS Area Plan).

Figure 16: SVS Phase 3.1 – Primary Accessible Paths of Travel



Note: Image base from City of Sacramento (SVS Area Plan).

3.2.3 SVS Phase 3.2

Overhead Concourse and Circulation Deck
As illustrated in Figure 11, the overhead concourse would be completed in portions across two phases. In the first phase (Phase 3.2), the southern half of the concourse will be constructed, providing a new upper-level connection between the BMC and other station facilities. At its southeast corner, the overhead concourse would connect into an elevated circulation deck, providing access to / from the light rail platform below and extending east to connect to 5th Street at G Street. The remainder of the overhead concourse, extending over the intercity rail tracks to the Central Shops Historic District, is part of Phase 3.3 (Section 3.2.4).

A perspective view and rendering of the new station concourse and circulation deck are provided in Figure 17 and Figure 18.

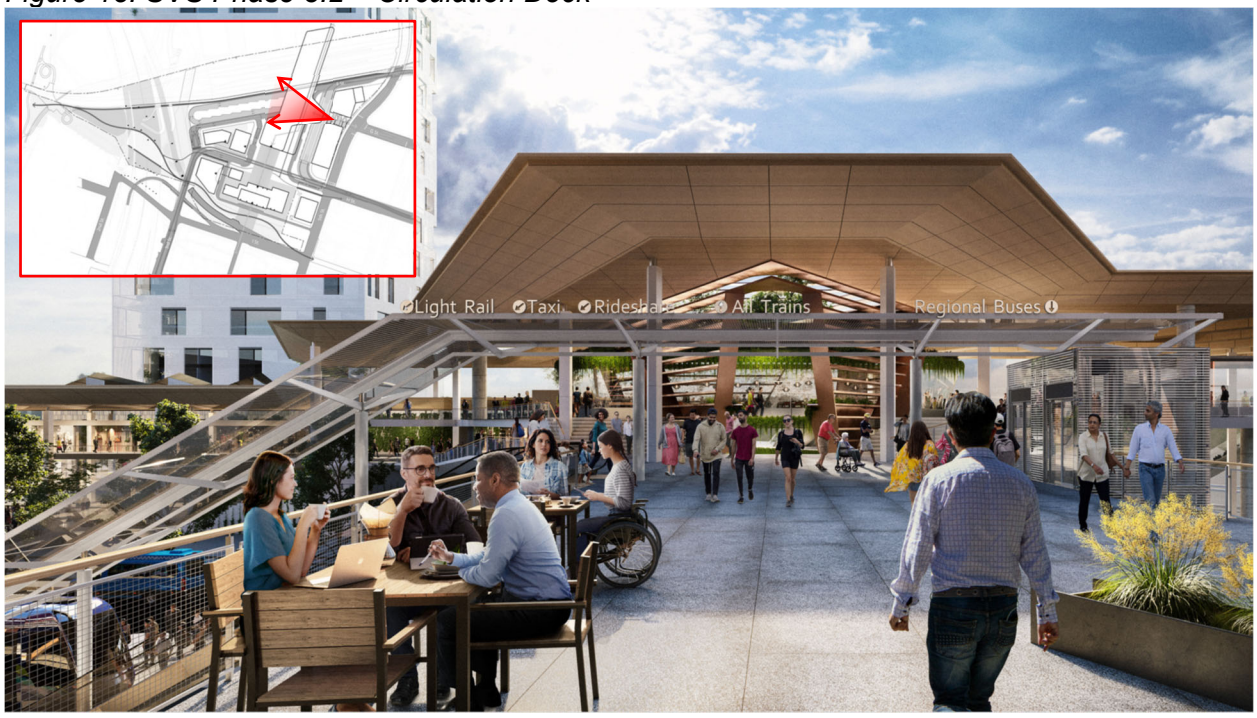
Figure 17: SVS Phase 3.2 – Station Concourse

From H Street (southeast corner of transit plaza) facing north
Source: City of Sacramento (SVS Area Plan).

Pedestrian Circulation
The overhead concourse and circulation deck would be located at the same elevation, one level above the BMC upper level. As shown in Figure 18, general access between the circulation deck and light rail platform would be provided by a typical combined stairway and escalator installation[7], connecting into the south side of the circulation deck. Two elevators would also connect into the opposite (north) side of the circulation deck for Americans with Disabilities Act (ADA) access. Access between the overhead concourse and BMC would be similar, with two elevators for ADA access and a combined stairway / escalator unit for general access.

[7] A bi-directional stairway in the center, with an escalator on either side.

Figure 18: SVS Phase 3.2 – Circulation Deck

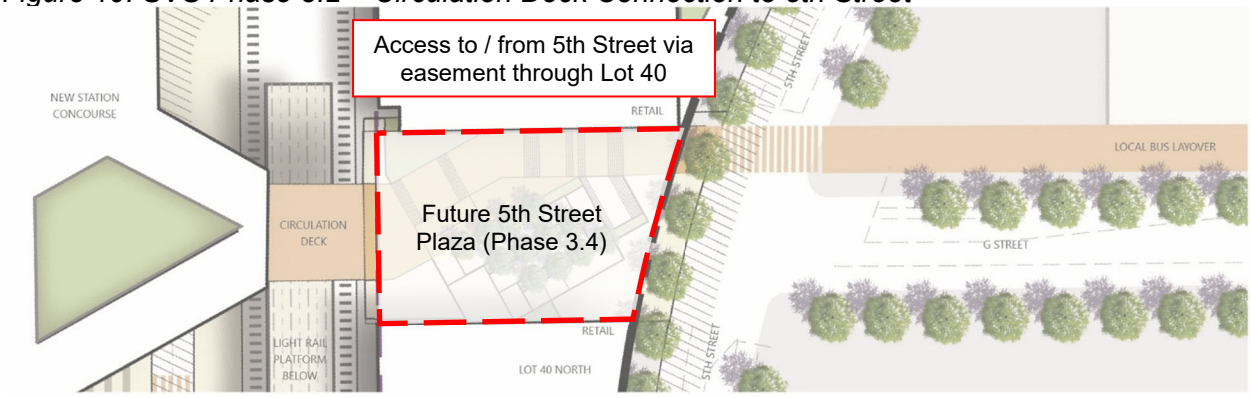


Facing west

Source: City of Sacramento (SVS Area Plan) / Perkins & Will / Steelblue LLC.

At its eastern end, the circulation deck would continue through Lot 40 within an access easement, allowing for a direct connection with 5th Street independent of the future development of Lot 40 and build-out of the 5th Street Plaza, as illustrated in Figure 19. The portion of the circulation deck through Lot 40 would be designed with a slight grade change to accommodate the elevation difference between 5th Street and the station's overhead concourse.

Figure 19: SVS Phase 3.2 – Circulation Deck Connection to 5th Street



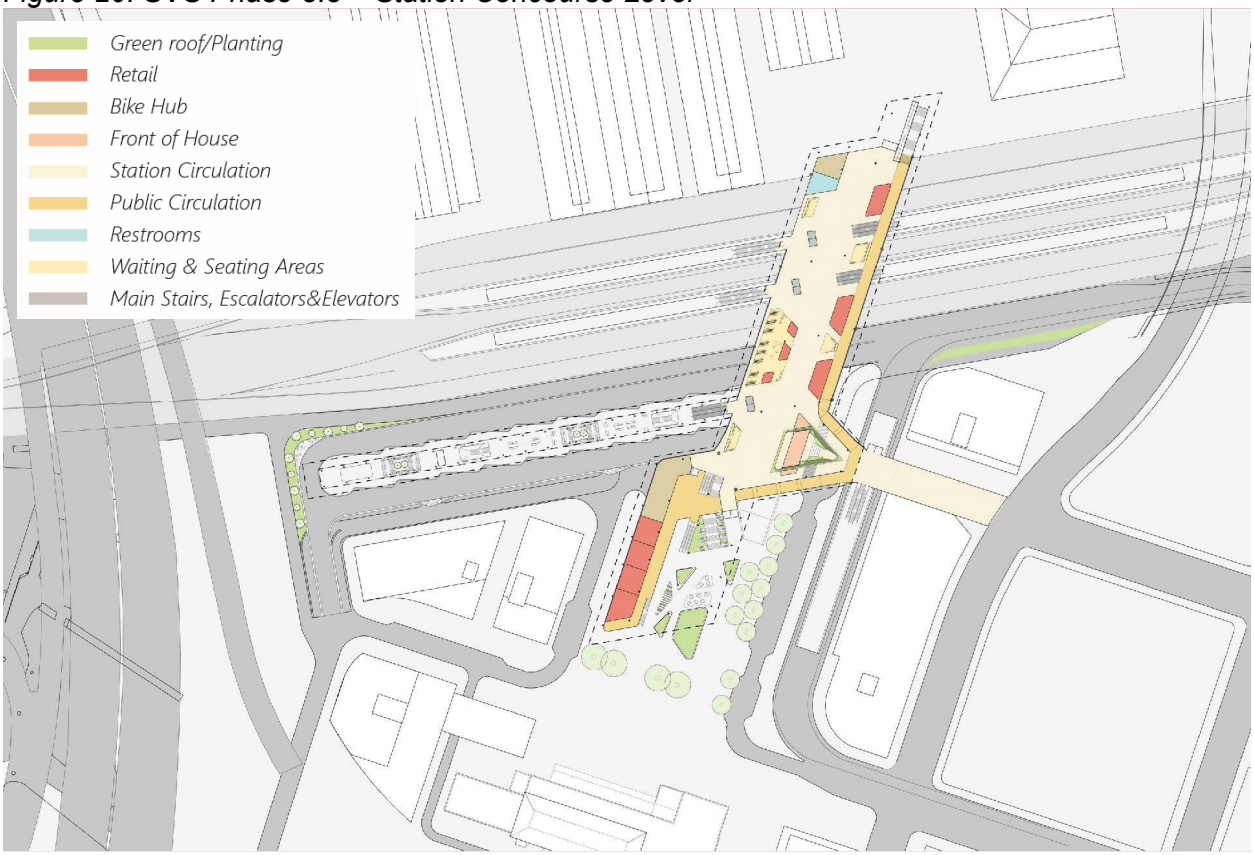
Note: Image base from City of Sacramento (SVS Area Plan).

3.2.4 SVS Phase 3.3

Under Phase 3.3, the station's concourse would be expanded to its final configuration, extending north across the intercity rail platforms to the Railyards Plaza. The expanded concourse would

serve as the primary north–south axis through the station, although the existing underground passageway would remain as an alternative and would continue to serve as the primary platform access route for bicyclists. A plan view of the station's concourse level after completion of Phase 3.3 is provided in Figure 20.

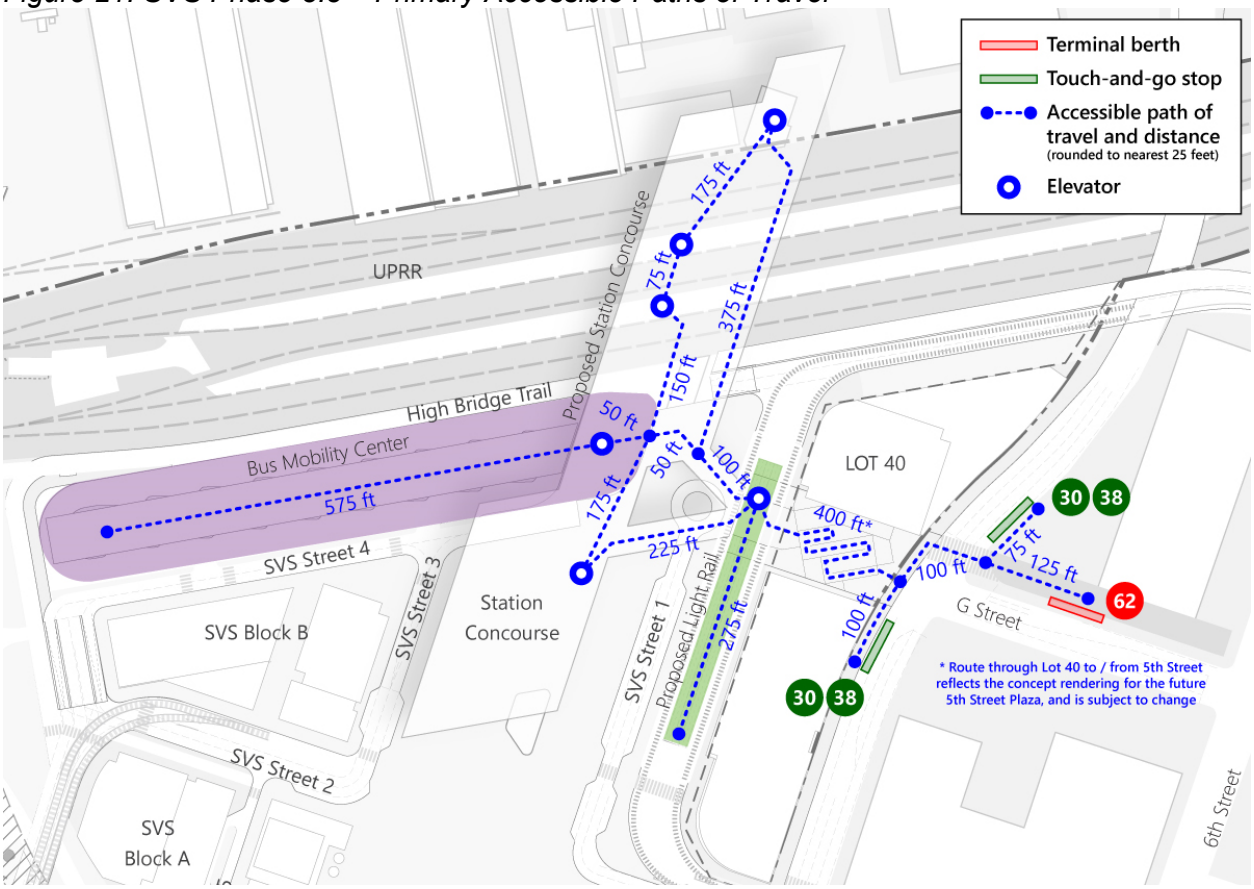
Figure 20: SVS Phase 3.3 – Station Concourse Level



Source: City of Sacramento (SVS Area Plan).

The primary accessible paths of travel to / from the station concourse level under Phase 3.3 are illustrated in Figure 21. Walking distance between the light rail elevators (on the north side of the circulation deck) and the west side of 5th Street would be approximately 400 feet, although route and distance would likely change somewhat based on the final design of the plaza. From the east end of the 5th Street Plaza, there would be up to approximately 100–225 feet of additional walking distance to / from designated bus stops for SacRT bus routes. Overall, walking distance would generally be at the same order of magnitude as under Phase 3.1 (with SacRT bus routes directly serving the BMC).

Figure 21: SVS Phase 3.3 – Primary Accessible Paths of Travel



Note: Image base from City of Sacramento (SVS Area Plan).

3.2.5 SVS Phase 3.4

While Phase 3.4 primarily involves build-out of the remainder of the SVS Area Plan's development blocks and public amenities (recreation and open space), it also includes completion of the 5th Street Plaza to its final state as part of development of Lot 40.[8] A conceptual rendering of the 5th Street Plaza is provided in Figure 22.

[8] Phasing of the access easement to 5th Street / G Street is dependent upon private development of Lot 40. The City of Sacramento does not control this parcel, which could become active at any time. The phasing described here reflects the assumptions in the SVS Area Plan, which are hypothetical based on existing market conditions and availability of easier sites to develop at present and in the near future.

Figure 22: SVS Phase 3.4 – 5th Street Plaza Rendering

Source: City of Sacramento (SVS Area Plan) / Perkins & Will / Steelblue LLC.

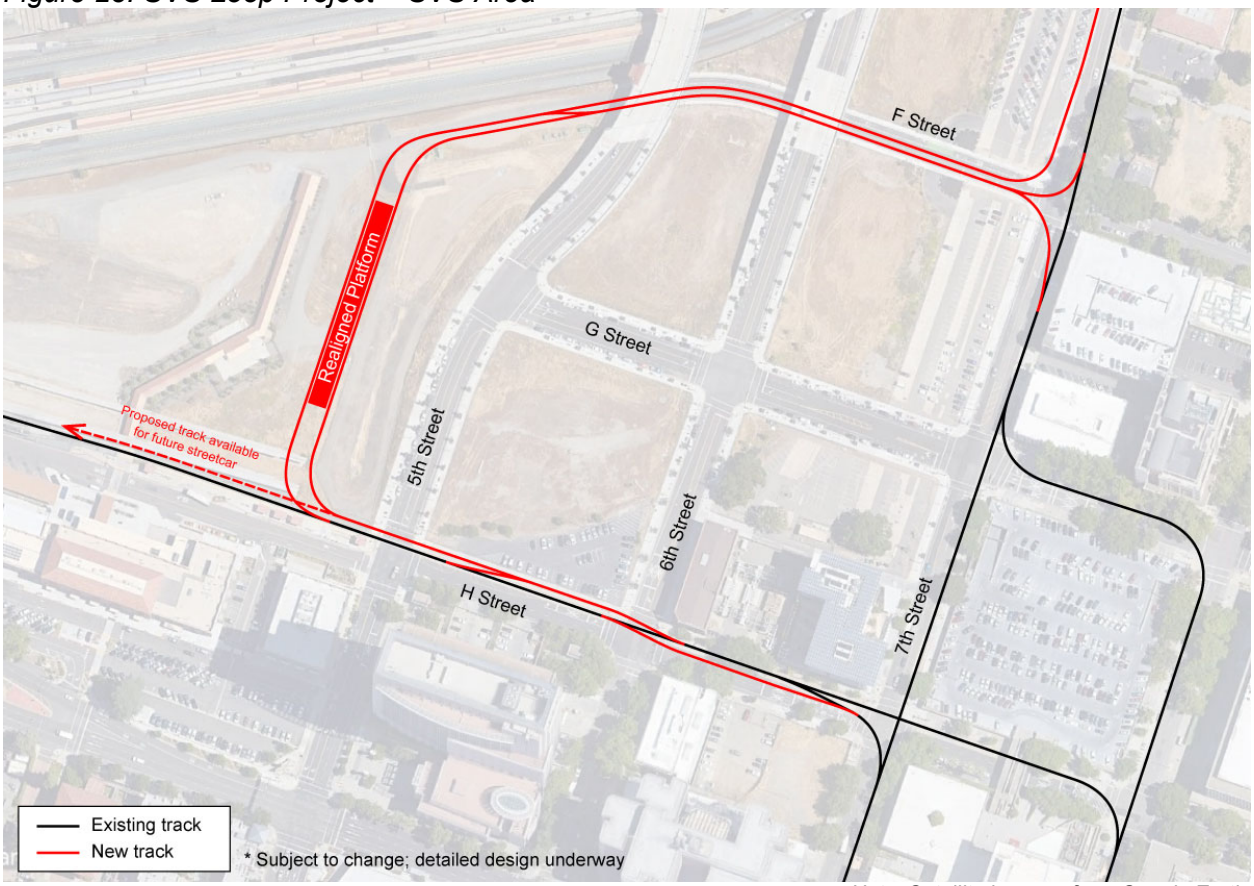
3.3 SVS Loop

The SVS Loop project is included within the larger SVS Area Plan, but it is a SacRT project to realign the Gold Line to a north–south orientation and construct a second track along H Street, through SVS, and along 7th Street to allow through service to Richards Boulevard via 7th Street. The project would also add a new Railyards station along 7th Street between Railyards Boulevard and South Park Street.[9] With the future completion of the planned Green Line extension to the Airport, the SVS Loop would provide a direct connection between SVS and the Airport.

[9] The Enhanced Infrastructure Financing District (EIFD) for the planned MLS stadium in the Railyards is obligated to construct a single-track station at Railyards Boulevard, east of the current single track along

The SVS Loop's track and station improvements are illustrated in Figure 23 and Figure 24.

Figure 23: SVS Loop Project – SVS Area



Note: Satellite imagery from Google Earth.

Along the Gold Line alignment, a second track would be constructed north of the existing track on H Street, which would serve as the southern approach into and out of the station. West of 5th Street, the light rail tracks would curve north, serving a new center platform oriented in a north–south alignment. From the light rail platform, the tracks would proceed east along a new shared-lane (mixed-flow) extension of F Street, connecting into the Green Line at 7th Street. A turnout from eastbound F Street turning south would allow Gold Line trains to turnaround at SVS and head back outbound.

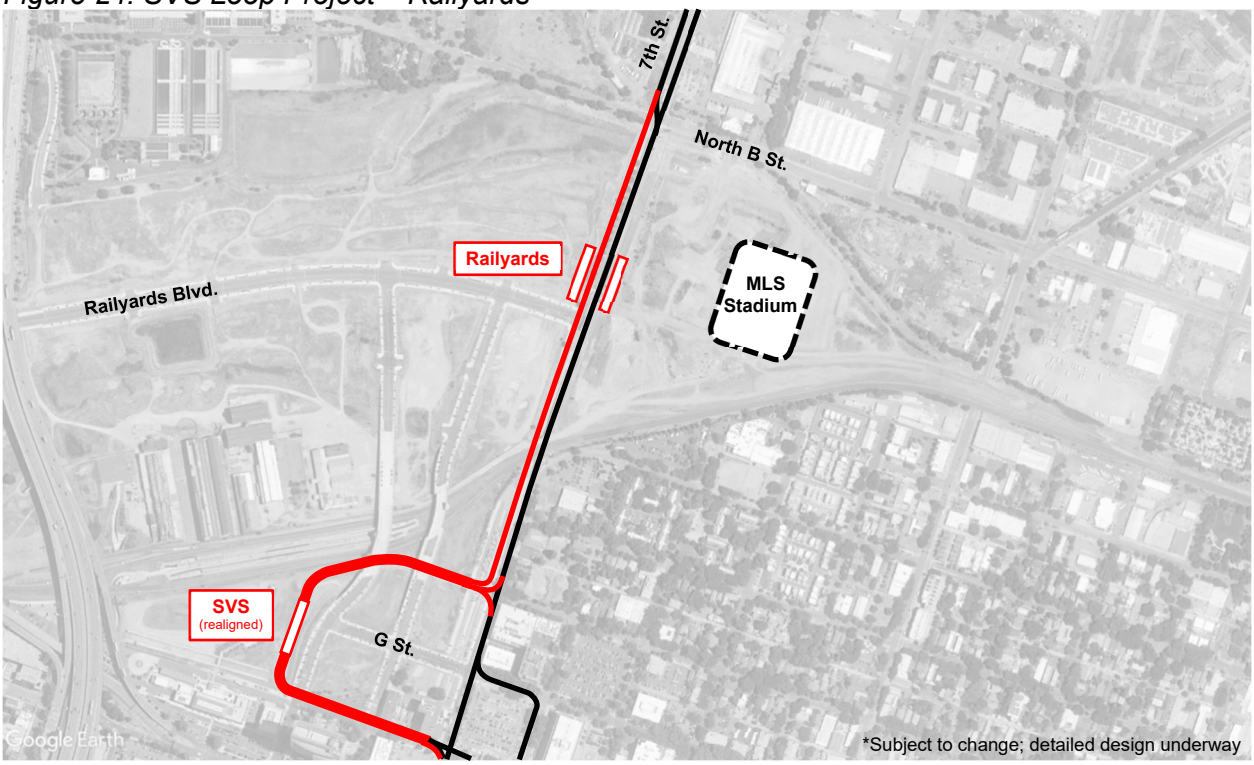
The westbound track along F Street would connect into a new southbound track along the west side of 7th Street, tying back into the double-track section of the Green Line at North B Street. Through the UP undercrossing, the new track would replace the existing sidewalk.[10]

7th Street, prior to the stadium's opening. If the stadium (and single-track station) are completed prior to the SVS Loop, SacRT would only be required to complete the second platform (for the southbound track), as the stadium platform would become the dedicated northbound platform.

[10] A new bicycle / pedestrian tunnel to replace the sidewalk was included in the original double-tracking plans for 7th Street, but has since been tabled by the City of Sacramento in favor of increased bicycle path

Environmental clearance has already been completed, but the project is still awaiting funding and completion of final design. The improvements are currently expected to be in operation by 2026.

Figure 24: SVS Loop Project – Railyards



Note: Satellite imagery from Google Earth.

3.4 Folsom and Rancho Cordova Double Track

SacRT plans to improve headways to Folsom to every 15 minutes. To achieve this, double-tracking is required, at least near Glenn Station. SacRT has evaluated several additional options for double-tracking this portion of the line:

- Option A: Glenn passing track (near-term)
  A new passing track at Glenn Station in Folsom, between Bidwell Street and Parkshore Drive (mandatory)

- Option B: Hazel double track (near-term)
  Extension of the Gold Line's existing double track from the Schnitzer Steel facility in Rancho Cordova (approximately one mile west of Hazel Station) through Hazel Station to Aerojet Road (preferred)

- Option C: Aerojet to Iron Point (long-term)
  Double-tracking between Aerojet Road and Iron Point Road

connectivity via 6th Street. This improvement has been approved as a condition of the development project under construction along Railyards Boulevard between 6th Street and 7th Street.

- Option D: Schnitzer to Folsom Station (long-term)
  Full double-tracking of the outer end of the Gold Line, from Schnitzer Steel to Historic Folsom Station (i.e., complete build-out)

These four options are illustrated in Figure 25 and summarized in Table 1.

Figure 25: Folsom and Rancho Cordova Double Track Scenarios

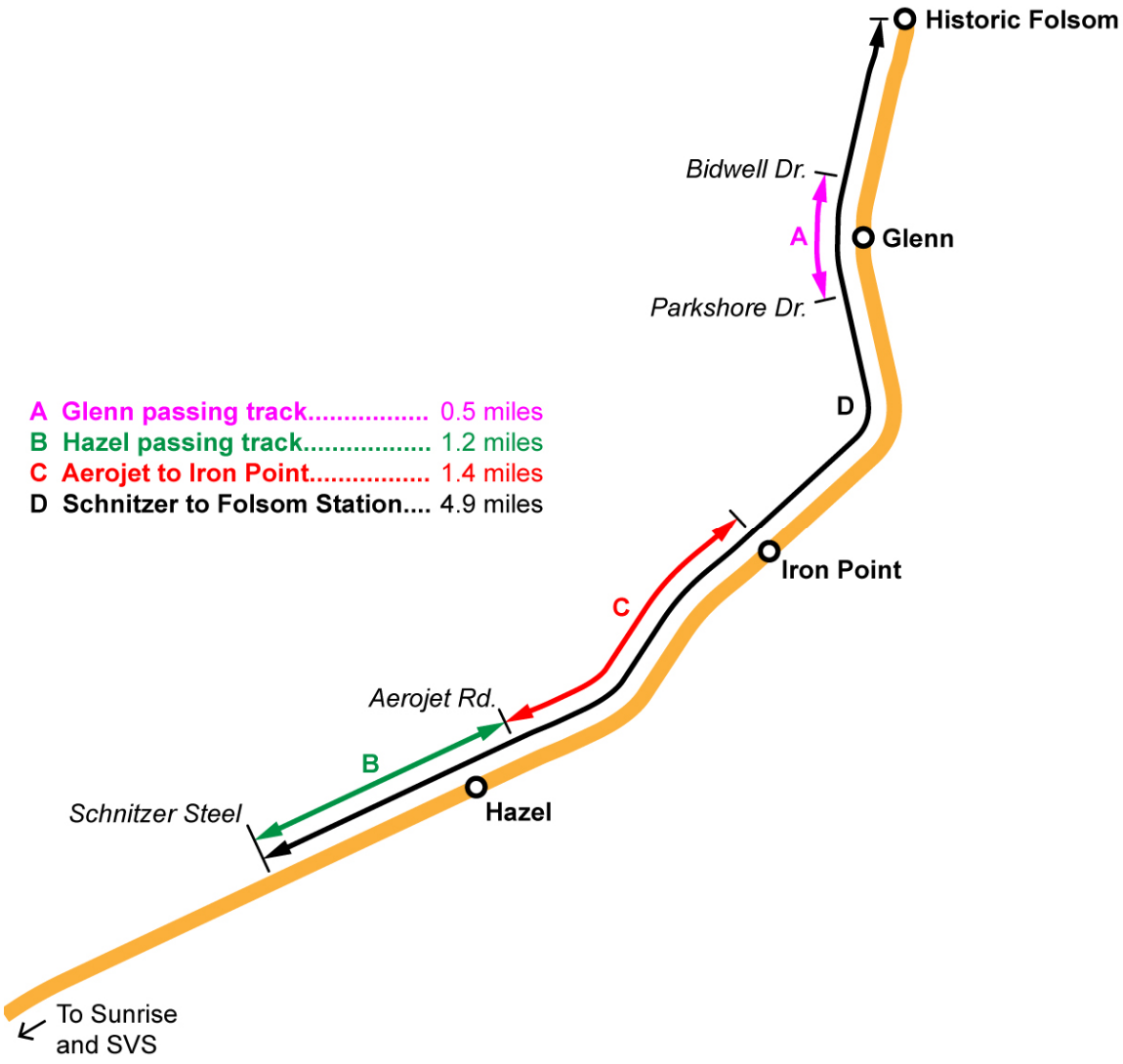


Table 1. Folsom and Rancho Cordova Double Track Scenarios

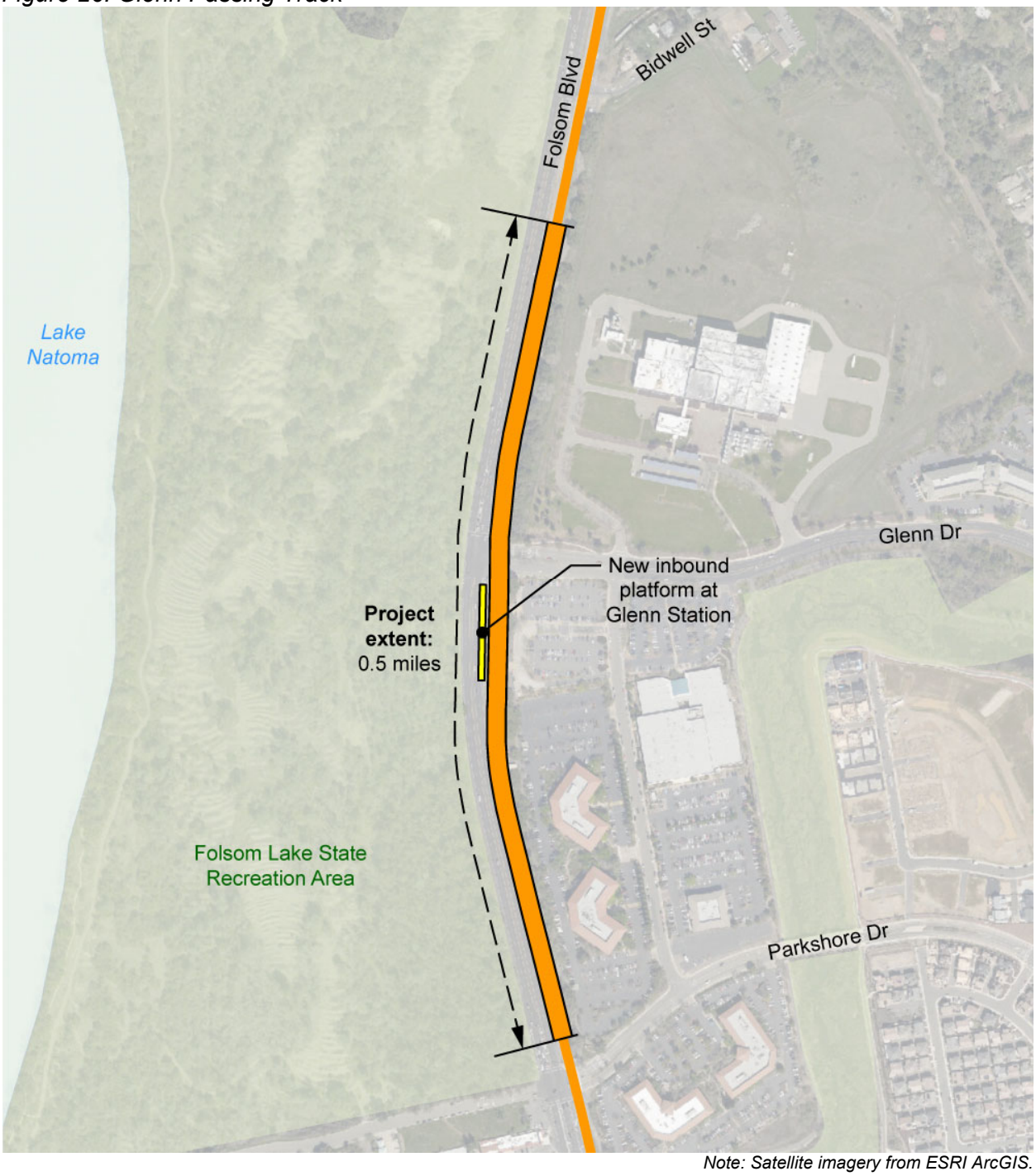
Segment		Segment Length (miles)	Estimated Completion	Cost Estimate
A	Glenn Passing Track *from Bidwell St. to Parkshore Dr.*	0.5	7/1/2023	$33 million
B	Hazel Double Track *from Schnitzer Steel to Aerojet Rd.*	1.2	TBD	$35 million
C	Aerojet to Iron Point *from Aerojet Rd. to Iron Point Rd.*	1.4	06/2038	$25 million
D	Schnitzer to Folsom Station *Full Double Track from Schnitzer Steel to Historic Folsom Station*	4.9	06/2038	$95–100 million

As the Aerojet to Iron Point segment and full Schnitzer to Folsom Station build-out are longer-term concepts, SacRT is currently focusing on implementation of the Glenn and Hazel passing tracks, both of which are currently in final design. More detailed maps illustrating these two options are provided in Figure 26 and Figure 27. The Glenn segment, which is the minimum requirement for 15-minute headways east of Sunrise, is being prioritized and is fully funded for construction, with completion anticipated in July 2023.

While the Glenn passing track makes 15-minute headways operable, 15-minute headway service to Folsom will necessarily increase system vulnerability to schedule disruption. Deviations of more than 2 minutes from schedule by an inbound train from Folsom will result in cascading delay to each subsequent trip, unless or until arrested by the short-turning of an outbound train at Sunrise. This is a condition that does not exist under existing operations, that will arise from the new schedule constraint of an inbound/outbound train meet at the short passing pocket at Glenn, which is inherent in 15-minute Folsom headways.

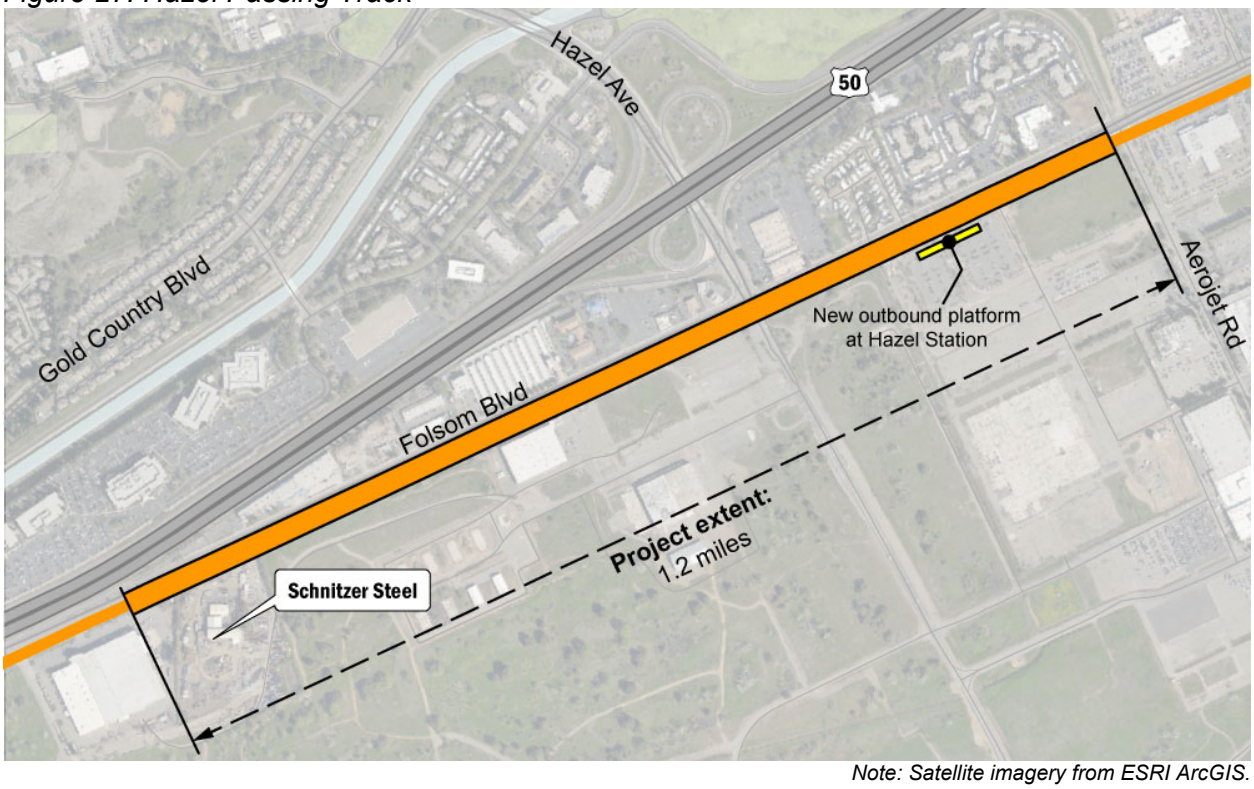
The preferred engineering solution to this challenge would be the completion of the Hazel double track. This would increase the schedule cushion (for inbound trains at Hazel) from 2 minutes to 6 minutes. For trains on the short inbound segment from Folsom, an increase in schedule cushion from 2 to 6 minutes could be pivotal. Without double-track to Aerojet, SacRT believes that short-turning trains could be a common necessity due only to ordinary running time variability.

Figure 26: Glenn Passing Track



Note: Satellite imagery from ESRI ArcGIS.

Figure 27: Hazel Passing Track



Note: Satellite imagery from ESRI ArcGIS.

3.5 Low-Floor Conversion

SacRT's light rail system currently uses high-floor vehicles[11], but will be transitioning to low-floor vehicles as part of the replacement of its current fleet. This transition also requires upgrades to stations to make them compatible with the new vehicles, in accordance with ADA requirements.

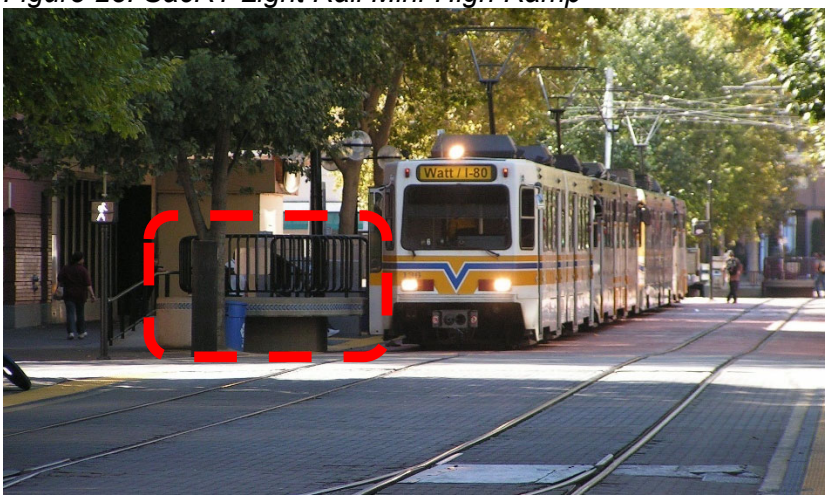
Current Operations
Currently, ADA access is accommodated using a combination of mini-high ramps at stations and manually-operated bridge plates provided in each LRV. At single-track stations (i.e., east of Sunrise), mini-high ramps are located at each end of the platform. At double-track stations, a mini-high ramp is located at the position of the first door of the lead car, closest to the operator's cab (i.e., at the east end of the eastbound platform and at the west end of the westbound platform).[12] These locations are specifically chosen to facilitate easy operator access when manually deploying the bridge plate to allow wheelchair users to board and alight at the ramp. Bridge plates are located at each car end, one on each side for left-side and right-side boarding (a total of four plates per LRV). The plates are locked in an upright position until needed for mini-high access.

[11] The current fleet consists of vehicles manufactured by Urban Transportation Development Corporation (UTDC), Siemens (including earlier cars manufactured jointly with Duewag), and Construcciones y Auxiliar de Ferrocarriles (CAF).

[12] The only station in the light rail network without full ADA access is 12th & I Station on the Blue Line, where only the northbound track has access to / from the mini-high ramp.

An image of a typical mini-high ramp on the light rail system is provided in Figure 28. Figure 29 shows a SacRT operator unlocking and unfolding a bridge plate at a mini-high ramp.

Figure 28: SacRT Light Rail Mini-High Ramp



Note: Photograph by Steve (CC BY 2.0).

Figure 29: Bridge Plate Deployment at Mini-High Ramp

Low-Floor Fleet

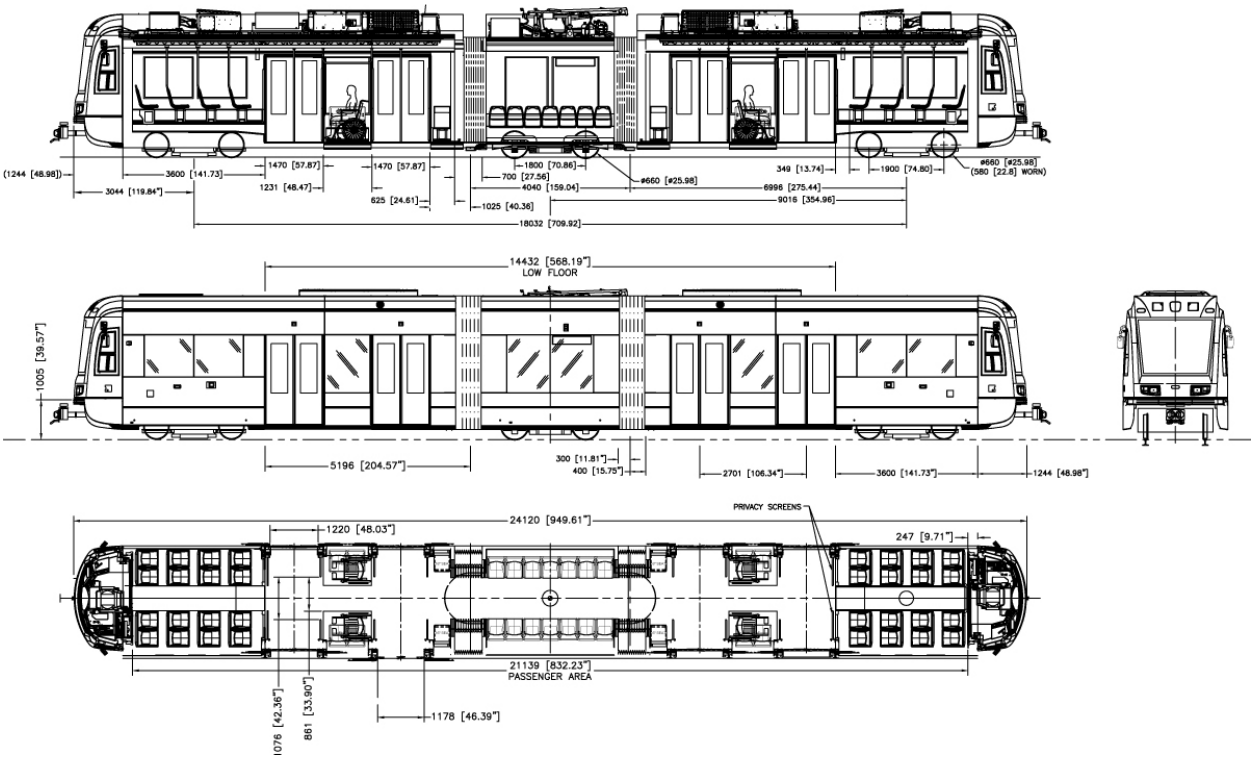
The new Siemens low-floor LRVs are SacRT's first purchase of new light rail rolling stock in 20 years. The low-floor vehicles will offer many benefits (described later in this section), and they will reduce overall maintenance expenses as they gradually replace the old cars.

The new low-floor LRVs will measure 81 feet over couplers, similar in length to the existing LRV fleet. Differences in floor height and seating arrangement will result in a slightly different ratio of seated vs. standing passengers, but the overall passenger capacity will be similar to the existing LRVs. Plan and profile views of the new low-floor LRVs are provided in Figure 30.

As shown in Figure 30, each LRV would be capable of accommodating up to four wheelchairs, similar to the existing fleet. A total of four fold-up seats located near the corners of the center

vestibule would provide additional space for standees or bikes. The two center doors on either side of the vehicle will be equipped with push button-activated bridge plates to cover any gap between the platform and the car floor, including when the car stops on a curve.

Figure 30: SacRT Low-Floor Light Rail Vehicle



The first two deliveries of new low-floor cars will replace 28 of the 1st Series Siemens (Siemens–Duewag) vehicles and are scheduled to arrive through Fiscal Year (FY) 2025, as noted in Table 2. The second delivery will replace 21 UTDC cars in FY 2027 and FY 2028.

Today's Gold Line fleet is 32 vehicles (eight trains) during the peak service. SacRT currently runs mixed consists (i.e., train sets made up of different vehicle types), but the new low-floor vehicles will not be able to couple with the legacy fleet. Eventually, low-floor vehicles will totally replace the high-floor fleet on the Gold Line.

While mixed consists of low-floor and high-floor vehicles will not be possible due to compatibility issues, the Gold Line will operate with a mix of all-high-floor and all-low-floor trains during the transition period.

Table 2: Low-Floor LRV Delivery Dates

New LRV#	Expansion or Replacement	Operating or Spare	Final Acceptance Date
1	Replacement	Operating	3/23/2023
2	Expansion	Spare	3/20/2023
3	Replacement	Operating	3/30/2023
4	Replacement	Operating	4/28/2023
5	Expansion	Operating	5/12/2023
6	Replacement	Operating	6/13/2023
7	Replacement	Operating	6/14/2023
8	Replacement	Operating	7/18/2023
9	Expansion	Operating	7/18/2023
10	Replacement	Spare	8/16/2023
11	Replacement	Operating	8/21/2023
12	Expansion	Operating	9/19/2023
13	Replacement	Operating	9/19/2023
14	Expansion	Operating	10/19/2023
15	Replacement	Operating	10/24/2023
16	Expansion	Operating	11/21/2023
17	Replacement	Operating	11/21/2023
18	Replacement	Operating	12/21/2023
19	Expansion	Operating	12/21/2023
20	Replacement	Spare	1/26/2024
21	Replacement	Operating	11/1/2024
22	Replacement	Operating	11/1/2024
23	Replacement	Operating	12/1/2024
24	Replacement	Operating	12/1/2024
25	Replacement	Operating	1/1/2025
26	Replacement	Operating	1/1/2025
27	Replacement	Operating	2/1/2025
28	Replacement	Spare	2/1/2025

Advantages of Low-Floor LRVs

Low-floor vehicles offer several advantages over high-floor vehicles:

- Easier access for elderly passengers and passengers with physical disabilities
- Improved access and comfort for passengers with large or heavy objects (e.g., strollers, shopping bags, luggage, bicycles)
- Reduced dwell times due to more rapid boarding / alighting[13]
- Improved patronage due to the above
- Increased wheelchair capacity and more uniform wheelchair distribution within trains

[13] According to TCRP Report 2, Applicability of Low-Floor Light Rail Vehicles (1995), page 4, tests in Rotterdam using the Grenoble LF-LRV demonstrated a 10 percent reduction in round-trip time.

Currently, mini-high boardings represent approximately 12.6 percent of total boardings on the Gold Line across all service periods.[14] Wheelchair users represent approximately 10–15 percent of all mini-high boardings, which equates to approximately 20 boardings, and 20 alightings per one-way train trip.

Ramp boarding / alighting can currently increase dwell time by approximately one minute or more, as the operator must leave the cab and manually retrieve, place, and collect the bridge plate. As a result, ramp boardings / alightings are a key source of delay and schedule variability. Dwell time savings achieved by transitioning from high-floor LRVs to low-floor LRVs will likely improve on-time performance by both reducing the variability associated with ramp boardings / alightings and providing an added cushion of recovery. Additional recovery, in particular, is a substantial benefit that addresses increased running times due to California Public Utility Commission (CPUC) slow orders, as well as future running time variability due to expanded service to Folsom, reduced train lengths (discussed in more detail later in this section), and other factors.

Manual bridge plates are also a major source of injury risk for light rail operators, and in recent years they have been contributing factors in almost a dozen workers' compensation claims per year for SacRT.

A comparison between high-floor and low-floor LRVs can be found in Figure 31 and Figure 32.

Figure 31: High-Floor and Low-Floor Boarding

High-floor boarding

Source: Getting Around Sacramento (Level boarding with low floor light rail cars).

Low-floor (level) boarding

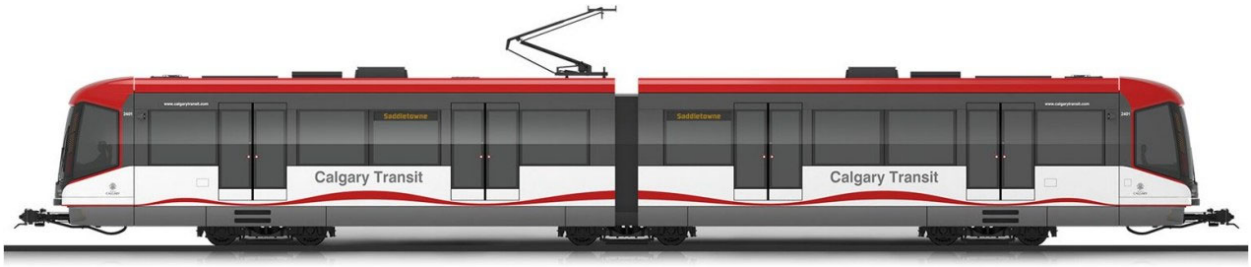
Source: Dan Tutt in Transit Street Design Guide: Platform Height

[14] Shares can vary by day and time of day, from as low as 8.9 percent (weekday morning period) to as high as 15.4 percent (weekday midday period) and 17.1 percent (Saturdays).

Figure 32: High-Floor and Low-Floor Vehicles – Profile View

Low-floor LRV

High-floor LRV



Source: Siemens North America.

With only one mini-high ramp per direction at each station, wheelchair users and other passengers requiring use of a bridge plate are required to enter and exit at the first door of the lead car. With the new low-floor LRVs, however, automatic bridge plates will provide expanded access for these passengers, who will now have easy access to / from four doors per car, instead of one per train.

Station Conversion

Platform height on the light rail system varies, with some stations built with raised platforms at curb / sidewalk level and other stations built with platforms that are flush with the trackway (i.e., zero inches above top of rail). To comply with ADA requirements in conjunction with the new low-floor LRVs, several existing stations must be upgraded with a lowered track profile and / or raised platform height to create an elevation differential from top of rail and permit level boarding. The initial phase of station conversions will allow for two-car low-floor trains on the Gold Line, while a subsequent phase will implement additional upgrades to allow for three-car low-floor trains.

The eventual replacement of all of SacRT's high-floor cars with low-floor cars will also allow for removal of the existing mini-high ramps. The complete transition to low-floor vehicles will not happen in the immediate future, and it cannot happen until both the Blue Line and Green Line are also converted to low-floor operations due to the shared track through Downtown. When the transition is complete systemwide, however, the mini-high ramps will be able to be removed.

Operational Impacts

Both high-floor and low-floor trainsets will be running on the Gold Line through most of the decade. While high-floor trainsets will consist up to four cars, the low-floor trainsets will be operating first as two-car trainsets and later as three-car trainsets as the high-floor cars are gradually replaced. Accordingly, without headway improvements, the transition will effect a reduction in total seated capacity on the line. Potential solutions to mitigate overcrowding and pass-ups as the fleet

transitions to low-floor vehicles, such as uniform 15-minute frequency to Folsom (to better balance passenger loads) and additional peak short-tripper trains, are discussed in Section 4.3.

It should be noted, however, that the reduction in the maximum train length to three cars with the new low-floor vehicles will also have tangential benefits in reducing obstructions at intersections and grade crossings in Downtown.

ADA Access During the Transition

During the transition period when service will be operated using a combination of high-floor and low-floor trains, SacRT will implement temporary solutions to notify ADA passengers, who will need to position themselves on the appropriate portions of the platform depending on which type of train (high-floor or low-floor) is arriving. Without this information provided to riders ahead of time, ADA passengers may require additional time to get to / from the appropriate boarding location, which could result in delays and increased dwell times.

To address this issue, SacRT will use existing public address (PA) and passenger information display (PID) systems at stations (Figure 33) to notify riders whether the next scheduled train is a high-floor or low-floor train. This action can also be reinforced through platform decals or markings / stencils to direct ADA passengers to the appropriate boarding locations (e.g., “FOR HIGH-FLOOR TRAINS, BOARD AT RAMP”), adapted from examples commonly found in other systems (Figure 34).

Figure 33: Passenger Information Display System

Figure 34: Platform Markings for ADA Access

3.6 Midtown Station

3.6.1 Concept and Development Status

The San Joaquin Joint Powers Authority and the San Joaquin Regional Rail Commission have jointly advanced the Valley Rail Sacramento Extension Project, an expansion of Amtrak *San Joaquins* and Altamont Corridor Express (ACE) service onto the Union Pacific Railroad's Sacramento Subdivision between Stockton and Sacramento. The preliminary service plan consists of seven roundtrips:

- *San Joaquins*: two roundtrips, one each to / from Fresno and Bakersfield.
- ACE: five roundtrips; one each to / from San Jose Diridon Station and Stockton Downtown / ACE Station, and three to / from the proposed Ceres ACE Station.

As illustrated in Figure 35, the project proposes five new stations, including one in Midtown Sacramento. The Midtown Station is proposed on the Sacramento Subdivision (midblock between 19th Street and 20th Street) spanning the blocks from P Street to S Street, as shown in Figure 36. The proposed station would be located below the Gold Line's Bee Bridge and approximately 1,500 feet east of 16th Street Station. After detailed design is completed, construction is anticipated to start in 2021, with service starting no later than 2023.

Figure 35: Valley Rail

Initial service is expected to consist of one daily roundtrip, eventually increasing to seven roundtrips as described above. Daily ridership at Midtown Station is forecast at approximately 1,400 for ACE[15] and 500 for the *San Joaquins*.[16] ACE ridership would consist primarily of commute trips heading north into Sacramento or south to Stockton and the San Francisco Bay Area, while *San Joaquins* ridership would consist of a mix of commuter, business, leisure, and other trips.

3.6.2 Station Area

The proposed Midtown Station would be constructed within the mixed-use Midtown neighborhood, and would be the closest Valley Rail station to the State Capitol and government offices in Downtown Sacramento, as well as the established transportation hub at SVS. The Midtown area is heavily developed with a mix of one- and two-story single-family homes, multi-story residential buildings, and commercial and industrial land uses. No new parking or bus facilities would be constructed as part of the proposed station, but station area improvements, described below and shown in Figure 36, are included to facilitate station access and integration with the surrounding neighborhood:

- A mid-block pedestrian crossing of Q Street with active warning devices, such as a flashing pedestrian crossing sign
- An enhanced path to 19th Street under the Gold Line guideway
- A signalized mid-block crossing of 19th Street just north of the Blue Line tracks and Gold Line guideway
- Expansion of the existing SacRT bus stops along the western side of 19th Street to accommodate passenger drop-off and bus loading

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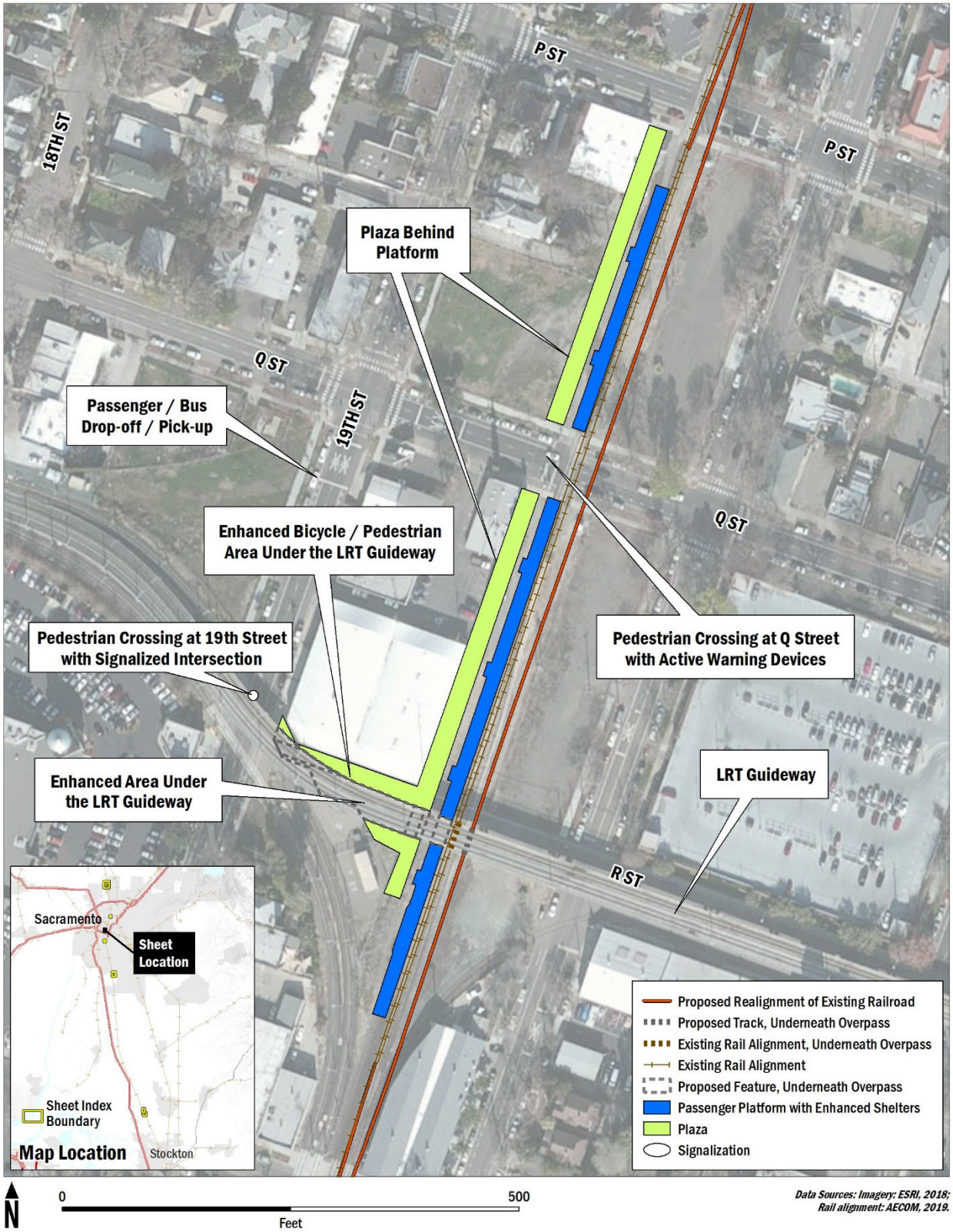
(15) AECOM. *SJRRC/SJJPA TIRCP Ridership Methodology – ACE* (January 12, 2018).

16) AECOM. *SJRRC/SJJPA TIRCP Ridership Methodology – San Joaquins Service* (January 12, 2018).

Figure 36: Midtown Sacramento Station



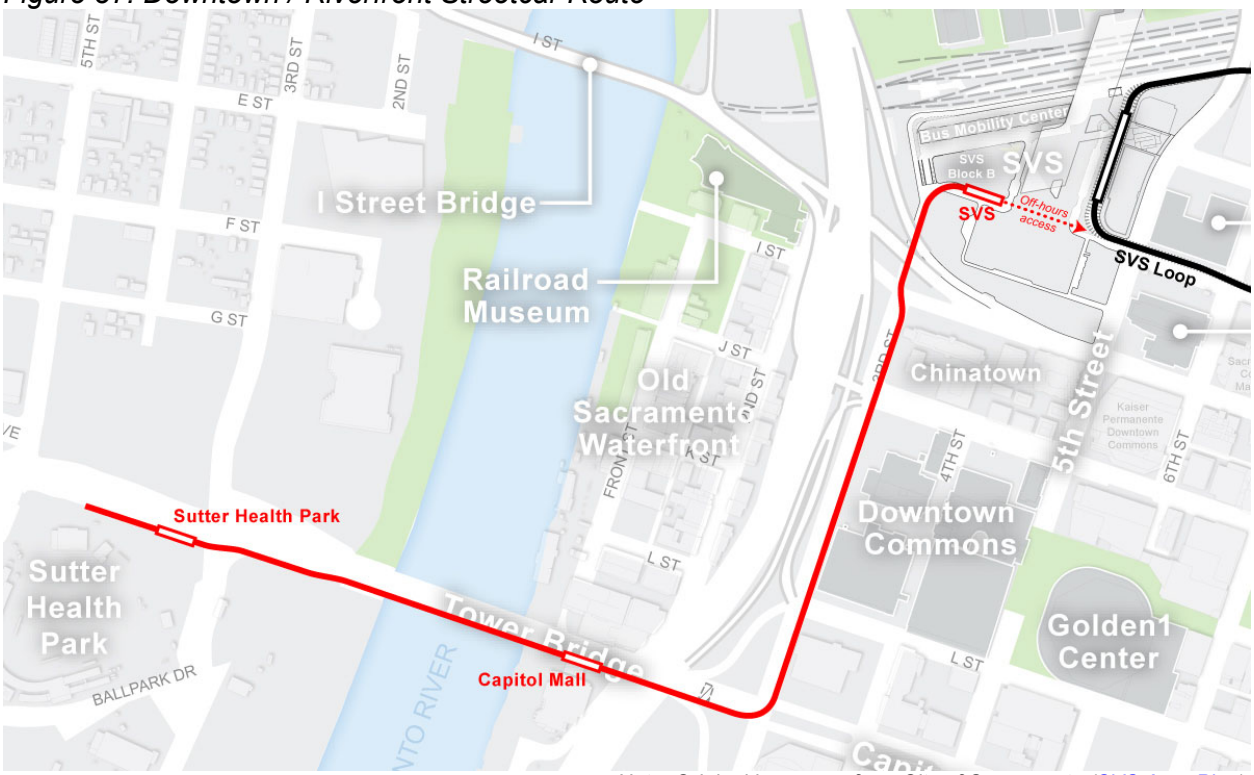
Note: Satellite imagery from ESRI ArcGIS.

3.7 Downtown / Riverfront Streetcar

Multiple planning studies have been completed over the past 20 years for a potential streetcar system serving Downtown Sacramento and surrounding neighborhoods. The current Downtown / Riverfront Streetcar project began in 2006, when the City of Sacramento, the City of West Sacramento, SacRT, and the Yolo County Transportation District (YCTD) partnered together to study the feasibility of a streetcar line. An initial alignment was developed in October 2006, with a refined alignment approved by the Sacramento City Council in May 2007. A Final Environmental Impact Report (EIR) for the project was certified by the City of West Sacramento in 2009, but the project underwent additional refinement as part of the Sacramento Streetcar Planning Study (2012), which helped establish consensus for a Locally Preferred Alternative (LPA).

To address cost concerns, the scope of the project was reduced in 2020 and now consists of a smaller, 1.5-mile portion of the original project, between SVS and Sutter Health Park, with one intermediate station at Capitol Mall, as illustrated in Figure 37. The Streetcar's SVS terminal would be located west of the Transit Plaza, adjacent to SVS Block B, but the tracks would continue east to 5th Street to permit off-hours maintenance facility access.

Figure 37: Downtown / Riverfront Streetcar Route

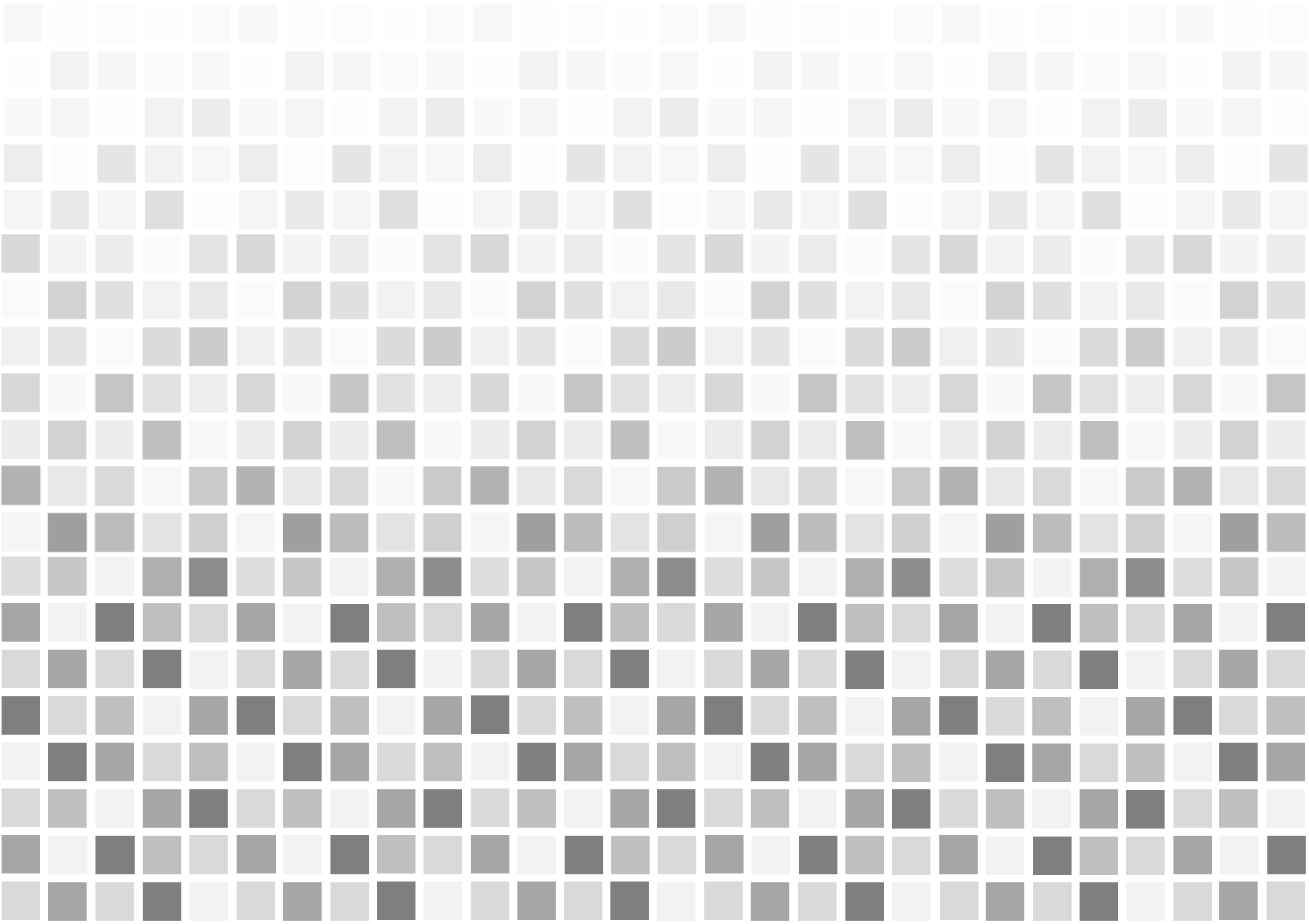


Note: Original base map from City of Sacramento (SVS Area Plan).

The streetcar fleet will consist of double-ended, double-sided, articulated low-floor LRVs capable of drawing power from an overhead contact system (OCS) similar to SacRT's existing light rail OCS infrastructure. Service would operate daily at 15-minute headways between 7:00 am and 6:00 pm weekdays and at 20-minute headways weekends and holidays and on weekday evenings.

Project readiness review and approval by FTA requires updates to the Small Starts grant application, environmental documentation, and project design specific to the reduced-scope project. As part of the reduced scope, the Riverfront Joint Powers Authority (JPA), formed by both cities to manage and operate the project, would be dissolved, with project ownership and operation to be transferred to SacRT. A firm timeline for construction and opening is not available at this time, as negotiations to address the smaller project are still underway.

4 Light Rail Service Improvements



This chapter identifies potential service improvements to the Gold Line and Green Line in light of the various capital projects described earlier.

- Section 4.1 describes existing Gold Line service generally.
- Section 4.2 discusses Gold Line schedule coordination at SVS.
- Section 4.3 discusses operating plans, including existing service (Section 4.3.1), 15-minute headways to Folsom (Section 4.3.2), and Green–Gold interlining (Section 4.3.3). A summary of phasing and key performance metrics for each operating plan is provided in Section 4.3.4. Storage track replacement is discussed in Section 4.3.5.
- Section 4.4 discusses the potential for connections at Midtown Station.
- Section 4.5 discusses special event service to the MLS stadium in the Railyards.
- Section 4.6 describes other concepts explored, including frequency enhancements, skip-stop service, and additional recovery at SVS.

Proposed service improvements are analyzed in the near-term timeframe (over the next five years) and focus primarily on the Gold Line, which currently serves (and will continue to serve) SVS, and the Green Line (which will have direct access to SVS with completion of the SVS Loop). The Blue Line is referenced contextually, where appropriate, as is the future extension of Green Line service to the Airport. However, longer-term proposals, such as a Blue Line extension to Elk Grove, are beyond the horizon of this plan.

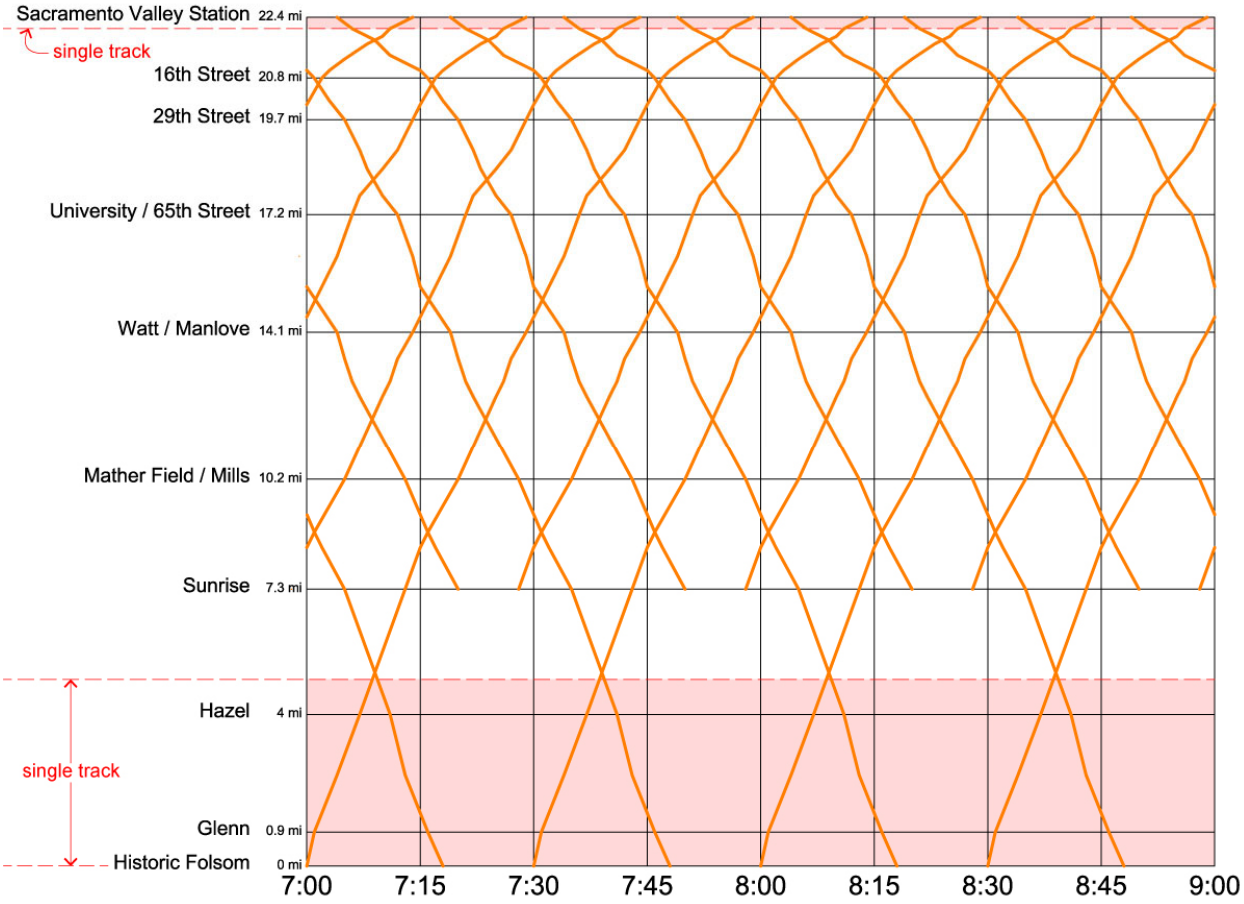
4.1 Existing Conditions

With the existing 15-minute headways between Sacramento Valley Station (SVS) and Sunrise Station, and 30-minute headways between Folsom and SVS, average weekday ridership on the Gold Line pre-pandemic was approximately 17,000.[17] In Downtown, the ability to improve frequency further is generally limited by shared track with the Blue Line and Green Line and disruptions to cross-street traffic associated with at-grade running. At the outer end of the line, the single-track segment between Sunrise and Folsom can currently support only 30-minute headways at best.

The existing morning peak-period timetable can be visualized in a stringline chart, as illustrated in Figure 38. As shown in Figure 38, the existing timetable is designed to avoid train meets in both of the single-track sections (between Sunrise / Hazel and Historic Folsom and at SVS).

[17] SacRT. *Quarterly Ridership Report; Period Ending June 30, 2018*. Available online at https://www.sacrt.com/documents/Ridership/2018_Q2_Ridership_Report.pdf. Accessed January 14, 2021.

Figure 38: Gold Line – Existing Timetable



Peak-period ridership patterns on the Gold Line (from 2018) are summarized in Figure 39 and Figure 40. Figure 39 summarizes boardings and passenger loads by station in the inbound direction for the weekday a.m. peak period, while Figure 40 summarizes alightings and passenger loads by station in the outbound direction for the weekday p.m. peak period.

As indicated in the heat maps, some of the heaviest boarding and alighting activity is observed east of Sunrise, most noticeably at Historic Folsom and Iron Point. The 6:30 a.m. departure from Historic Folsom has the single highest boarding count at any station in the weekday a.m. peak period (61 boardings). With ridership east of Sunrise concentrated in half the number of trains, the passenger loads by train are also noticeably higher for Folsom trains than for Sunrise trains, a pattern that continues all the way into the Downtown portion of the line. Similar trends can be observed in the outbound direction during the weekday p.m. peak period.

Figure 39: Gold Line Ridership Detail – Inbound, Weekday a.m. Peak Period

Boardings by Station

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Start Time	HIST FOLSOM	GLENN	IRON POINT	HAZEL	SUNRISE	CORDOVA TOWN CTR	ZINFANDEL	MATHER FIELD / MILLS	BUTTERFIELD	TIBER	STARFIRE	WATT / MANLOVE	COLLEGE GREENS	POWER INN ROAD	65TH STREET	59TH STREET	48TH STREET	39TH STREET	29TH STREET	23RD STREET	16TH STREET	13TH STREET	ARCHIVES PLAZA	8TH & O STREETS	7TH / 8TH & CAPITOL	8TH & K	8TH & H	SAC VALLEY	Total
4:58a					10	2	4	11	5	1	1	7	0	4	6	2	1	1	3	2	1	1	0	0	1	0	0	0	64
5:00a	12	5	7	5	10	2	6	6	2	2	1	9	1	2	6	0	2	0	1	7	0	2	1	1	0	2	0	0	90
5:28a					3	1	3	7	4	2	1	5	2	3	8	0	1	1	1	1	0	1	0	0	0	1	0	0	47
5:30a	15	7	13	3	6	4	3	9	6	3	1	18	1	3	6	0	1	0	5	4	2	0	1	0	0	0	0	0	112
5:58a					12	7	0	14	13	4	3	24	0	6	8	0	2	12	2	11	0	0	0	0	0	0	0	0	117
6:00a	28	7	24	8	23	9	10	29	8	3	5	28	2	5	18	1	1	2	4	9	1	1	1	1	1	1	0	0	231
6:28a					28	10	8	21	9	5	4	26	6	7	13	2	2	2	5	8	3	1	2	1	1	0	0	0	163
6:30a	61	22	33	12	15	7	10	32	9	6	7	46	2	15	40	4	3	1	11	18	1	0	1	0	0	2	0	0	360
6:58a					27	17	14	36	20	14	10	39	8	9	15	2	2	6	15	11	2	1	1	0	0	0	0	0	249
7:00a	41	18	37	11	33	11	12	44	15	13	20	40	13	13	23	5	4	5	11	14	10	2	0	0	0	0	0	0	393
7:28a					25	12	20	29	12	6	12	33	7	6	10	5	4	5	10	18	5	0	2	0	1	0	0	0	224
7:30a	35	26	33	7	14	19	9	37	13	5	5	44	11	8	13	1	3	4	13	11	0	1	0	1	0	0	0	0	315
7:58a					28	15	16	24	5	9	5	31	11	8	17	9	6	9	14	9	3	1	1	0	2	0	0	0	222
8:00a	33	20	29	13	13	13	11	27	8	3	8	28	6	7	24	4	3	2	13	4	3	1	2	1	0	0	0	0	277
8:28a					13	9	9	14	6	5	4	15	5	5	8	2	3	6	12	6	1	2	2	1	0	0	0	0	127
8:30a	13	5	14	5	17	10	14	31	3	4	5	14	5	4	16	2	0	3	12	2	3	3	2	0	1	1	0	0	191
8:58a					11	9	7	20	9	5	10	12	7	2	12	2	2	1	11	2	5	1	4	0	1	1	0	0	134
9:00a	14	1	6	2	7	7	13	25	4	2	7	16	10	5	27	1	1	4	17	9	1	2	1	0	0	0	0	0	185
9:28a					5	4	7	8	1	3	5	7	4	12	6	1	2	2	12	4	1	5	1	0	0	1	0	0	89
9:30a	5	2	3	3	8	7	6	22	3	4	4	16	9	3	12	1	2	4	15	2	4	1	1	0	1	0	0	0	138
9:58a					3	7	7	14	1	2	2	4	7	4	10	0	3	7	14	2	3	4	0	0	0	1	0	0	97

Passenger Loads by Station

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Start Time	HIST FOLSOM	GLENN	IRON POINT	HAZEL	SUNRISE	CORDOVA TOWN CTR	ZINFANDEL	MATHER FIELD / MILLS	BUTTERFIELD	TIBER	STARFIRE	WATT / MANLOVE	COLLEGE GREENS	POWER INN ROAD	65TH STREET	59TH STREET	48TH STREET	39TH STREET	29TH STREET	23RD STREET	16TH STREET	13TH STREET	ARCHIVES PLAZA	8TH & O STREETS	7TH / 8TH & CAPITOL	8TH & K	8TH & H	SAC VALLEY	Max
4:58a					10	13	15	26	29	30	32	38	38	42	44	45	45	45	42	42	33	33	26	20	15	12	10	0	45
5:00a	11	16	23	28	37	39	44	50	43	44	45	52	52	53	54	53	54	53	50	55	44	44	36	30	16	16	9	0	55
5:28a					3	5	8	15	18	20	20	22	20	22	28	28	29	30	30	30	23	23	20	16	11	7	2	0	30
5:30a	15	21	34	37	43	47	49	57	50	53	52	69	69	73	73	72	73	70	59	62	54	52	43	27	17	9	2	0	73
5:58a					12	19	19	33	46	48	51	73	73	77	83	83	85	93	89	99	84	84	69	53	34	17	4	0	99
6:00a	28	35	58	66	87	95	104	133	134	136	142	159	155	160	166	165	164	163	155	160	126	119	92	63	30	14	5	0	166
6:28a					28	38	46	63	70	75	77	102	107	111	118	118	119	120	116	119	88	87	71	49	25	14	5	0	120
6:30a	60	82	115	127	141	148	157	184	166	172	179	216	208	218	237	235	236	226	208	216	172	165	126	83	48	32	9	0	237
6:58a					27	43	57	92	111	123	133	166	169	174	178	179	178	180	177	184	156	147	108	74	44	32	5	0	184
7:00a	42	60	98	109	140	150	161	197	203	215	234	266	273	281	270	268	270	272	265	274	221	213	162	108	60	38	9	0	281
7:28a					25	36	55	80	89	92	103	132	133	137	134	138	140	143	138	152	127	121	92	55	32	24	2	0	152
7:30a	34	60	93	98	110	128	134	170	163	165	170	206	214	217	214	212	212	214	214	221	177	167	124	73	38	25	7	0	221
7:58a					29	43	58	74	77	85	90	118	125	134	126	135	140	145	148	150	100	93	76	51	25	12	4	0	150
8:00a	32	51	79	91	101	113	122	143	140	141	147	171	174	177	171	171	172	172	168	165	131	123	78	44	29	18	5	0	177
8:28a					13	21	29	41	45	49	52	65	67	69	67	67	68	73	76	79	59	56	43	29	19	9	3	0	79
8:30a	13	18	33	37	54	65	77	100	97	99	103	112	110	107	106	106	104	105	97	94	67	66	52	42	27	12	7	0	112
8:58a					11	20	26	42	49	53	61	68	71	72	69	69	68	67	71	69	51	45	42	30	23	12	5	0	72
9:00a	14	14	20	22	28	35	46	65	67	67	73	83	86	88	100	98	98	99	95	99	61	56	46	40	30	16	4	0	100
9:28a					5	9	16	20	17	19	24	27	29	39	36	37	37	38	43	43	23	25	23	17	14	3	1	0	43
9:30a	5	7	10	13	19	26	29	47	49	51	55	66	70	71	69	70	69	69	73	69	47	42	35	29	20	9	3	0	73
9:58a					3	11	15	25	25	26	27	29	32	35	38	37	39	43	52	52	38	35	30	24	18	7	3	0	52

Figure 40: Gold Line Ridership Detail – Outbound, Weekday p.m. Peak Period

Alightings by Station

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Start Time	SAC VALLEY	7TH & I	7TH & K	7TH / 8TH & CAPITOL	8TH & O STREETS	ARCHIVES PLAZA	13TH STREET	16TH STREET	23RD STREET	29TH STREET	39TH STREET	48TH STREET	59TH STREET	65TH STREET	POWER INN ROAD	COLLEGE GREENS	WATT / MANLOVE	STARFIRE	TIBER	BUTTERFIELD	MATHER FIELD / MILLS	ZINFANDEL	CORDOVA TOWN CTR	SUNRISE	HAZEL	IRON POINT	GLENN	HIST FOLSOM	Total
2:04p	0	0	1	0	0	1	1	4	2	11	1	2	0	12	4	7	7	3	3	3	17	15	5	6					106
2:19p	0	0	0	1	1	1	3	2	4	18	3	3	2	21	5	8	14	4	4	5	20	9	4	8	3	16	6	16	179
2:34p	0	0	0	0	1	0	0	3	1	11	2	3	0	15	8	11	17	4	4	3	16	17	4	11					132
2:49p	0	0	1	0	0	0	5	6	4	14	2	5	2	14	7	10	20	8	4	7	12	17	5	12	9	19	10	23	218
3:04p	0	0	0	0	1	0	1	4	5	14	2	5	4	15	5	7	28	8	5	6	20	16	10	21					178
3:19p	0	0	0	1	2	0	1	3	4	11	2	1	3	14	6	15	19	7	8	6	25	13	7	10	4	25	15	21	223
3:34p	0	0	0	0	3	1	1	5	6	16	3	0	5	20	6	8	26	7	10	11	43	17	8	36					232
3:49p	0	0	0	2	2	1	1	4	12	15	4	2	6	17	5	12	23	5	6	8	17	20	12	20	17	32	21	34	295
4:04p	0	0	0	0	1	1	1	5	12	15	6	3	6	17	10	10	34	5	3	13	31	23	16	29					241
4:19p	0	0	0	2	1	5	4	4	14	14	3	2	3	28	9	5	37	9	8	13	37	18	12	16	12	50	22	47	376
4:34p	0	0	3	1	0	1	2	4	12	12	8	4	5	23	12	11	47	8	11	15	35	17	16	33					280
4:49p	0	0	1	0	1	0	3	3	12	12	5	7	9	23	10	9	44	16	10	17	29	18	20	34	13	47	31	36	410
5:04p	0	0	1	1	0	0	2	4	10	6	5	7	7	30	17	19	48	9	19	10	46	16	20	44					322
5:19p	0	1	0	0	0	0	3	3	4	13	5	5	6	16	6	8	19	6	8	6	21	16	18	16	13	23	21	24	258
5:34p	0	0	0	0	0	1	3	3	9	14	6	2	3	32	4	9	27	7	10	17	24	12	7	29					219
5:49p	0	0	0	0	1	1	2	2	8	7	3	1	1	13	4	5	12	11	5	6	17	13	10	10	5	14	7	13	169
6:04p	0	0	0	1	1	1	0	3	3	6	4	3	2	10	4	4	16	4	6	4	16	12	5	15					119
6:19p	0	0	1	0	1	0	2	5	3	5	2	1	1	5	7	7	11	1	2	4	10	12	2	12	1	4	2	6	107
6:49p	0	0	1	0	0	0	2	4	2	11	3	1	2	9	5	7	14	6	3	3	20	13	7	15					129
7:19p	0	0	0	0	1	0	0	3	3	6	3	1	2	11	3	3	8	3	1	4	16	10	5	8					92
7:49p	0	0	0	0	0	0	1	4	1	7	4	1	2	10	4	5	10	4	2	2	14	10	3	4					88

Passenger Loads by Station

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Start Time	SAC VALLEY	7TH & I	7TH & K	7TH / 8TH & CAPITOL	8TH & O STREETS	ARCHIVES PLAZA	13TH STREET	16TH STREET	23RD STREET	29TH STREET	39TH STREET	48TH STREET	59TH STREET	65TH STREET	POWER INN ROAD	COLLEGE GREENS	WATT / MANLOVE	STARFIRE	TIBER	BUTTERFIELD	MATHER FIELD / MILLS	ZINFANDEL	CORDOVA TOWN CTR	SUNRISE	HAZEL	IRON POINT	GLENN	HIST FOLSOM	Max
2:04p	4	7	13	17	24	27	34	52	53	50	50	51	51	49	46	44	39	38	37	37	26	11	6	0					53
2:19p	5	12	18	28	38	51	61	91	89	84	85	85	87	82	79	75	66	64	61	63	48	45	43	40	37	22	16	0	91
2:34p	4	9	12	15	30	33	41	68	73	72	71	69	70	71	65	61	46	43	41	41	32	14	11	0					73
2:49p	6	10	16	34	48	59	62	86	88	87	90	87	94	102	98	93	84	77	74	82	82	66	65	56	47	30	23	0	102
3:04p	5	10	17	25	38	50	56	83	82	81	86	84	82	87	86	87	66	61	56	58	44	30	21	0					87
3:19p	4	12	24	34	59	82	96	131	129	135	136	137	141	137	135	123	107	104	98	100	81	70	65	59	55	31	21	0	141
3:34p	9	21	32	39	64	87	99	142	141	137	138	142	142	132	131	132	112	107	100	94	56	39	34	0					142
3:49p	12	26	41	56	91	118	133	175	172	174	174	173	172	169	172	168	147	142	138	149	139	123	112	100	85	53	34	0	175
4:04p	4	11	23	43	83	107	117	143	135	138	135	132	129	133	129	124	96	93	92	86	63	43	28	0					143
4:19p	14	33	48	73	127	171	173	219	209	216	219	221	222	218	215	215	186	178	173	177	147	130	119	116	105	61	46	0	222
4:34p	8	38	61	80	142	169	177	210	204	210	203	200	197	184	173	165	124	118	108	94	63	48	32	0					210
4:49p	16	49	74	104	168	222	230	281	276	285	281	279	278	272	271	266	233	219	210	203	179	162	145	118	107	64	35	0	285
5:04p	8	52	87	104	170	214	222	250	248	251	249	245	241	217	205	190	148	140	125	119	78	62	42	0					251
5:19p	19	34	48	86	105	127	133	161	162	158	159	157	156	156	152	148	133	128	121	123	112	101	89	77	66	43	24	0	162
5:34p	14	25	36	43	67	99	125	166	159	152	147	145	143	122	120	114	92	88	80	65	50	37	31	0					166
5:49p	8	19	30	40	57	76	80	109	109	110	109	109	110	109	108	106	96	85	81	76	61	50	42	36	34	20	13	0	110
6:04p	3	13	18	23	33	41	59	69	68	71	69	69	68	63	61	63	50	47	43	40	31	20	15	0					71
6:19p	12	19	26	27	38	43	45	70	68	67	66	66	65	65	59	54	44	45	43	41	35	26	25	13	13	9	7	0	70
6:49p	5	9	14	20	25	32	37	62	64	60	60	60	60	66	63	59	53	48	47	46	31	22	16	0					66
7:19p	4	7	9	18	20	23	29	48	47	49	48	48	48	45	44	43	37	35	35	34	22	14	9	0					49
7:49p	3	6	11	16	17	21	24	44	45	47	44	44	43	41	38	38	29	27	26	26	15	6	4	0					47

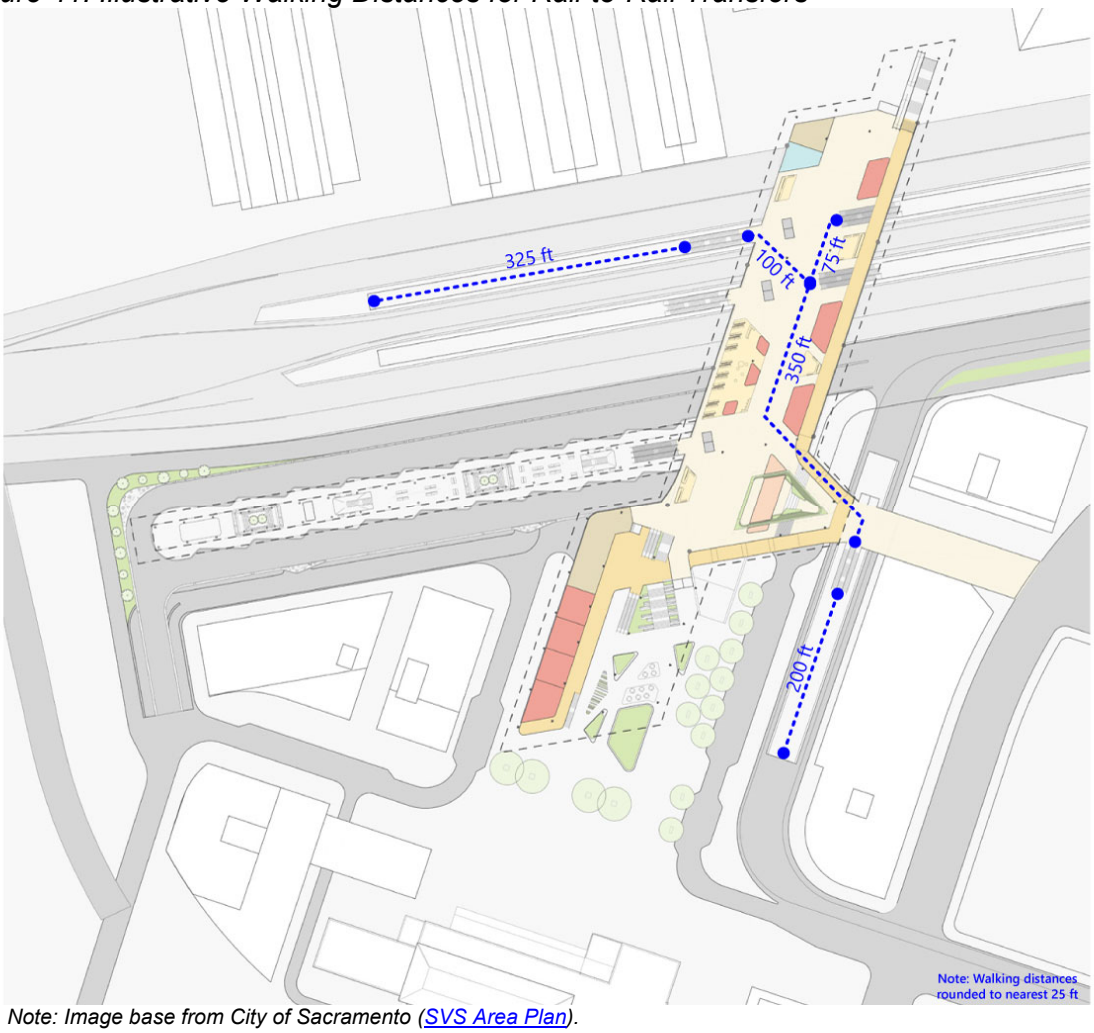
4.2 Schedule Coordination

As discussed in Section 3.1.2, SacRT's light rail network directly serves SVS currently via the Gold Line, with headways as low as 15 minutes for most of the day on both weekdays and weekends. Schedule coordination is somewhat driven by the *Capitol Corridor* timetable, which is the busiest regional / intercity rail service currently at the station. With the Gold Line timetable, SacRT generally seeks to minimize wait times for passengers transferring between regional / intercity rail and SacRT light rail at SVS. The Gold Line timetable then drives the Blue Line timetable due to track-sharing through Downtown Sacramento. Together, the light rail timetables then drive timetables for connecting feeder and circulator / shuttle bus routes.

Approximate walking distances for transfers between light rail and intercity rail at SVS are illustrated in Figure 41. The walking distance at station concourse level would be up to approximately 450 feet, which would take approximately 110 seconds assuming an average walking speed of 4 feet per second. Assuming vertical circulation (escalators) takes approximately 30 seconds at each location and accounting for walking time on platforms, wait times entering / exiting trains, and queues at vertical circulation, the transfer time in each direction would likely be on the order of 3–4 minutes. Given the inherent variability in on-time performance for both SacRT light rail and the *Capitol Corridor*, SacRT light rail would likely need to provide a window of 6–8 minutes to adequately facilitate bi-directional schedule coordination with intercity rail at SVS.

While it may be possible to optimize wait times at SVS in one direction, scheduling limitations imposed by single-track sections elsewhere on the Gold and Green Lines would likely make schedule coordination in both directions (for passengers alighting *and* boarding regional / intercity trains) impractical. In cases where the Gold Line is interlined with the Green Line as a single, combined service (discussed in more detail in Section 4.3.3), the additional travel time would also be a disincentive for through riders (e.g., *Capitol Corridor* riders heading to and from Downtown).

Figure 41: Illustrative Walking Distances for Rail-to-Rail Transfers



Note: Image base from City of Sacramento (SVS Area Plan).

The operational issues surrounding bi-directional schedule coordination can be easily visualized in the diagram on the following page, which illustrates a hypothetical scenario designed around Gold Line and *Capitol Corridor* trains arriving at SVS on the hour (:00). On the left, both trains are on-time, and with a 4-minute dwell to allow for transfers in both directions, both trains can depart SVS at :04. On the right, we can then introduce a minor level of variability into this scenario, with the *Capitol Corridor* train arriving 3 minutes late at :03. Assuming the Gold Line arrives on-time at :00, it must wait 3 minutes for the *Capitol Corridor* to arrive and an additional 4 minutes to accommodate passengers transferring from that train, meaning that it can only depart the station at :07. In contrast, the delayed *Capitol Corridor* train only needs to dwell for 1 minute and can depart at :04, as passengers transferring from the Gold Line to the *Capitol Corridor* had already been making their way to the *Capitol Corridor* platform for 3 minutes before their train arrived.

This hypothetical situation does not consider variability on the Gold Line. We could, for example, assume a very modest variability of ±1 minute for the Gold Line, such that a Gold Line train that arrives 1 minute early would be subject to a dwell of 8 minutes at SVS in the scenario on the right, or more than half of the line's 15-minute headway.

Capitol Corridor on-time		
SacRT Gold Line	**Timepoint at SVS**	***Capitol Corridor***
	:55	
	:56	
	:57	
	:58	
	:59	
arrival	:00	arrival
↓	:01	↓
↓	:02	↓
↓	:03	↓
departure	:04	departure
	:05	
	:06	
	:07	

Capitol Corridor late (3 minutes)		
SacRT Gold Line	**Timepoint at SVS**	***Capitol Corridor***
	:55	
	:56	
	:57	
	:58	
	:59	
arrival	:00	
↓	:01	
↓	:02	
↓	:03	arrival
↓	:04	departure
↓	:05	
↓	:06	
departure	:07	

It should be noted that, to the extent that the *Capitol Corridor* timetable is designed around transfers to / from BART at Richmond (and not around the arrival / departure times at SVS), there is limited latitude to design for bi-directional schedule coordination. As the majority of regional and intercity trains, including the *Capitol Corridor*, would terminate or begin revenue trips at SVS, the actual need for bi-directional schedule coordination may also be somewhat limited.

In either case, the Gold Line's 15-minute headway ensures that the wait time for passengers in a scenario without any schedule coordination whatsoever would only be 15 minutes at maximum and seven and a half minutes on average, which is generally as good or better than could be planned for in a timed-connection scenario with an intercity train, as shown in the hypothetical scenario above.

It should also be noted that the relatively long distance between the regional / intercity rail and light rail platforms at the station, together with the length of regional / intercity trains, will naturally introduce some variability in transfer times based on passengers' natural walking speeds. Passengers alighting towards the front or rear of regional / intercity trains, as well as the elderly and passengers with physical disabilities or special mobility needs, would likely require substantial additional time to reach the light rail platform. One-way transfer time in these cases could be up to 12 minutes.[18] This only considers time in transit between the connecting modes, and it does not consider potential variance in intercity / regional rail arrival times, which is substantially larger than for light rail due to mixed (passenger–freight) traffic and primarily single-track operations.[19]

Considering these factors, in the evenings and weekends, when SacRT runs only 30-minute headways on light rail, all other things being equal, SacRT should consult *Capitol Corridor*

[18] Assumes walking distances of 725 feet on the intercity rail platform (from far eastern end of platform) and 450 feet at concourse level at a walking speed of 2½ feet per second, plus 120 seconds for elevator wait and transit time at each end.

[19] For *Capitol Corridor*, for example, a train is considered "on-time" if it arrives within 10 minutes of the scheduled arrival time.

schedules, and try to avoid any obviously poor connections, with the top priorities being connections between high ridership trains and connections with the last train of the night. The Gold Line schedule should then drive the Blue Line schedule.

Outside of potential short-tripper trains on the Gold Line to supplement the base timetable during the peak period (discussed in more detail in Section 4.3.2), SacRT does not envision additional frequency improvements beyond 15-minute headways (four trains per hour per direction) at this time, as its bus and light rail network is generally built on headways of 15 minutes or multiples thereof (e.g., 30 minutes, 60 minutes). The next logical frequency improvement beyond 15 minutes, at least based on a "clockface" schedule, would be to 12-minute headways, which would push the capacity of the system in the shared downtown corridors, reduce the intersection capacity at cross streets, and disrupt connections with the mostly 15-, 30-, and 60-minute headway bus system.

As part of this network integration study, however, SacRT has explored changes to Gold Line scheduling and operating plans, considering SVS holistically with the SVS Loop project, major infrastructure improvements to the Gold Line and Green Line, systemwide programs such as low-floor station and vehicle conversion, and special event service for the Railyards stadium. These efforts are discussed in more detail in the following sections.

4.3 Operating Plans

This section discusses various light rail operating plans that aim to adapt to the changing fleet composition over time and the systemic constraints of the Gold Line.

4.3.1 Existing Service

The Gold Line's current daytime timetable is based on a service frequency of every 15 minutes west of Sunrise and every 30 minutes east of Sunrise. Described another way, trains operate on 15-minute headways between SVS and Sunrise, with half of those trains continuing beyond Sunrise to / from Folsom. This service pattern can be described as a "15/30 Base & Peak" pattern, with the frequency drop located at Sunrise.[20]

The Gold Line's peak vehicle requirement (PVR) is currently 32 LRVs with a total train requirement of eight trains. All vehicles are high-floor, allowing trains to run in consists with up to four cars, providing the maximum seated capacity. The existing timetable provides five minutes of schedule recovery at SVS, 12 minutes of recovery at Folsom, and 8 minutes of recovery at Sunrise during weekday daytime operation.

[20] For this nomenclature system, it is convenient to ignore service frequency outside of the weekday daytime periods (e.g., during the early morning or late evening periods, or on weekends), as transit service may operate on irregular headways or at substantially lower frequencies during these times. In the case of the Gold Line, for example, evening service is every 30 minutes across the full route (SVS to Folsom), and there is no frequency drop at Sunrise.

Operator fallbacks[21] take place at Sunrise Station, where dedicated facilities are provided for operators. As mentioned earlier in Section 3.1.2, two tail tracks are provided at SVS for midday car cuts and storage, as well as for holding disabled trains or dispatching replacement trains.

In Downtown Sacramento, the Gold Line shares track with both the Blue Line and the Green Line between 13th Street and K Street, and there are several operational constraints on this portion of the route:

- Limitations associated with an at-grade, street-running system, including train spacing and frequency constraints to avoid excessive disruption of cross-street traffic, bicycle, and pedestrian circulation at grade crossings and intersections
- Capacity of the power supply system (e.g., electrical load at substations)
- Decreased reliability and increased service gaps caused by disruptions that then quickly spread from one line to the others due to shared track, exacerbated by critical single-tracked segments on each line that require stricter schedule adherence than on a double-tracked system
- Green Line mid-line turnarounds at 13th Street

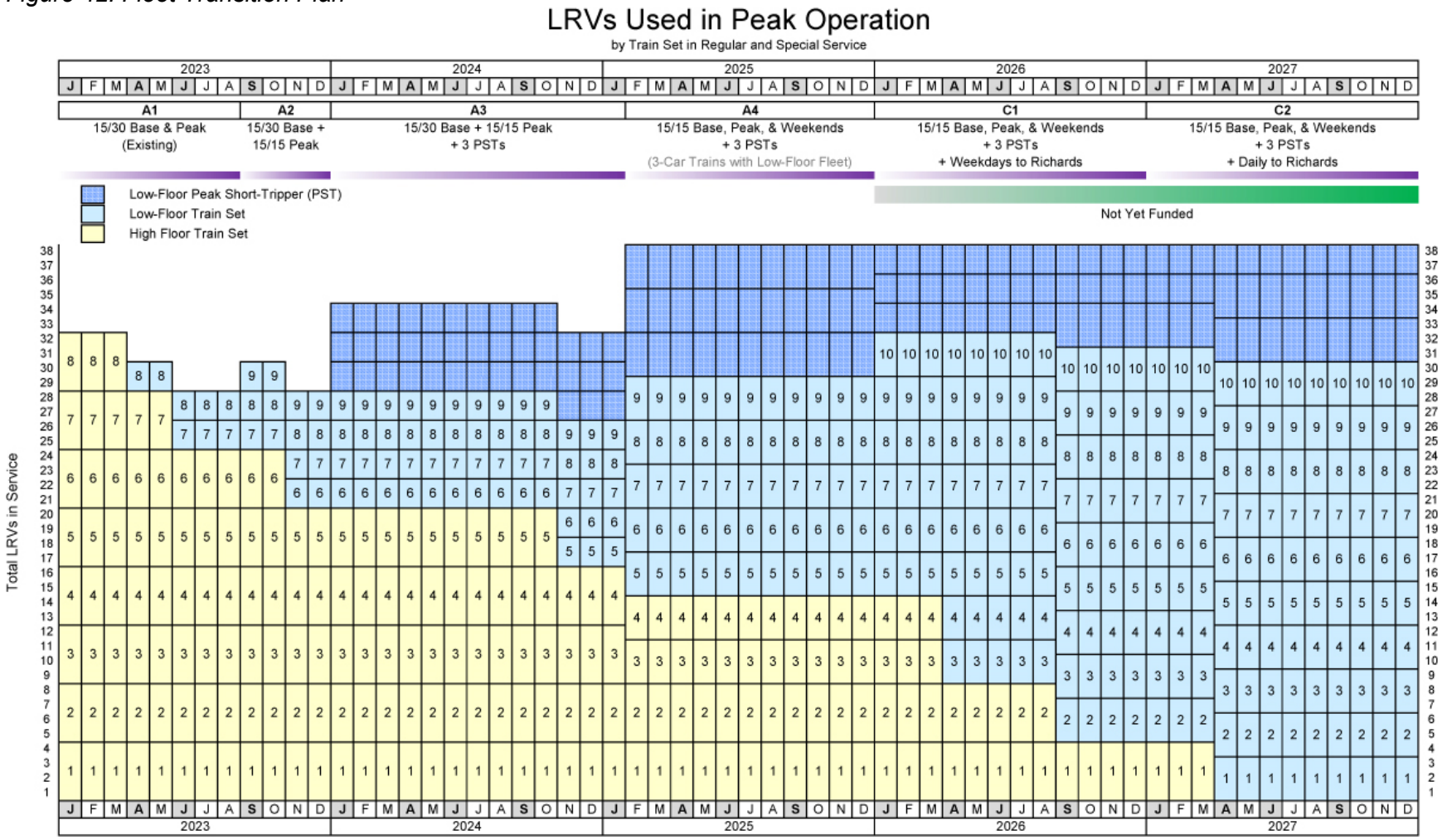
With low-floor LRVs restricted to two-car trains initially and three-car trains longer-term, maintaining sufficient seating capacity for passengers will be a challenge, as the fleet transitions to low-floor vehicles. The following sections explore several options to mitigate the loss in seating capacity, and to evaluate other upcoming operating scenarios, such as interlining of the Green Line and Gold Line and special event service for the future Railyards Stadium.

4.3.2 15-minute Headways to Folsom

15-minute service to Folsom will require, at a minimum, the previously mentioned Glenn passing track, which is scheduled to be ready for service in July 2023. The Hazel passing track is not explicitly required for 15-minute service, but it provides additional reliability and recoverability. Implementation of 15-minute service will be taking place concurrently with the transition to low-floor LRVs on the Gold Line. As low-floor trains will be restricted to two-car consists initially, a detailed fleet transition plan has been developed in conjunction with the rollout of 15-minute service to Folsom, as illustrated in Figure 42. Scenario A1 represents the existing operating plan, while Scenarios A2 and beyond represent subsequent operating plans with 15-minute service to Folsom.

[21] Fallback scheduling is an operating principle designed to accommodate operator breaks while maximizing vehicle utilization. Operators who have completed their assigned trip and are scheduled to go on break *fall back* to their immediate follower or another later trip when they return from their break for another assigned trip. Fallbacks are a common practice in systems that design around quick terminal layover / recovery due to high service frequencies or limited terminal capacity.

Figure 42: Fleet Transition Plan



As indicated in Figure 42, 15-minute headways to Folsom would require a minimum of nine trains in service, one more than existing service. All other things being equal, the addition of one train would increment the PVR by up to four LRVs; however, some trains will be converted to two-car consists at that time (as shown in Figure 42), such that the PVR will actually decrease from 32 to 30 despite the train requirement increasing from eight to nine. The PVR would continue to fluctuate slightly in subsequent years as more low-floor LRVs enter service and high-floor LRVs are retired.

This plan contemplates a phased implementation of service improvements in conjunction with the low-floor transition, as shown in Figure 42:

- ***15-minute headways to Folsom at peak.*** The initial transition to 15-minute headways east of Sunrise would be implemented during the peak periods only (Scenario A2). This operating concept can be described as a "15/30 Base + 15/15 Peak" service pattern, and would be implemented in September 2023, following completion of the Glenn passing track and delivery of sufficient low-floor LRVs to operate nine trains in service.

- ***Adding peak short-trippers.*** To offset the decrease in seated capacity triggered by reducing the number of four-car trains in service, three peak short-tripper trains could be added to the 15/30 Base + 15/15 Peak service pattern, starting in January 2024 (Scenario A3). The three trippers would run between SVS and Sunrise, inbound in the morning peak period and outbound in the evening peak period. This operating plan would have a PVR of 34 vehicles and 12 total trains in service.

- ***Expanding 15-minute headways to Folsom to all day, every day.*** 15-minute service to Folsom all day, every day ("15/15 Base, Peak, & Weekends") with three peak short-tripper trains would be the horizon scenario for 15-minute headways to Folsom (Scenario A4). By February 2025, stations will be able to accommodate three-car low-floor consists, which would help restore some of the maximum seated capacity lost from phasing out the high-floor vehicles. This operating plan would be implemented in February 2025 and would have a PVR of 38 vehicles and 12 trains.

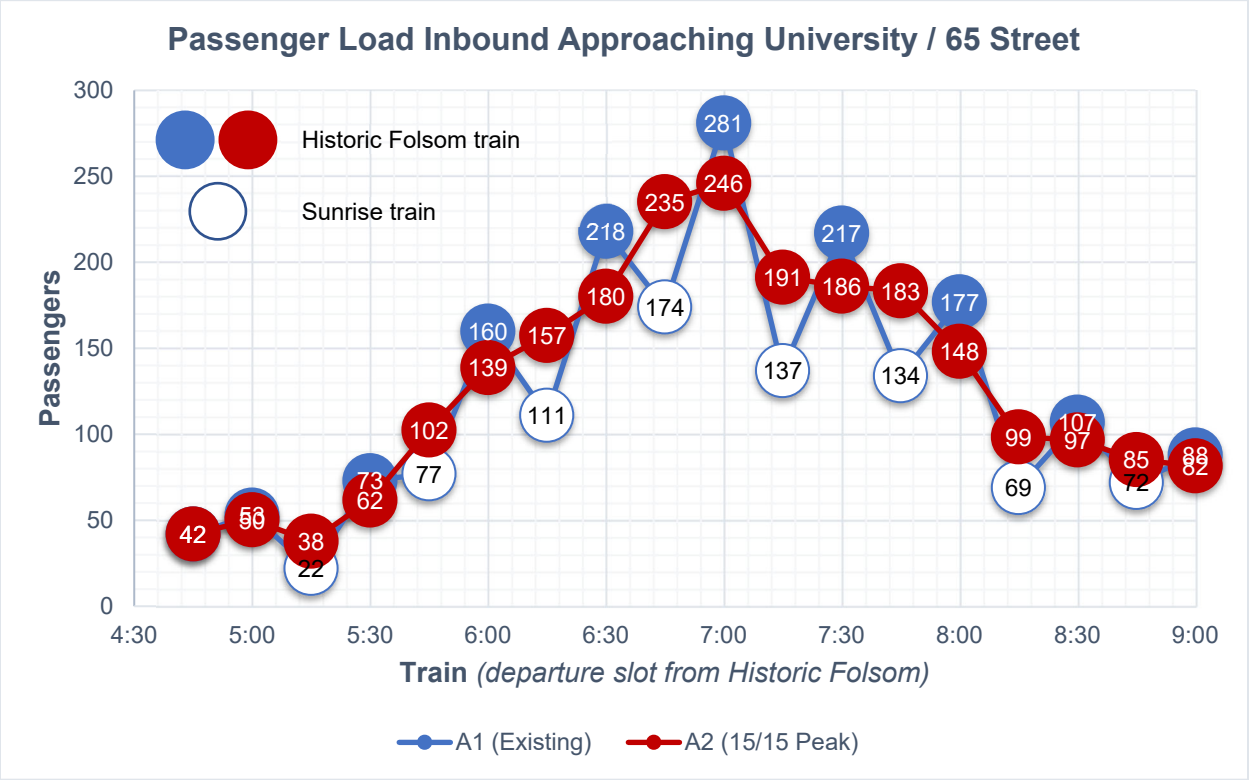
Loading Analysis

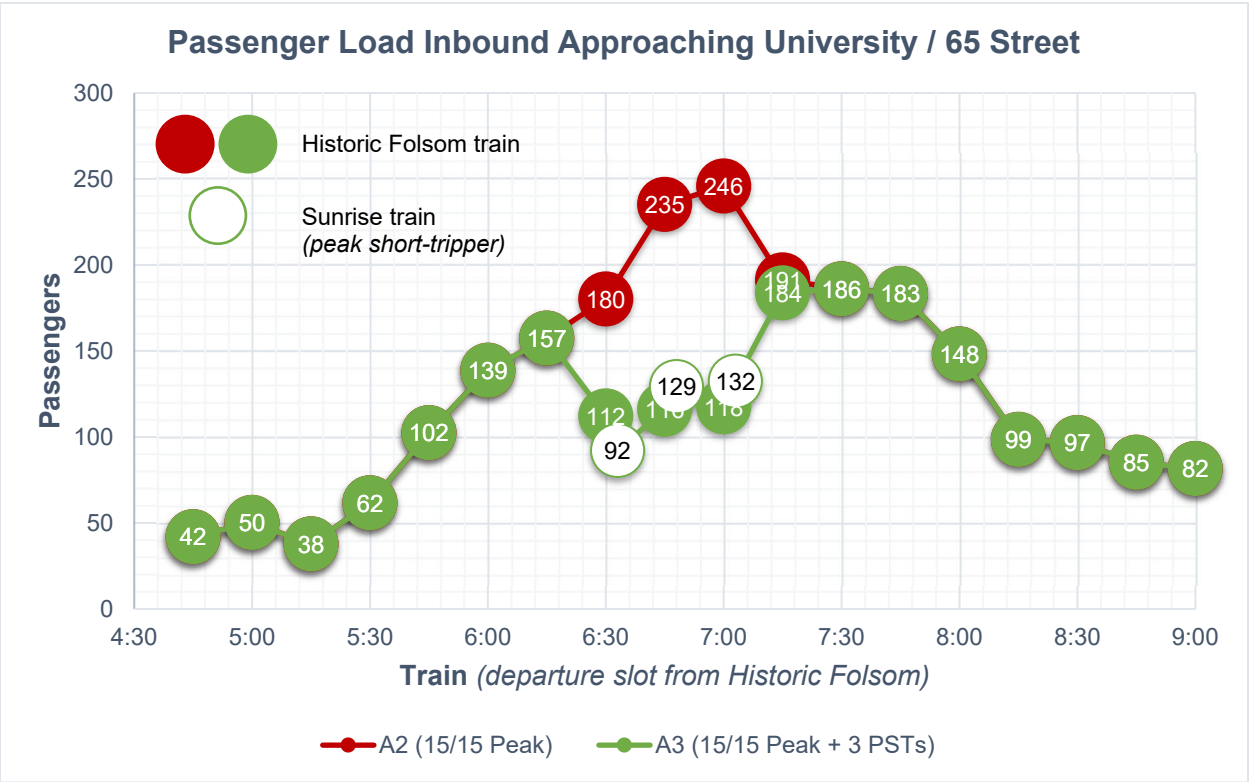
With headways remaining at 15 minutes but trains reduced to two cars, and expanded service to Folsom being added concurrently, there may be pressure on capacity. This will likely be offset, however, by two factors:

- Better balancing of ridership east of Sunrise
- Surplus capacity available in current operations

A loading analysis was conducted to better quantify the potential capacity impacts to the Gold Line, taking into account the reduction in consist length, the extension of all Sunrise trips to Folsom, and the addition of short-trippers. The results of this analysis are illustrated in Figure 43.

Figure 43: Morning Inbound Loads by Train





The first chart compares the inbound existing morning peak period loads on trains (from Figure 39)—i.e., Scenario A1—at the maximum load point (approaching University / 65th Street Station) with the expected loads under Scenario A2, when Folsom service is improved to 15-minute headways during the peak. Even with an assumed 25-percent increase in ridership east of Sunrise due to latent demand captured by more frequent service, Scenario A2 shows a reduction in the maximum load on the busiest train (246 vs. 281), as well as a smoother overall loading distribution across all trains. As indicated in the fleet transition plan in Figure 42, up to six of the nine trains in service would still be operated as four-car high-floor trains under Scenario A2, and those consists could be assigned to the more crowded runs to avoid pass-ups. The two-car low-floor trains could then be assigned to shoulder runs, where maximum loads would be on the order of approximately 150 passengers—crowded, but with some standing room (capacity per LRV is approximately 100 passengers).

The second chart compares Scenario A2 with Scenario A3, which adds the three short-trippers out of Sunrise. Even with an additional assumed ridership increase of 5 percent due to latent demand captured by the short-trippers, the results show substantial dampening of the peak loads, with the maximum load on any one train dropping from 246 to 186. Under Scenario A3, up to five of the nine trains would still be operated as four-car high-floor trains. Assigning the most crowded runs to those trains, the two-car low-floor trains would see maximum loads of approximately 150 passengers or less, similar to Scenario A2.

Overall, the loading analysis confirms that peak-period crowding on trains during the early phase of the low-floor transition, when low-floor trains will be limited to two cars, can be mitigated on an interim basis through the frequency improvements and added short-trippers proposed above until completion of second phase of station upgrades to permit three-car low-floor trains.

4.3.3 Green–Gold Interlining

Following the implementation of 15-minute headways to Folsom, additional service improvements can be contemplated with the future completion of the SVS Loop, which could be ready for service as early as January 2026. The SVS Loop will replace the single-track SVS approach and stub terminal with a double-tracked through station, as well as provide new track connections at 7th Street / F Street, a new southbound track extending along 7th Street to North B Street, and a new Railyards Station. These improvements will allow for potential interlining of the Gold Line and Green Line, which would offer many potential benefits:

- Reduction / elimination of transfers for Green Line passengers
- Elimination of the Green Line's mainline turnaround at 13th Street, which can disrupt Blue Line and Gold Line service
- Increased capacity for the Green Line to accommodate future ridership growth
- Reduced service redundancy
- Reduced labor costs

Reduction in labor costs would come from more efficient scheduling. Currently, the Gold Line requires eight trains and nine operators (with operator fall-backs). The Green Line also requires one train and two operators (because it also requires an operator fall-back). Combined, the two lines require eleven operators. Fifteen minute headways to Folsom will add one train and

operator, bringing the total to ten trains and twelve operators. If interlined, the combined Gold-Green Line (running the same 15-minute headways to Folsom) would require the same ten trains but only eleven operators, saving one operator, from the loss of the Green Line fall-back.

As major developments in the Railyards and River District come online, there will be greater need for improved Green Line service, including both frequency enhancements (15-minute headways) and longer, higher-capacity trains. Interlining is a logical solution for implementing these service improvements, as the Gold Line already operates at 15-minute headways with trains up to four cars long.

A schematic diagram of Green–Gold interlining after completion of the SVS Loop (including the future Railyards Station) is illustrated in Figure 44. Figure 45 visualizes what a potential timetable for this scenario would look like, with and without the 7th Street double track.

With the 7th Street double track, travel times on the Green Line portion of the route (between SVS and 7th & Richards / Township 9) would be approximately 6 minutes in each direction. Turnaround times at 7th & Richards / Township 9 would be approximately 8 minutes, providing a reasonable amount of schedule recovery time for the train, although not providing sufficient time for an operator break without a fallback. With the added distance and running time to / from Township 9, the Gold Line would also require an additional train in service, bringing the total to 10 trains in service (excluding short-trippers).

If the single-track portion along 7th Street is not double-tracked, however, additional dwell time (approximately 2½ minutes in each direction) would be required at SVS to force train meets there instead of along 7th Street. Under this situation, the turnaround time at 7th & Richards / Township 9 would only be approximately 3 minutes, during which time, operators must pull past the station into the tail track, exit the train, walk to the other end, and pull the train through a crossover and into the southbound platform. For what would be a 20-mile line with 10 trains in operation, shared right-of-way, and single track section, a turnaround this tight would not be acceptable for system reliability. A costly but workable solution would be to add an 11th train in service.

This would allow a train to wait through one headway cycle (i.e., 15 minutes) plus the original 3 minute wait time, for an adequate break of 18 minutes at 7th & Richards / Township 9. However, this would not only increment labor costs, undoing the operating efficiencies of the interline, but it would also require four additional LRVs (which are not currently budgeted for) and, because both tail tracks would be needed for turnaround movements and wait time, it would effectively eliminate SacRT's storage capacity at the station. SacRT would lose the storage capacity to cut unneeded cars off-peak, store disabled cars, or stage supplemental or fill vehicles. For these reasons, interlined Gold-Green Line service without double track on 7th Street ought to be considered a non-starter. And needless to say, the Green Line extension to Natomas and Sacramento International Airport would not be advisable without double-track on 7th Street.

Figure 44: Green–Gold Interlining – Schematic Map

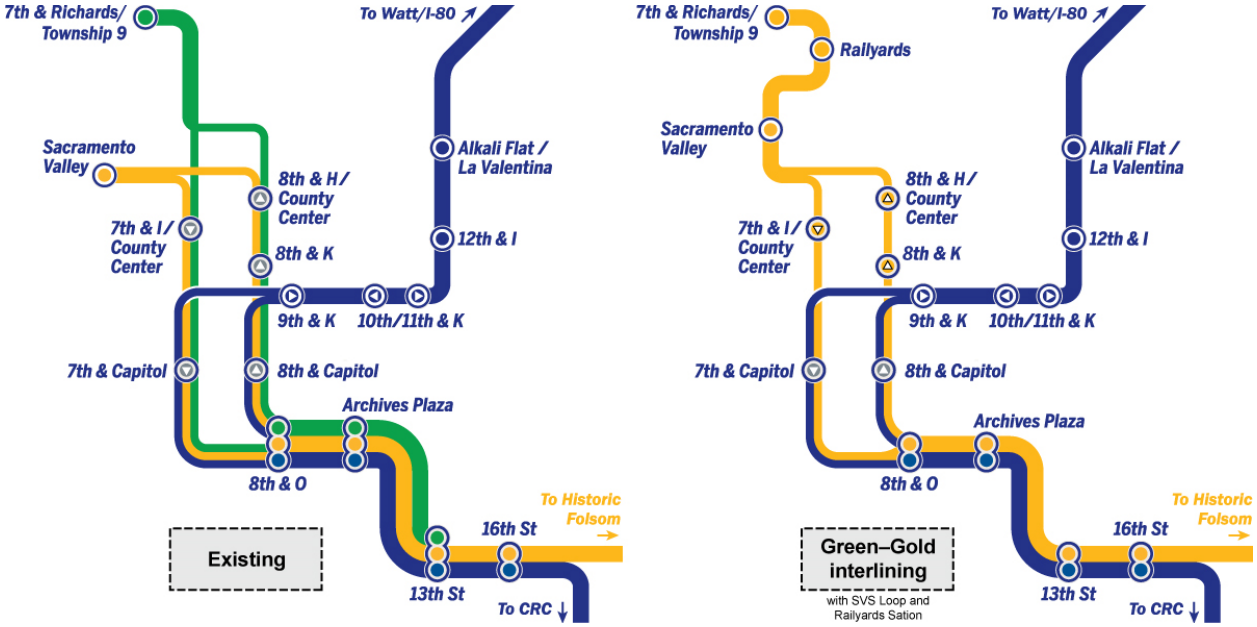
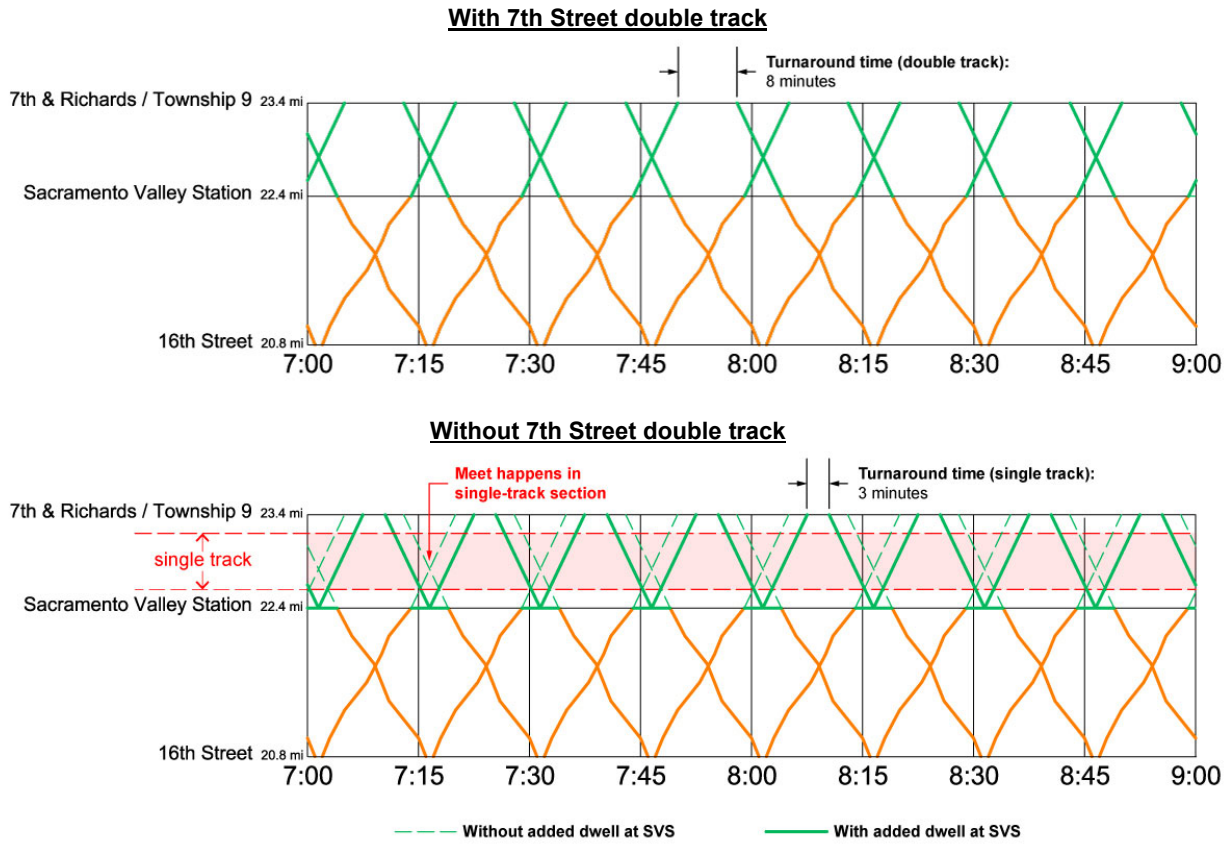


Figure 45: Green–Gold Interlining – Conceptual Timetable



Timing / Phasing

While this plan assumes that Green–Gold interlining can likely only be implemented as early as January 2026 (following completion of the SVS Loop), it is also useful to consider the timeline for future developments in the Railyards and River District. Figure 46 illustrates the expected completion dates of major known developments, including the MLS stadium, the Richards Boulevard Office Complex (RBOC), and the Kaiser Permanente medical center. As the stadium would generate negligible trips outside of events, it is discussed separately as part of special event service.

Figure 46: Timeline of Major Development Projects

As shown in Figure 46, the RBOC and (potentially) Kaiser projects are expected to be completed in 2024 and 2025, respectively, before the opening of the SVS Loop in 2026. Given these considerations, the SVS Loop (including the 7th Street double track) should be prioritized for completion to ensure that adequate transit capacity can be provided for these projects on a long-term basis, together with other future development in the Railyards and the River District. In the event that these infrastructure improvements are not completed before these two developments come online, however, it may be necessary in the near-term to continue operating the Green Line as an independent line. In this situation, SacRT would increase capacity by lengthening trains within the existing timetable of 30-minute headways. This, combined with existing bus service (11 Natomas / Land Park), would be sufficient as a stop-gap measure until the SVS Loop is completed.

Depending on which of the two major projects is completed first, it is recommended that interlining and frequency improvements be implemented in phases. RBOC is a government office complex and will likely not be a major generator of trips outside of weekdays, meaning that weekday-only service, with full interlining for the whole day, should be sufficient. The Kaiser Permanente medical center, on the other hand, will be an important regional destination to serve at all times to provide access to medical and emergency care. For the purposes of this plan, two scenarios have been considered[22]:

[22] With interlining, the Green Line would be eliminated and service to / from 7th & Richards / Township 9 would be consolidated under the Gold Line. Depending on the option under consideration, however, light rail service to Richards may not be provided on some days (i.e., Saturday, Sundays, and holidays).

- ***Weekday service to Richards.*** All Gold Line trains would serve 7th & Richards / Township 9 on weekdays. This option improves the existing weekday-only service to Richards from 30-minute headways currently to 15-minute headways and adds evening service to Richards matching the Gold Line's existing service level (30-minute headways). There would be no light rail service to Richards on weekends or holidays, as currently. This service (Scenario C1) could be implemented as early as January 2026, upon completion of the SVS Loop. As indicated in Figure 42, the PVR is assumed to stay fixed at 38 LRVs, but the extension from SVS to Richards would require an additional train in service (13 trains total). Initially, the additional train would be obtained by reducing the three short-trippers out of Sunrise to two-car trains.

- ***Daily service to Richards.*** All Gold Line trains would serve 7th & Richards / Township 9, seven days a week. This option includes the changes described above, but also adds weekend / holiday service matching the Gold Line's existing service level (15-minute headways daytime, 30-minute headways at other times). For the purposes of this plan, it is assumed that service would be stepped up over time, with implementation of this option following the above option as early as January 2027 (Scenario C2). Similar to the weekday-only service to Richards, the PVR is assumed to stay fixed, requiring that one or more of the short-trippers be reduced to two-car trains.

4.3.4 Summary

Table 3 summarizes the recommended changes to the Gold Line based on the fleet transition plan in Figure 42. Conceptual timetables for each phase are provided in Appendix C. Key metrics including peak vehicle requirement, one-way trips, train revenue hours, and annual operating costs for each phase are summarized in Table 4.

Table 3: Recommended Operating Plan Phasing

			Headways by Route Segment (minutes)									Start Date	End Date
			Township 9 – SVS			SVS – Sunrise			Sunrise – Folsom				
			Mon–Fri		Sat Sun	Mon–Fri		Sat Sun	Mon–Fri		Sat Sun		
			Base	Peak		Base	Peak		Base	Peak			
	A1	**15/30 Base & Peak (Existing)** *SVS–Sunrise: 15-min. all day, every day* *Sunrise–Folsom: 30-min. all day, every day*	—	—	—	15	15	15	30	30	30	—	9/2/2023
	A2	**15/30 Base + 15/15 Peak** *SVS–Sunrise: 15-min. all day, every day* *Sunrise–Folsom: 30-min. base, 15-min. peak*	—	—	—	15	15	15	30	15	30	9/3/2023	1/6/2024
	A3	**15/30 Base + 15/15 Peak + 3 PSTs** *SVS–Sunrise: 15-min. all day, every day + 3 PSTs* *Sunrise–Folsom: 30-min. base, 15-min. peak*	—	—	—	15	15 +3 PSTs	15	30	15	30	1/7/2024	2/1/2025
	A4	**15/15 Base, Peak, & Weekends + 3 PSTs** *SVS–Sunrise: 15-min. all day, every day + 3 PSTs* *Sunrise–Folsom: 15-min. all day, every day*	—	—	—	15	15 +3 PSTs	15	15	15	15	2/2/2025	1/3/2026
	C1	**15/15 Base, Peak, & Weekends + 3 PSTs + Weekdays to Richards** *T9–SVS: 15-min. all day, weekdays only + 3 PSTs* *SVS–Sunrise: 15-min. all day, every day + 3 PSTs* *Sunrise–Folsom: 15-min. all day, every day*	15	15 +3 PSTs	—	15	15 +3 PSTs	15	15	15	15	1/4/2026	1/2/2027
	C2	**15/15 Base, Peak, & Weekends + 3 PSTs + Daily to Richards** *T9–SVS: 15-min. all day, every day + 3 PSTs* *SVS–Sunrise: 15-min. all day, every day + 3 PSTs* *Sunrise–Folsom: 15-min. all day, every day*	15	15 +3 PSTs	15	15	15 +3 PSTs	15	15	15	15	1/3/2027	—
	G1	**Green Line (Existing)** *30-min. all day, weekdays only*	30	30	—	—	—	—	—	—	—	—	1/3/2026

Table 4: Summary of Operating Plan Metrics

Scenario			Trains in Service			Peak Vehicle Requirement			One-Way Trips				Train Revenue Hours				Annual Operating Cost
									Daily			Annual	Daily			Annual	
			M–F	Sat	Sun	M–F	Sat	Sun	M–F	Sat	Sun		M–F	Sat	Sun		
	A1	15/30 Base & Peak (Existing)	8	8	8	32	16	16	135	116	94	45,868	138	120	97	47,050	$ 27,280,008
	A2	15/30 Base + 15/15 Peak	9	8	8	30	16	16	136	116	94	46,122	145	120	97	48,845	$ 27,736,396
	A3	15/30 Base + 15/15 Peak + 3 PSTs	12	8	8	34	16	16	142	116	94	47,646	150	120	97	50,013	$ 28,117,685
	A4	15/15 Base, Peak, & Weekends + 3 PSTs	12	9	9	38	18	18	142	116	94	47,646	158	130	103	53,053	$ 29,965,261
	C1	15/15 Base, Peak, & Weekends + 3 PSTs + Weekdays to Richards	13	9	9	38	18	18	142	116	94	47,646	173	130	103	56,782	$ 31,810,872
	C2	15/15 Base, Peak, & Weekends + 3 PSTs + Daily to Richards	13	10	10	38	20	20	142	116	94	47,646	173	141	111	57,776	$ 32,039,961
	G1	Green Line (Existing)	1	—	—	1	—	—	60	—	—	15,240	15	—	—	3,768	$ 1,713,793

Note: Annualization based on 254 weekdays, 52 Saturdays, and 59 Sundays / holidays per year.

4.3.5 Storage Track Replacement

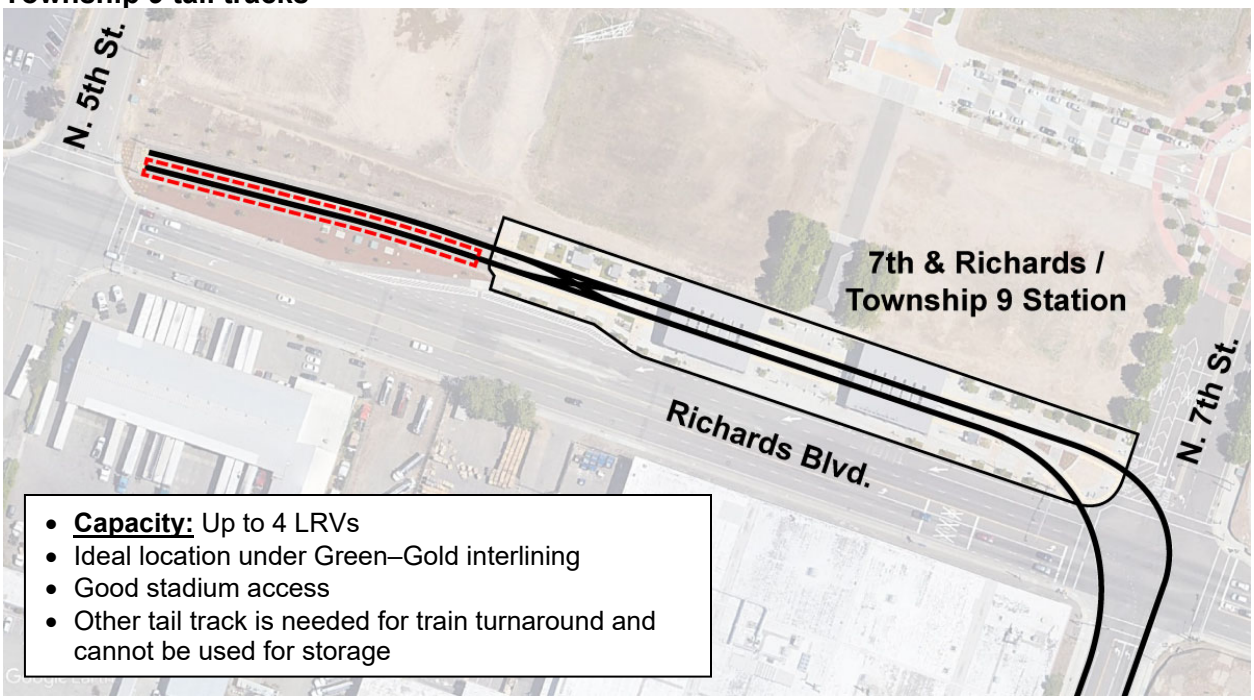
As mentioned in Section 4.3.1, there are two tail tracks west of the Gold Line's existing SVS platform that are used for midday car cuts and storage. These tracks can accommodate a total of eight LRVs. In the future, however, SacRT will remove these tracks upon identification of replacement storage, in order to avoid conflicts with construction of the BMC and development of City property as outlined in the SVS Area Plan, as well as conflicts with the City's overall vision for SVS, which calls for a pedestrian-oriented transit plaza spanning the area between the new station concourse and the historic station building. A long-term solution for replacement of these tracks is therefore needed to maintain operational efficiency, as well as to provide operational flexibility to hold disabled LRVs or dispatch replacement LRVs. The replacement storage could also be used for staging special event trains for the Railyards stadium.

Several replacement options are illustrated in Figure 47. Although not necessarily exhaustive, these options build off earlier analyses, updated with new information about the SVS Area Plan and other key projects. The first two options—Township 9 tail tracks and Richards / 5th northwest corner—are ideal long-term solutions, but are contingent on Green–Gold interlining and the SVS Loop to be effective. Without these service changes and infrastructure in place, these will likely not be viable options. The remainder of the options are potential short-term solutions, but each has significant shortcomings.

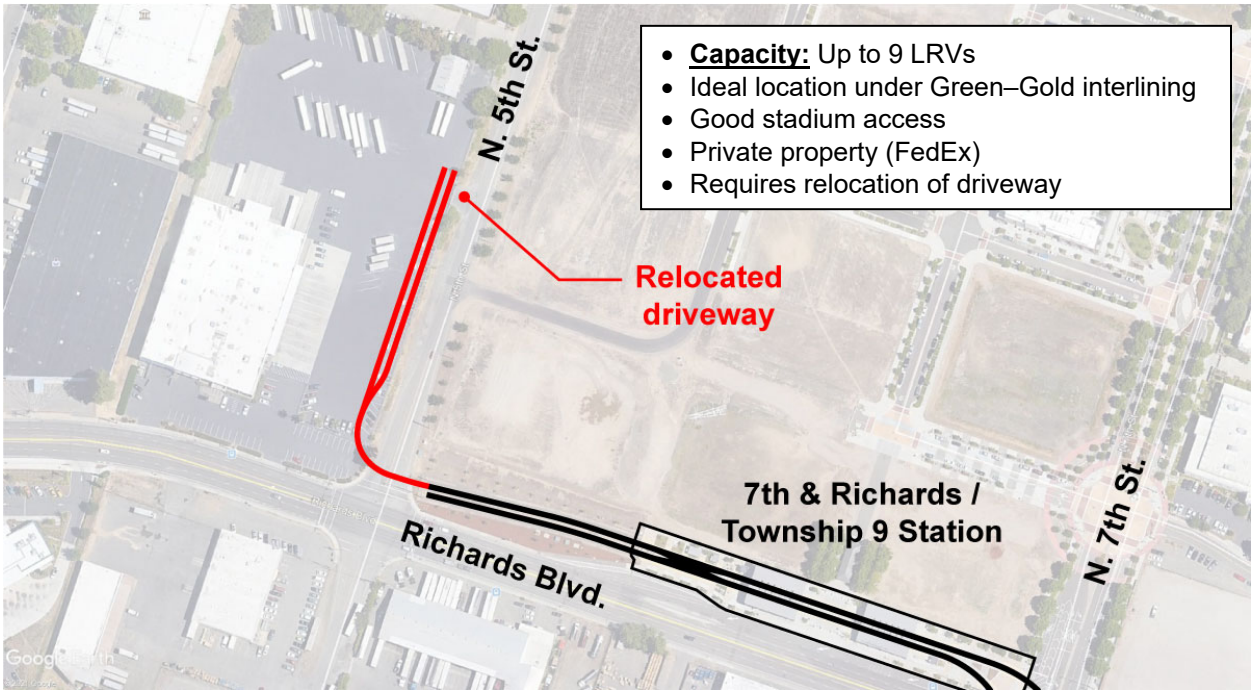
Given the overall timeframe for the SVS Area Plan improvements and key projects such as the SVS Loop and Downtown / Riverfront Streetcar, it is recommended that SacRT begin the process of narrowing down potential replacement options to a preferred solution (starting with the first two options) and initiating key milestone tasks, such as preliminary design and easement / right-of-way negotiations, as soon as possible.

Figure 47: Storage Track Replacement Options

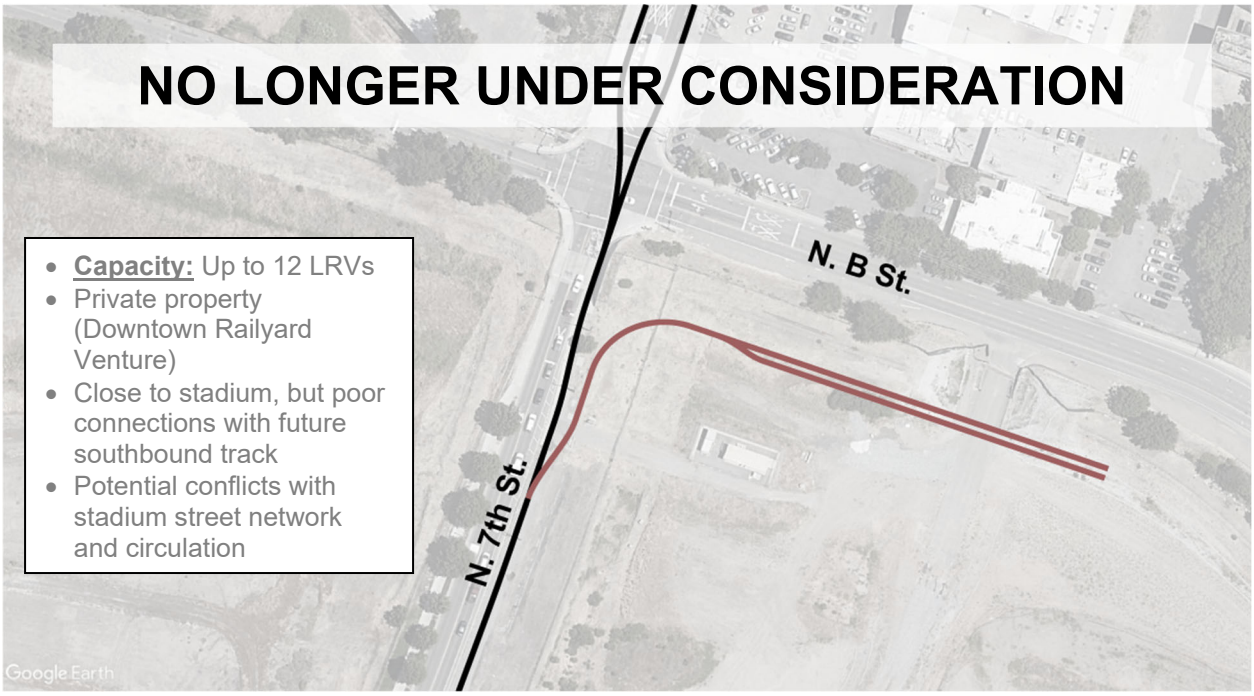
Township 9 tail tracks



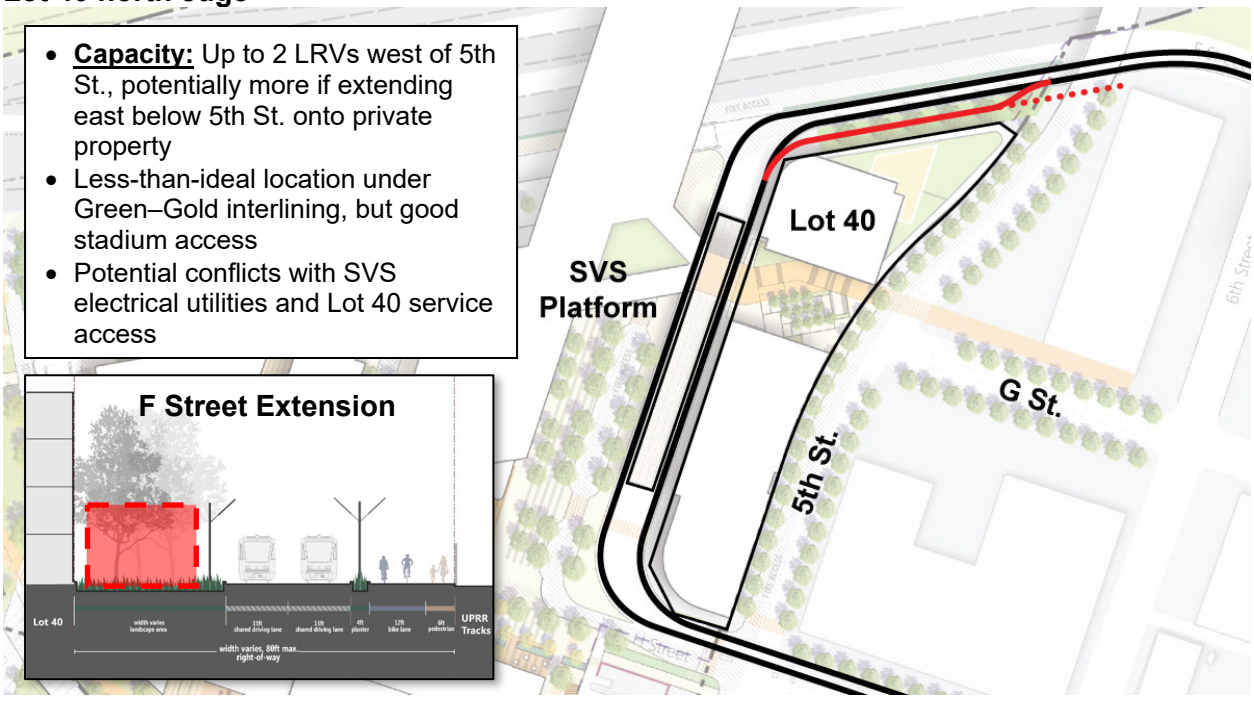
Richards / 5th northwest corner



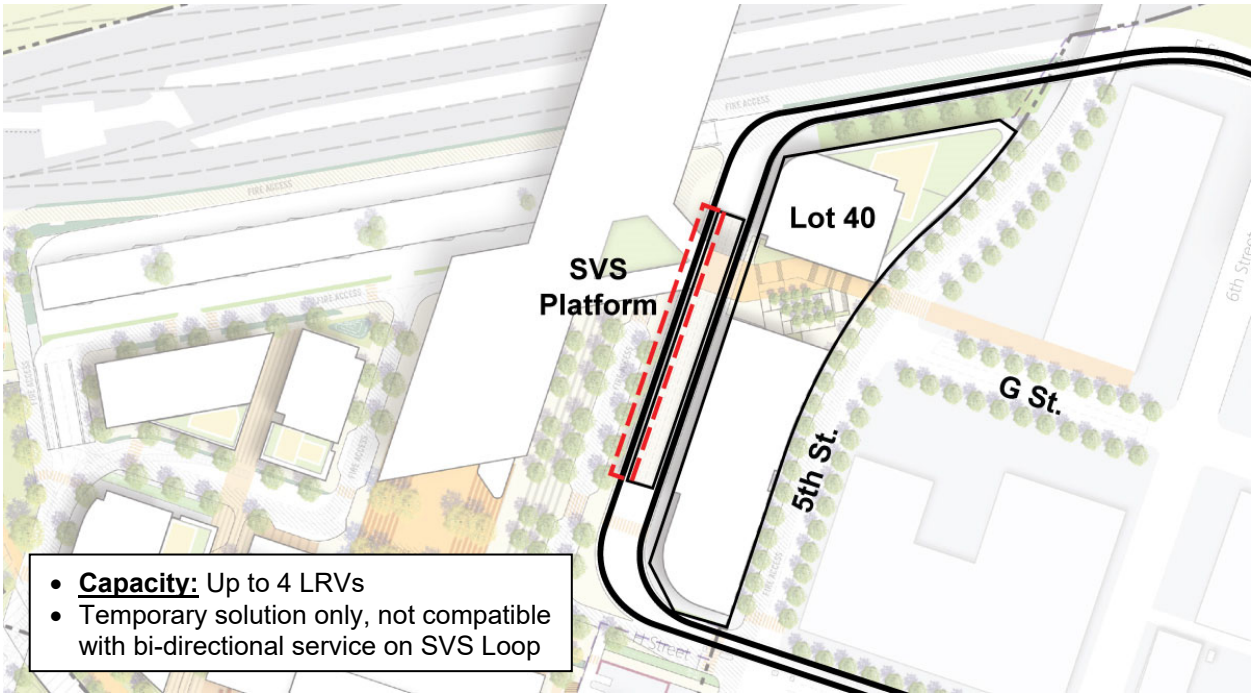
North B Street levee



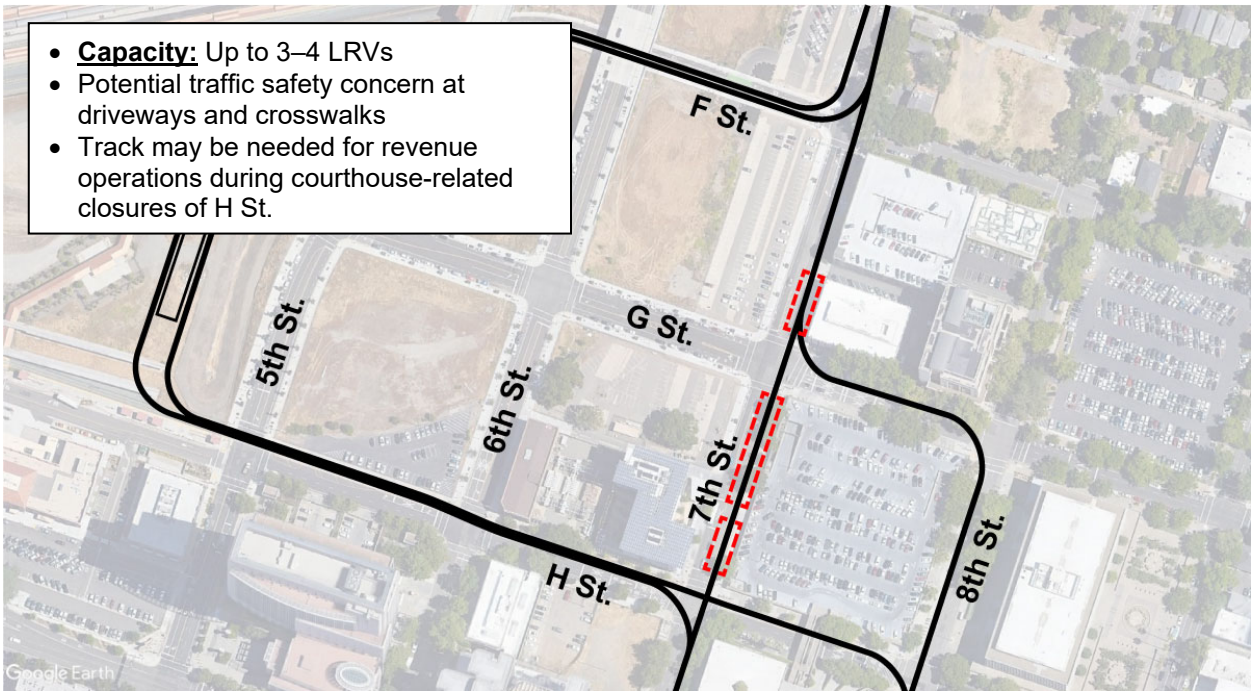
Lot 40 north edge



SVS Track #2



7th St. between F St. and H St.



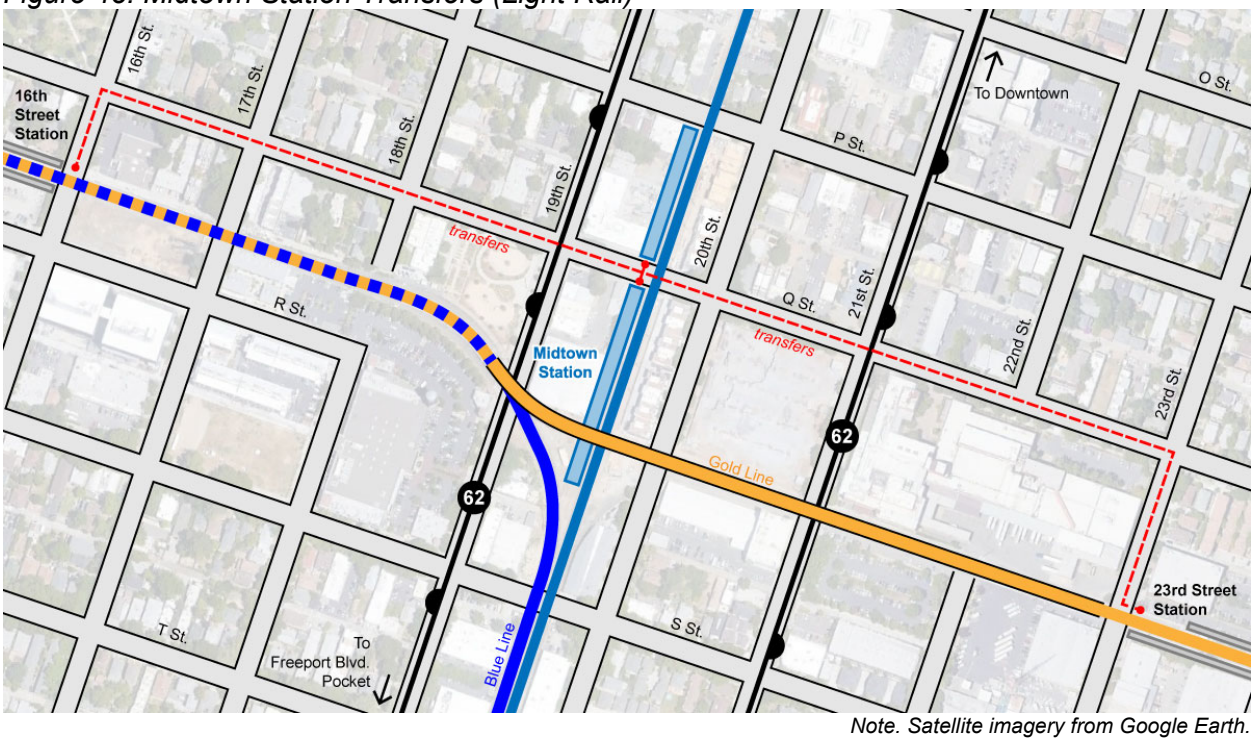
Note: Satellite imagery from Google Earth.
Image bases for other diagrams from City of Sacramento (SVS Area Plan).

4.4 *Midtown Station*

The proposed Midtown Station is approximately equidistant (one-third of a mile) from two nearby SacRT LRT stations: 16th Street (Blue and Gold Lines) and 23rd Street (Gold Line only). Without any changes to existing light rail service, Blue Line connections to ACE/*San Joaquins* trains would be made at City College station, which would be a cross-platform transfer (although this station would be in a later phase of the Sacramento Extension project, with no specific completion date identified at this time). Gold Line transfers would require either walking to 16th Street (or 23rd Street) station or a double-transfer (e.g., Gold Line to Blue Line at 16th Street to *San Joaquins* at City College).

Primary walking routes for passengers connecting with light rail at Midtown Station are illustrated in Figure 48. Q Street would be the primary route, as it is the shortest-distance connection and offers a continuous path of travel between Midtown Station and the two nearest light rail stations. While one-way transfer distances would be on the order of 1,750 feet, Q Street offers a pleasant, walkable corridor lined with mature street trees and landscaping. While functioning as a one-way street for vehicle traffic, Q Street includes traffic calming treatments such as high-visibility crosswalk striping designed to enhance pedestrian safety. One-way bike lanes on both sides of the street (implemented as a road diet from the original three-lane cross section), together with on-street parking, also provide a wide buffer zone between the sidewalk and moving traffic and reduce pedestrian exposure when crossing Q Street.

Figure 48: Midtown Station Transfers (Light Rail)



Note. Satellite imagery from Google Earth.

Infill Station at 20th/R Street

One potential option for improving light rail connections at the future Midtown Station is to construct an infill light rail station at approximately 20th Street and R Street, serving either or both the Gold Line and the Blue Line, and adjacent to the Midtown Station.

Gold Line Platform – A new 20th/R Street Gold Line platform would necessarily be located on a horizontally and vertically curved, elevated guideway. Elevated side platforms would be relatively expensive to construct (and constructability is not certain). As an elevated station, cleaning, maintenance, security, and bus bridging would all be inherently challenging, even without the curves.

Blue Line Platform - Because the Blue Line runs at-grade at this location, the feasibility of infill platforms would be greater for the Blue Line than for the Gold Line. The triangular-shaped area shown in Figure 36 is currently occupied by a SacRT substation, but could conceivably accommodate side platforms. Several potential engineering issues would need to be resolved, however:

- *Track curvature and line-of-sight:* The new Blue Line platforms would be located on a curve of approximate 400 feet radius (measured on the southbound side) which poses challenges for securing adequate line-of-sight (i.e., for operators departing stations).[23]

- *Platform access:* Passenger access to / from the platforms may be difficult due to constrained right-of-way at both the north end (at 19th Street) and the south end (at S Street).

- *Level boarding and platform gaps:* Station design would need to ensure that bridge plates on the new low-floor LRVs would cover the gap between all car doors and the curved platform.

- *Track separation from freight:* The project could potentially trigger Union Pacific track separation requirements of 50 feet that were not in place when the Blue Line was constructed. This could potentially force realignment of track and overhead at the south end of the station. In turn, this could force SacRT to have to realign an unknown length of track south of the station, including grade crossings, to match the station track alignment, and transition back to the existing mainline alignment.

Together, these factors make an infill station at 20th/R Street an extremely challenging—and potentially, cost-prohibitive—prospect.

Recognizing the greater feasibility of an infill station on the Blue Line than the Gold Line, it would be possible to focus only on a Blue Line station at this location, but this would have noticeably reduced utility compared to a combined (Blue Line and Gold Line) station. A Blue Line-only station would also partially duplicate the utility of the aforementioned cross-platform transfer at City College Station. However, this option would retain several independent benefits. First, for

[23] Line-of-sight and safety issues may, for example, warrant that the northbound platform be located on the inside of the curve, which could require major track realignment and may have design feasibility and constructability implications for the Gold Line's Bee Bridge, which has support columns adjacent to this track.

ACE/*San Joaquins* riders transferring to the Blue Line into Downtown Sacramento, it would likely add 2 to 4 minutes of schedule cushion (compared to transferring at City College). Second, independent of ACE/*San Joaquins* service, the new station would have value to residents and visitors of the neighborhood, which includes a major supermarket and shopping center on 19th Street.

Infill Station at T Street
In its long-range *TransitAction Plan*, SacRT identifies an infill station at T Street, where the Blue Line tracks return to a straight alignment south of the 18th Street interlocking with the Gold Line. However, a direct pedestrian connection between this location and the Midtown Station platform nearly two blocks north would not be possible within the current confines of the rail corridor.

Implications for 16th Street Station
A new infill station on one or both of the Blue Line and Gold Line would add 1-2 minutes to the schedules for each line. Being near the maximum passenger load point, this would add travel time for a substantial share of existing light rail passengers. It could also impact system reliability, for example on the Gold Line, where single track windows are already tight (and which will become more constrained, as discussed elsewhere).

These issues could theoretically be avoided by closing SacRT's existing 16th Street station and essentially replacing it with the 20th/R Street station; however, this does not seem feasible, for several reasons:

- SacRT could consider closing 16th Street station only if a Gold Line platform was also built at the Midtown Station (with the aforementioned difficulties of construction, operation, and maintenance).

- Even if a Gold Line platform was built at the Midtown Station, it is questionable whether the high volumes of Blue/Gold transferring that currently occurs at 16th Street station could be properly accommodated at a split-level station (i.e., at the new 20th/R Street station). In other words, closure of the 16th Street station would add pressure on the 20th/R Street station, beyond the challenges already inherent in a split-level design.

- The 16th Street station's location in the heart of the R Street and 16th Street entertainment districts has considerable independent value that would be lost if the station was closed and relocated to 20th/R Street.

- The SacRT light rail system and signals are designed around 16th Street being the junction of the two lines. During major outages (planned and unplanned) when overhead power must be shut down, 16th Street is one of the section boundaries, and bus bridging is easier there than it would be at a split-level station at 20th/R Street.

For these reasons, SacRT would be unlikely to close 16th Street station in any scenario. A new infill station at 20th/R Street or T Street would therefore mean an additional 1-2 minutes of travel time on whichever lines it served.

Summary
Overall, a combined Blue Line and Gold Line station at 20th/R Street is theoretically desirable, in spite of the additional time it would add, but an aerial Gold Line platform appears facially

infeasible. A Blue Line-only station would have genuine benefits for both ACE/*San Joaquins* customers as well as neighborhood residents and visitors, but would need to be scrutinized, with respect to the engineering questions and the additional running time from a new station.

SacRT believes that improved bus frequency on the 62 Freeport, as discussed in more detail in Section 5.2.2, would be the most effective means to better serve the station in the near future; however, SacRT and San Joaquin JPA will continue to explore the potential for an infill 20th/R Street station. SacRT is also open to exploring new agreements with the San Joaquin JPA to implement ticketing solutions for passengers making intermodal transfers with SacRT buses.

4.5 Special Event Service

For special event service at the planned Railyards stadium, a draft transportation management plan (TMP) was developed by transportation consultants in coordination with the City of Sacramento as part of the EIR for the stadium and other components of the associated Railyards Specific Plan Update. The TMP discusses several concepts to accommodate increased ridership during the pre- and post-event periods, including a shuttle LRT service operating between 7th & Richards / Township 9 and the planned Railyards Station on 10-minute headways and designated event-day public transit (bus and paratransit) stops.[24]

Transit mode shares for stadium event attendees are expected to be 6.0 percent for light rail and 0.5 percent for bus on opening day[25], eventually increasing to 10.0 percent and 1.0 percent, respectively, by 2035. Based on a sold-out event at full, expanded stadium capacity (25,000 attendees), the added event ridership on the light rail system would be approximately 1,500 trips in each direction (arriving at the stadium pre-event and leaving the stadium post-event) on opening day, increasing to 2,500 trips in each direction by 2035. For reference, SacRT served approximately 1,000 roundtrips pre-COVID for Republic FC games at Sacramento City College's Hughes Stadium (approximately 20,000 seats).

The majority of matches in a typical regular season are held on Saturdays or Sundays, with the remainder held on weekdays, usually later in the week on a Wednesday, Thursday, or Friday. Matches usually start in the early evening period between 6:45 p.m. and 7:30 p.m. regardless of day, although some games may start midday (e.g., 12:30 p.m. or 1:00 p.m.) or in the late afternoon (e.g., 4:30 p.m. or 5:00 p.m.). A typical game lasts approximately two hours.

The Green Line's future Railyards Station will be the closest station to the stadium, and a 100-foot-wide pedestrian path would extend between 7th Street and 8th Street (opposite South Park Street) to provide direct access between the station and stadium. Bus stops would also be provided along 8th Street and 10th Street adjacent to the stadium, as illustrated in Figure 49.

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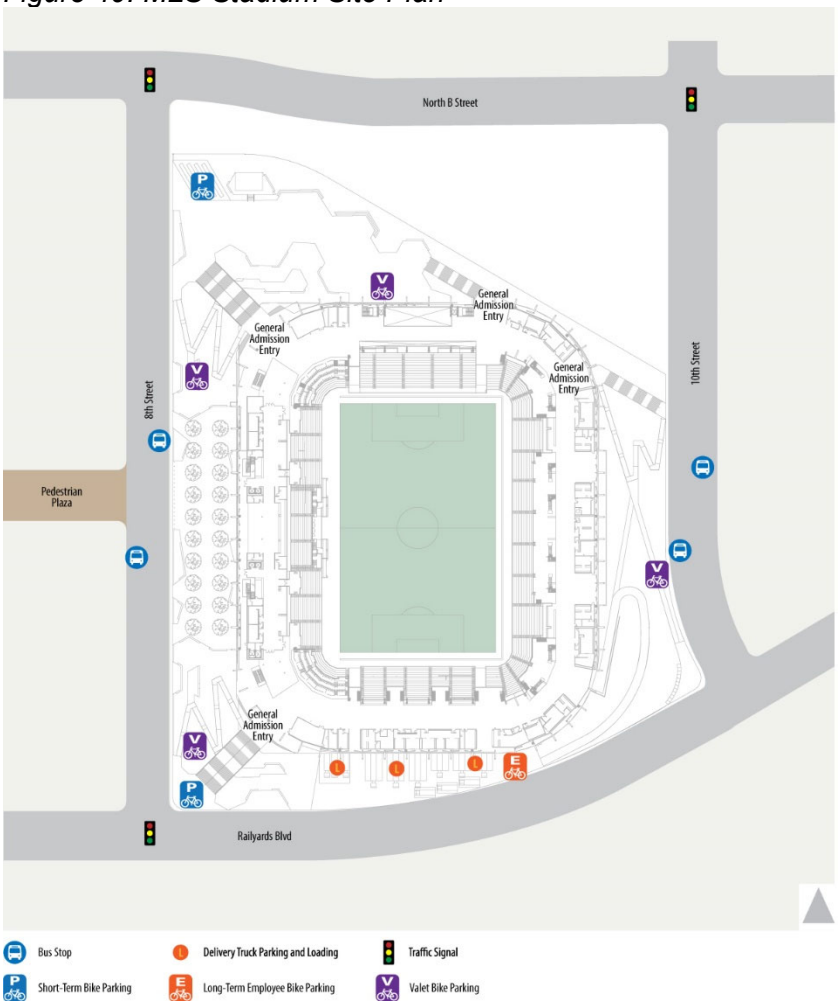
[24] Available online at https://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/Major-Projects/Railyards---3/Stadium-Event-Transportation-Management-Plan-SEIR-Appendices-J2.pdf?la=en.

[25] Originally envisioned as early as winter / spring 2018 in the EIR for the Railyards Specific Plan Update, but now tentatively scheduled for March 2023 based on latest available information (Figure 46).

Figure 49: MLS Stadium Site Plan



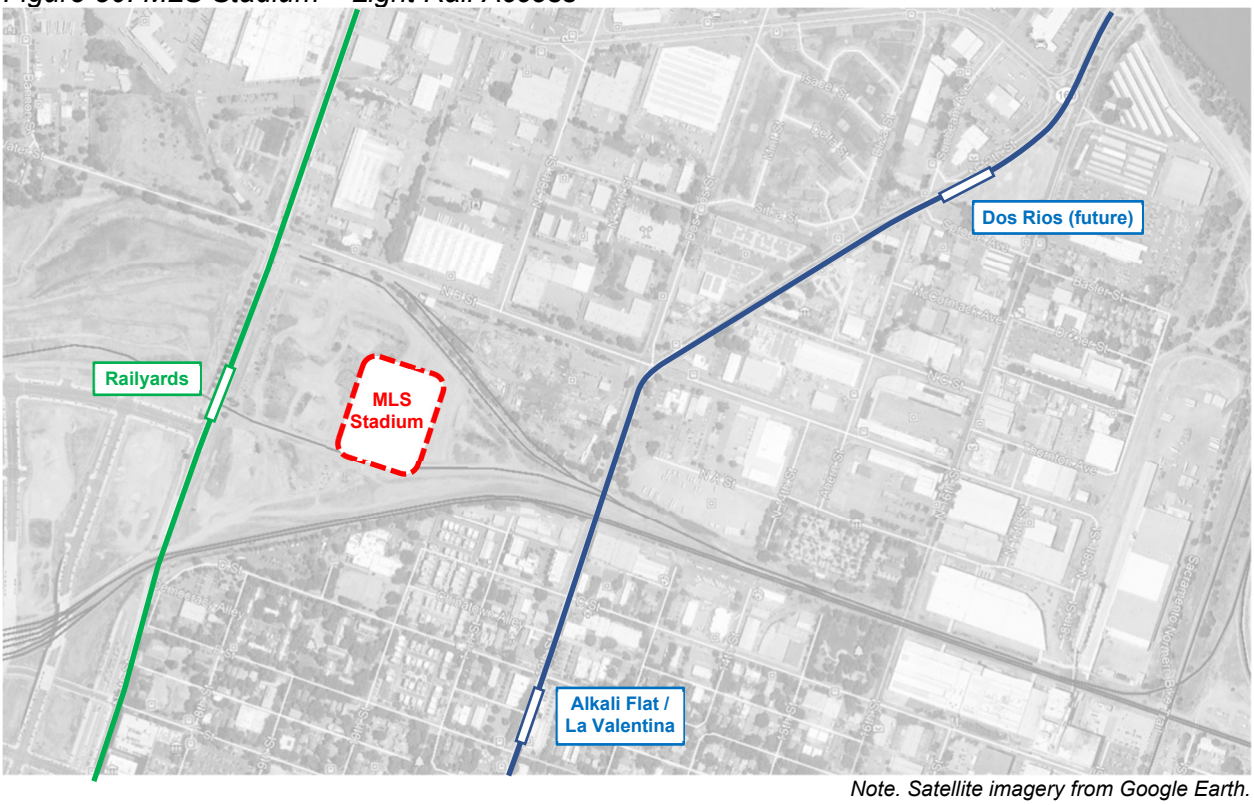
Source: City of Sacramento (Stadium Event Transportation Management Plan).

Nearby Stations

The future Railyards Station is the closest station to the stadium, approximately 750–1,000 feet (3–5 minutes) from the main entrances on 8th Street. However, two stations on the Blue Line will also be within approximately ½ mile of the stadium as illustrated in Figure 50: the existing Alkali Flat / La Valentina Station (2,500 feet, 10–15 minutes) and the future Dos Rios Station (3,400 feet, 15–20 minutes). While SacRT does not expect to actively promote these connections due to the walking distance, it is expected that a small percentage of riders originating from the Blue Line may choose to use these two stations. This outcome would have the benefit of distributing a small share of the ridership load away from Railyards Station, which would have somewhat limited ability to handle special event service due to the single-track section along 7th Street.

Similar to existing post-event service at the Golden 1 Center, wayfinding signage will direct passengers to Railyards Station for light rail service.

Figure 50: MLS Stadium – Light Rail Access



Note. Satellite imagery from Google Earth.

Basic Principles

To minimize disruptions to regular service, it is generally recommended that the operating plan include dedicated special service trains, to be dispatched at the appropriate time to capture the first initial surge of riders post-event and, if possible, hold at the station until filled to capacity. Given the existing limitations of the light rail system, the proposed operating plan should seek to serve all post-event demand within approximately one hour of game end.

Pre-event ridership is generally more distributed over time, as some attendees may choose to arrive at the area 90 minutes or more before game start. Pre-event service may simply consist of lengthening regular-service trains, with the additional cars decoupled at appropriate staging locations as needed in preparation for the post-event period.

Geographical Distribution

A review of attendee trip distribution information presented in the Railyards Specific Plan Update EIR did not identify any major geographical trends in terms of the potential distribution of attendees, and most attendees were assumed to be spread throughout the city of Sacramento and surrounding communities. The analysis conducted for this plan conservatively assumes that all event ridership will use Railyards Station (1,500 roundtrips on opening day, 2,500 roundtrips in 2035).

Staging Locations

For Railyards Station, additional LRVs for special event service could be stored and staged at the 7th & Richards / Township 9 station, which could provide at least one tail track for use (4 LRVs). Additional or alternative locations include the following:

- 7th Street (between F Street and H Street): 4 LRVs
- 8th Street / H Street to 7th Street / G Street: 2 LRVs
- Quill Alley (west of 13th Street Station): 10 LRVs

The first and second locations, however, are on existing track used by the Green Line, and may not be available in situations where the track must remain clear to allow for movement of revenue or non-revenue trains. Other potential issues with the first location are discussed in further detail in Section 4.3.5, and many of those issues would also apply to the second location.

Quill Alley is currently used regularly for LRV storage, but its distance from the stadium makes it somewhat less ideal.

As mentioned in Section 4.3.5, replacement storage for the Gold Line's current SVS tail tracks could be located strategically to address both Gold Line storage needs and special event staging. While special event service could be accommodated using one or more of the options identified above, additional—or more strategically located—storage could allow for more efficient and effective gameday service. Therefore, it is recommended that SacRT begin moving forward with a preferred storage track solution as soon as possible.

Gameday Operations Plan

Gameday operations will generally vary from one event to the next depending on day, time of day, and expected attendance. Based on the latest available information (Figure 46), the stadium could open as early as March 2023, which would likely be several years before completion of the SVS Loop (January 2026) and subsequent Green–Gold interlining. This would also come prior to the completion of RBOC (April 2024) and Kaiser (2025), meaning that Green Line service would likely be unchanged from existing conditions (one-car trains on 30-minute headways, weekdays only). Under this scenario, it would be relatively easy to stage and run three four-car "gameday specials" out of the 7th & Richards / Township 9 station (using both the tail tracks and the platform tracks) for a typical evening match, as regular Green Line service will have already concluded prior to game end. This would be sufficient to accommodate the estimated 1,500 passengers (assuming 125 passengers per LRV)[26] at Railyards Station.

For situations where the post-game period coincides with regular service (e.g., weekday daytime match, or if Green Line service is expanded to late nights and / or weekends), post-game service would likely need to rely on a combination of regular and special service trains. One to two special trains could be staged at 7th & Richards / Township 9 and Quill Alley, but to avoid overcrowding on regular service trains, additional LRVs could also be staged at these locations and coupled onto regular service trains for the post-game period. It should be noted that some gameday scenarios, such as weekday daytime matches, may see lower post-game ridership than a typical evening game due to attendees walking to nearby restaurants and other venues following game end.

[26] For short-distance trips or special event service, an assumed capacity of 125 passengers per LRV is appropriate, in lieu of the standard 100 passengers per LRV for regular service. In the case of Green Line post-game trains, for example, some passengers will only be riding for a few stations in order to transfer to other lines in Downtown, such that a measurable drop in loading can be expected once the train is beyond the transfer station.

Because the existing Green Line crossover at 13th Street Station is generally restricted to one-car trains, special event service will typically need to be interlined with the Blue Line and / or Gold Line to secure the longer trains needed to handle attendee loads. Added special event trains could originate / terminate at Sunrise or Historic Folsom on the Gold Line and at Cosumnes River College on the Blue Line.

In the longer term, completion of the SVS Loop and the start of Green–Gold interlining would substantially augment the frequency and capacity of regular service, allowing gameday operations to rely less on special service. While estimated gameday demand could increase to up to 2,500 roundtrips per event, it is reasonable to expect that the Green Line extension to Natomas and the Airport will be completed within this longer timeframe, helping to further spread the post-game passenger load.

Capacity Constraints and Solutions

Until the 7th Street double track is completed, the ability to operate a robust special event service plan using the Green Line may be somewhat hampered for post-game scenarios that coincide with regular service. In particular, gameday service may require that special event trains hold at Railyards Station for 5–10 minutes during the post-event period in order to capture as many riders leaving the stadium as possible. An extended dwell of this length could be problematic for maintaining schedule adherence for regular service trains under single-track operations.

While most of the Green Line operates in exclusive right-of-way or travel lanes, the northbound track between North B Street and Richards Boulevard is currently in a mixed-flow lane. During post-event periods, traffic congestion in and around the stadium could obstruct or delay Green Line trains, while manual field operation of traffic signals to facilitate clearing pedestrians and vehicles out of the area could also introduce problems for schedule adherence unless a second track is provided to allow for greater operational flexibility.

Until completion of the SVS Loop, the restrictions on train length through the 13th Street Station crossover may also mean that “regular service” one-car Green Line trains be temporarily replaced with 3- or 4-car special trains interlined from the Gold Line or Blue Line for the duration of the stadium event. These special trains would generally need to be operated as extra service in addition to the regular service on the Blue Line and Gold Line.[27]

Double-tracking, together with the other components of the SVS Loop, would allow for more reliable, higher-frequency service for events, and would make it possible to implement more robust and creative options for special event service (e.g., ”double” loading of Cosumnes River College and Folsom special trains using both platforms at Railyards Station).

Therefore, it is recommended that completion of the 7th Street double track be accelerated as a high-priority project.

[27] Prior to the opening of the SVS Loop, for example, Gold Line special trains would not be able to serve SVS. To avoid this loss of service at SVS, it would generally be necessary to operate the special trains as added runs to the schedule beyond the base (SVS–Sunrise or SVS–Folsom) service.

Parking Shuttle Service
It should also be noted that there may be some demand for light rail service to provide connections to / from off-site parking in the Township 9 area. For events where the post-game period coincides with regular service, these riders could feasibly be accommodated on regular-service trains. In post-game situations where regular service has already concluded for the day, the capacity constraints of single track along 7th Street may not permit the operation of northbound trains to serve these riders, as capacity is needed in the southbound direction for special service trains. To the extent that a substantial amount of off-site parking would already be available in lots much closer to the stadium than the Township 9 area, however, the overall demand for a "parking shuttle" service via light rail may not be substantial enough to warrant dedicated service.

Almost 3,900 parking spaces would already be available in nine identified surface lots within the Railyards Specific Plan area, and it is possible that additional parking may also be available in other areas, such as parcels along the north side of North B Street. As Township 9 is well within extended walking distance of the stadium, these attendees would also have the option of a 10- to 12-minute walk to / from Township 9 if light rail service was not available.

4.6 Other Concepts

This section describes additional concepts that were explored but were not carried forward for further consideration.

4.6.1 Frequency Enhancements

10-Minute Headways to Sunrise and 20-minute Headways to Folsom
This concept, a "10/20" service pattern, was considered a potentially better fit to ridership demand on the Gold Line, which shows a noticeable drop in ridership east of Sunrise. This service pattern would improve frequency both west and east of Sunrise compared to existing conditions, without the costlier commitment of 15-minute headways to / from Folsom. However, this option was eventually ruled out from further consideration due to operational constraints on the shared track segments in Downtown (see Section 4.3.1), which are used by all three light rail lines (Blue, Gold, and Green).

Other operational limitations include a lack of turnaround facilities (particularly at the terminals at SVS and Historic Folsom), which limits the ability to operate more frequent service due to a need to provide sufficient recovery time at each end of the line. In addition, the potential to capture new ridership from further frequency enhancements is likely limited due to lower-density and auto-oriented development patterns, particularly east of University / 65th Street.

12-Minute Headways to Sunrise and 12-minute Headways to Folsom
This operating concept, known as the 12/12 scenario, sought to maximize the frequency along the Gold Line to offset capacity reductions due to shorter trains with the low-floor LRVs. However, this option suffers from the same issues as the 10/20 pattern, with service frequency that is too high for the Downtown shared-track sections. The shorter headways east of Folsom under this scenario would also require additional investment in double track beyond the Glenn passing track to avoid conflicts between inbound and outbound trains. Given these considerations, the 12/12 scenario was not evaluated further in this analysis.

4.6.2 Limited-Stop Service

Limited-stop service has been planned for by SacRT for the Gold Line, and was analyzed as part of this project; however, this report finds that most (if not more) of the benefits and a fraction of the costs and could be achieved through a similar, but simpler plan. Instead of limited-stop service, this report recommends three morning and three afternoon trippers. Like the planned limited-stop trains, these trippers would be scheduled in between regular 15-minute headway trains, but unlike limited-stop trains, they would serve all stops (as described in Section 4.3.2).

Background - Plans for three morning and three afternoon limited-stop trains from Sunrise to Sacramento Valley Station (and back in the afternoon) date to an analysis in 2003, and have been referenced in SacRT grant applications. In-vehicle travel time savings were estimated in 2003 as 5 to 10 minutes, end-to-end, from skipping nine stations, on the 46-minute trip from Sunrise. In 2005, a more thorough safety/engineering study found that estimated in-vehicle travel time savings from skipping those nine stops would be only to 3 to 6 minutes, due primarily to the need for trains to reduce speed to 25 mph at stations. This was before additional new speed restrictions imposed by the California Public Utilities Commission (CPUC), reducing maximum speeds for trains entering or leaving stations to 20 mph or lower. With that additional speed restriction, SacRT Engineering now estimates that time savings would be no more than 5 minutes, with a likely range of 3 to 4 minutes.

The CPUC speed reductions arise partly from the Gold Line's station design, with many stations effectively being pedestrian malls, where customers can freely walk across tracks. While SacRT will be elevating station platforms to 8 inches above the tracks, and restricting some pedestrian crossings of the tracks within the stations, the Gold Line will remain fundamentally an at-grade, on-street system throughout much of its operating corridor (e.g., with many uncontrolled pedestrian crossings remaining in the station and at grade-crossings). Relaxation of CPUC speed limits is therefore not inconceivable, but appears unlikely.

No Train Passes - Given the theoretical limit of six minutes in end-to-end travel time savings, SacRT has never planned for limited-stop trains to pass local trains. Even if the travel time savings permitted (or forced) limited trains to pass locals, to be able to do so would require considerable new infrastructure and right-of-way needs (e.g., passing track) and could add delay to local trains (e.g., to hold for a passing limited train). These delays could, in themselves, equal or exceed travel time savings on the limited-stop trains.

Peak-Hour Trippers - Compared to the proposed peak-hour trippers (which would serve all stops), limited-stop trains would require considerably more capital investment, in the form of signal system upgrades (e.g., to differentiate crossing gate timing) and numerous safety measures (e.g., to alert customers of incoming trains that would not be stopping). It is not clear this additional investment would result in significant differentiation, in the eyes of a customer, between a limited-stop train and a local-stop train, which would offer a comparative time savings of only three minutes (and only in the case of a customer riding end-to-end).

Revocability - In addition to the monetary cost for new signaling and safety systems, there is a considerable risk that such investments could be rendered largely useless, by revocation of permission to operate limited-stop service. As an at-grade railroad (i.e., not 100 percent grade-separated) without more than double-track (and running only single track in certain segments) running non-stop through a station is a fundamentally irregular operation, requiring special

permission of the CPUC. This permission was granted by CPUC, on condition of numerous safety measures and strictly as a pilot/experimental service. The CPUC retains the ability to revoke authorization at any time. This means investments in skip-stop infrastructure (much of which would not have independent utility in regular operations) could be shut down at any time.

Capacity Maintenance - Although this report questions the value of limited-stop service, it does not dispute the need for additional peak-hour trains. Indeed, additional peak-hour trains, in the form of the recommended peak-hour trippers, are considered by this report to be an imperative for capacity maintenance, due to SacRT's conversion to low-floor vehicles (which initially, will not be operable in train sets of more than two cars). Capacity, crowding, and seat availability have been some of SacRT customers' foremost complaints about Gold Line service. For that reason, the proposed peak-hour trippers (which would augment total capacity per hour) are seen not just as having a reasonable payoff, but indeed as being essential to avoid worsening customer conditions. What this report contends is that there is not a meaningful differentiation in customer satisfaction and operational performance between limited-stop service and all-stop peak-hour trippers sufficient to justify the additional cost and risk inherent in the former.

Time Savings Compared - Note that total travel time savings from limited-stop service would be partly from in-vehicle time savings (0 to 5 minutes of expected time savings), and partly from wait time savings at the station (4 minutes) and that identical wait time savings would also be achieved by peak-hour trippers, for the same reason (i.e., shortening the headway between trains). Therefore, peak-hour trippers achieve more than half of the time savings of limited-stop trains, without the cost and risk of the limited-stop operating scheme.

		Limited-Stop Service		Peak-Hour Tripper
		Minimum (Short Trip)	Maximum (End to End)	
In-Vehicle Time Savings	(minutes)	0	5	0
Wait Time Savings	(minutes)	4	4	4
Total Travel Time Savings	(minutes)	4	9	4
Maintains Needed Capacity		Yes		Yes
Additional Capital Cost		Significant		No

Savings in wait time also benefit all riders uniformly, regardless of if they make long or short trips. Savings in end-to-end running time disproportionately benefit longer-distance riders, who tend to be commuters, and while SacRT does strive to be competitive for commuter travel, the financial risk inherent in the limited-stop service, to achieve a relatively minor differentiation in travel time savings that is likely to disproportionately benefit commuters would seem to potentially conflict with equity goals.

Double-Tracking Comparison - To the extent that SacRT was to make additional capital investments to the Gold Line, beyond the addition of 15-minute headways to Folsom and the new vehicles for peak-hour trippers, this report suggests that rather than investing in limited-stop capabilities, there would be greater customer benefit from extending double tracking east

approximately one mile, which would address reliability challenges that will be inherent in the 15-minute headway Folsom service.

As discussed in Section 4.3.2, while 15-minute headway service to Folsom will improve capacity and passenger load balancing, it will introduce new challenges to schedule recoverability, primarily by adding a new inbound/outbound train meet at a short double-track passing pocket at Glenn station. Double tracking east of Hazel station (see Section 3.4) would help insure that delays on inbound trains from Folsom not cascade or propagate to outbound trains, and then onto the subsequent inbound train, a cascading delay condition that could arise from the 15-minute headway operation, which does not exist today.

Without additional double tracking east of Hazel station, delays of more than 2 minutes on inbound trains would automatically propagate through the system, unless or until an outbound train was short-turned at Sunrise. Short-turning a train would itself cause an unexpected delay of 5 to 10 minutes to all customers on board, who would have to exit the train and wait for the next train. Delays of this size are clearly on the order of and comparable to the 3 minute maximum in-vehicle time savings of the limited-stop trains; however, avoidance of these delays through additional double-tracking is a measure that would affect all trains on all days, whereas the 3-minute travel time benefit from the limited-stop trains affects only three morning and three afternoon trips each weekday.

4.6.3 Additional Recovery at SVS

Currently, the Gold Line has a 5-minute turnaround at SVS and a 12-minute turnaround at Historic Folsom. Providing additional turnaround time at SVS would be beneficial for recovery from delays and service disruptions, improving overall reliability and on-time performance (OTP).

One option would be to add a ninth train in regular service, extending the layover at SVS by one headway (15 minutes) to 20 minutes. Outside of the peak periods, however, this would not be an ideal solution, as it results in situations where there is more than one in-service train at SVS. Due to storage of additional LRVs used to expand peak-period trains to four cars, the current tail tracks at SVS cannot be used to hold in-service trains for layover during the midday period on weekdays. This situation is expected to continue, and will likely worsen, in the future with implementation of the SVS Area Plan and SVS Loop, as there are limited opportunities for storage or layover of trains with the realigned “through” station and build-out of the SVS Area Plan.

Given these considerations, the ideal solution would be to increase turnaround times without requiring an additional train in service. In general, the current timetable is a function of several different factors:

- Service frequency (every 15 minutes west of Sunrise, every 30 minutes east of Sunrise)
- Track constraints (e.g., single-track sections)
- Vehicle performance (which can be approximated by running time)

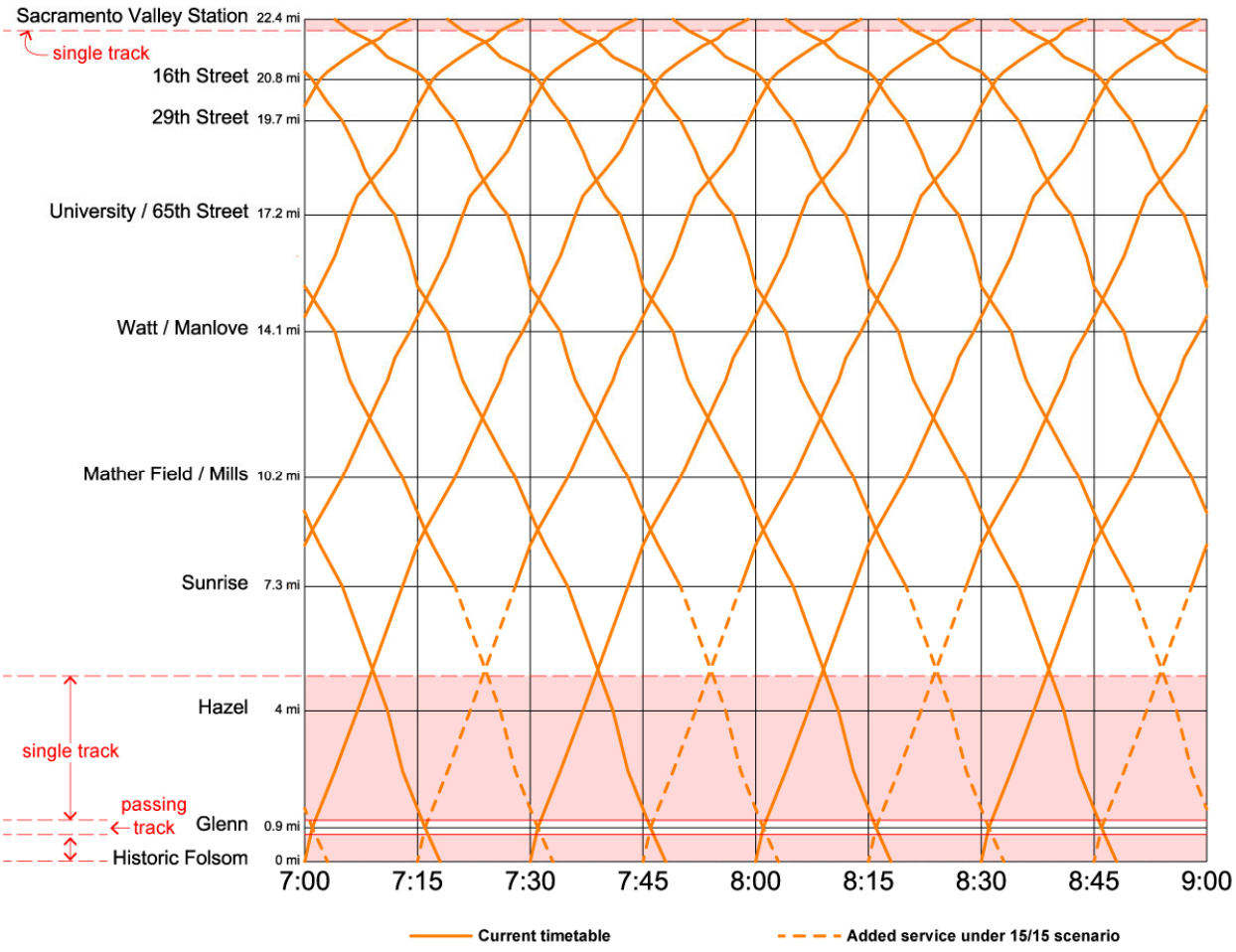
Thus, while it may be desirable to allow additional turnaround time at SVS for recovery, the ability to make significant adjustments to the timetable is substantially restricted by the single-track section east of Folsom. In particular, the current timetable allows trains to avoid meets completely in this section under 30-minute headways (as illustrated in Figure 38), and it is future-proofed for eventual 15-minute headways once the Glenn passing track is completed, as illustrated in Figure

51. Thus, the Folsom end of the line is largely fixed from a timetabling perspective and cannot be substantially modified without precluding 15-minute headways east of Sunrise.

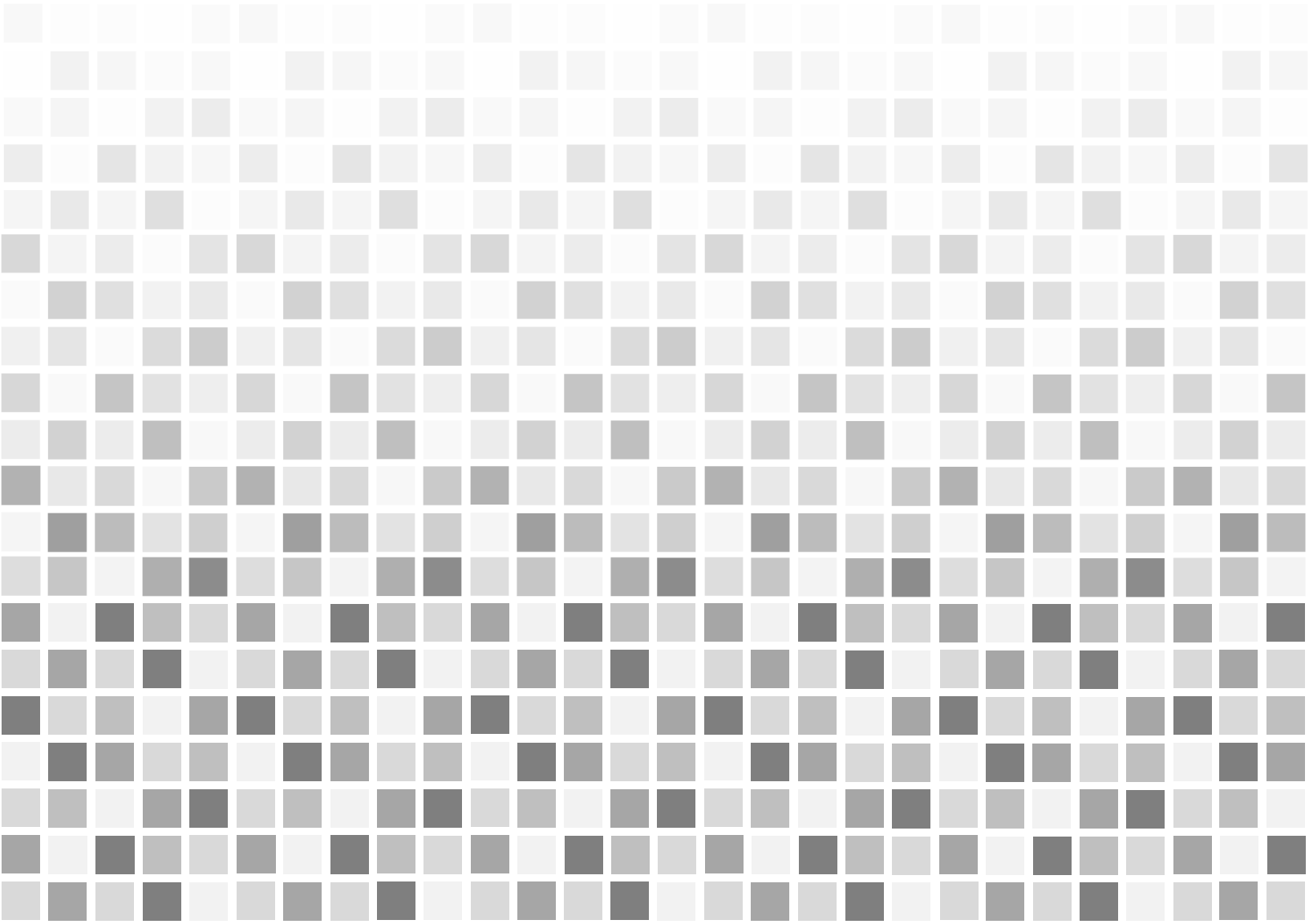
In other words, the Glenn passing track would allow 15-minute headways but would not be long enough to allow for changes to arrival / departure times at Historic Folsom. With the Folsom end remaining fixed, SacRT cannot make substantial (if any) changes elsewhere on the Gold Line without resulting in single-track meets, limiting the ability to increase recovery times without simply adding an additional train in service.

It is important to note, however, that Gold Line trains would be extended north to 7th & Richards / Township 9 as part of Green–Gold interlining upon completion of the SVS Loop. The conceptual operations analysis in Section 4.3.3 indicates that the turnaround time at Township 9 would be approximately 8 minutes, a slight—but not insignificant—increase above the 5-minute turnaround at SVS. This additional recovery time can therefore be considered an additional operational benefit of Green–Gold interlining.

Figure 51: Gold Line – 15/15 with Glenn Passing Track



5 Bus Service Improvements



This chapter identifies potential improvements to SacRT bus service to promote service integration. Table 5 summarizes the baseline recommendations for bus service changes by project or SVS phase. Detailed discussion is provided in the following sections:

- Section 5.1 describes existing bus service, focusing on SVS.
- Section 5.2 discusses schedule coordination at SVS and Midtown Station.
- Section 5.3 describes recommended routing changes at SVS for the Bus Mobility Center (Section 5.3.1), Railyards terminal (Section 5.3.2), and I-5 northbound ramp reconfiguration (Section 5.3.3). Potential routing changes at Midtown Station are briefly discussed in Section 5.3.4.
- Section 5.4 briefly touches on regional bus operators in Downtown Sacramento.

Table 5. Recommended Bus Circulation Changes

Route	Bus Mobility Center	Railyards Terminal	I-5 Northbound Ramp Reconfiguration*	Midtown Station
30 J Street	• Extend to BMC via 3rd St. extension or H St. transitway*	• Extend to Railyards	• No changes	• No changes
38 Tahoe Park	• Extend to BMC via 3rd St. extension or H St. transitway*	• Extend to Railyards	• No changes	• No changes
51 Stockton / Broadway	• Extend to BMC via F St.**	• No changes from BMC phase (direct service to / from BMC via F St.)**	• No changes	• No changes
62 Freeport	• Extend to BMC via 3rd St. extension or H St. transitway*	• Reroute to new on-street terminal (G St. at 5th St.)	• No changes	• Increase frequency to every 15 minutes
142 Airport***	• No changes	• No changes	• Reroute outbound direction (L St. → 5th St. → I St.), with new stop outside historic station building	• No changes
Commuter / express routes (102, 103, 106, 107, 109)	• No changes	• No immediate changes • Potential longer-term extension into Railyards via 7th St.	• No changes	• No changes

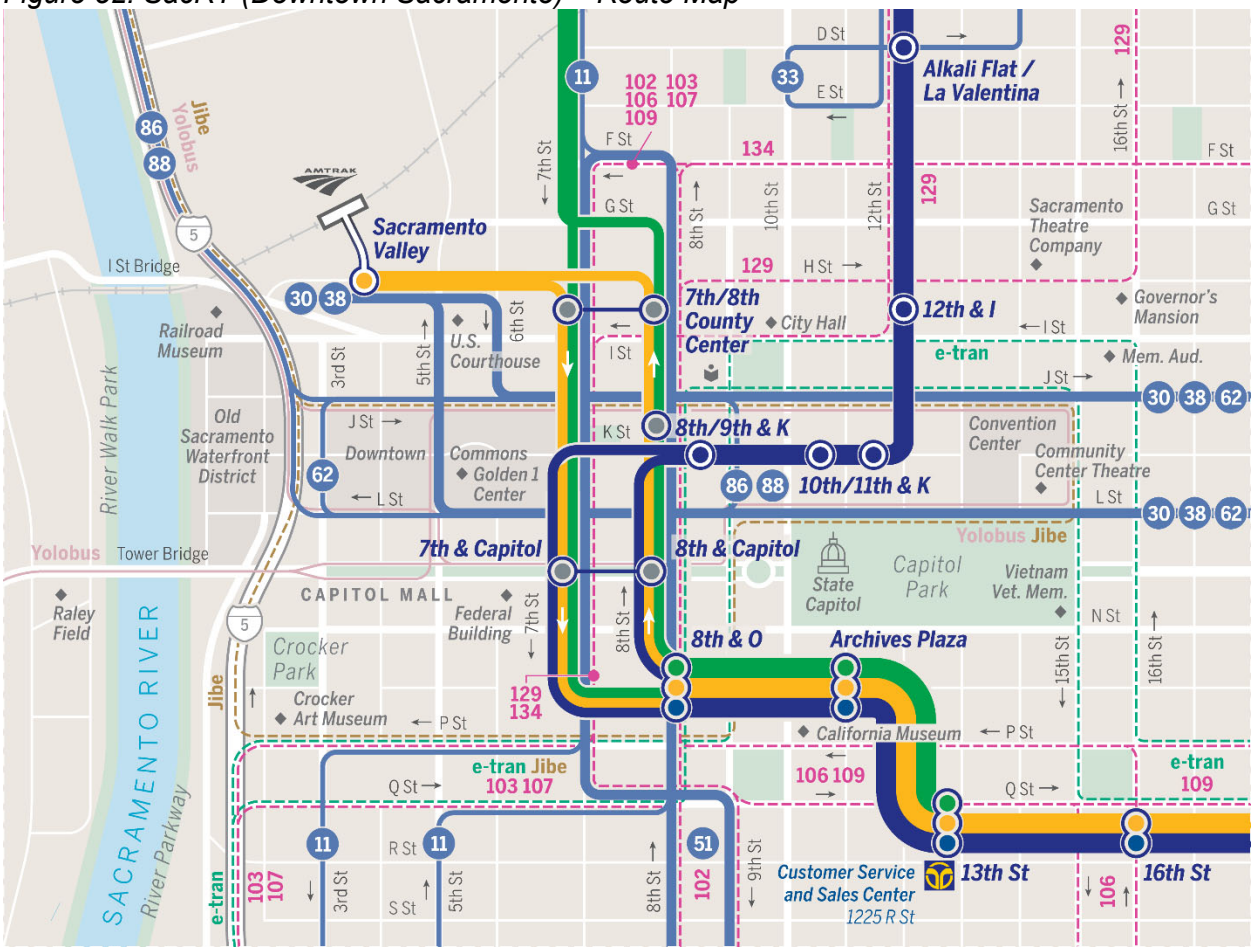
**Note: The Downtown / Riverfront Streetcar does not include roadway access into the SVS site via an extension of 3rd Street. As part of the I-5 northbound ramp reconfiguration, however, the City of Sacramento has received funding for a Caltrans Project Study Report (PSR) to evaluate the 3rd Street / I Street intersection and the I-5 northbound on-ramp*

from I Street for improved access to SVS, including an extension of 3rd Street. Thus, the 3rd Street extension may be 5–10 years into the future in terms of phasing. In this case, interim access to the BMC from the south would be provided via the existing H Street transitway from 5th Street.
***Note: Extension of Route 51 to the BMC is contingent upon an agreement for long-term use of BMC berths by SacRT. If sufficient berths for Route 51 cannot be secured at the BMC in the long-term, SacRT would retain the existing route and terminus (8th Street at F Street).*
****Note: Additional service between Downtown Sacramento and the Sacramento International Airport would continue to be provided by Yolobus routes 42A and 42B.*

5.1 Existing Conditions

SacRT's existing bus and light rail service in Downtown Sacramento is illustrated in Figure 52.

Figure 52: SacRT (Downtown Sacramento) – Route Map



Existing SacRT bus service at SVS consists of two routes (30 J Street and 38 Tahoe Park), which enter and exit the station via H Street. Additional SacRT local service is provided within a short walking distance of the station, including the 62 Freeport, 86 Grand, 88 West El Camino, and 142 Airport along J Street / L Street and the Green Line, 11 Natomas / Land Park, and 51 Stockton / Broadway along 7th Street / 8th Street. These services are summarized in Table 6.

Table 6. SacRT (Downtown Sacramento) – Service Summary (Local and Airport Service)

Route	Neighborhoods / Communities Served	Headways (minutes)									
		Weekdays						Saturdays, Sundays, and Holidays			
		Before 6:00	6:00 – 9:00	9:00 – 14:00	14:00 – 18:00	18:00 – 21:00	After 21:00	Before 9:00	9:00 – 17:00	17:00 – 19:00	After 19:00
Gold Line	Downtown – Midtown – East Sacramento – CSUS – Rosemont / La Riviera – Rancho Cordova – Folsom	15	15	15	15	15–30	30	30	15	15–30	30
30 J Street	Downtown – Midtown – East Sacramento – CSUS		15–30	30	15–30	30–60		60	60	60	60
38 Tahoe Park	Downtown – Midtown – UC Davis Medical Center – Oak Park – Tahoe Park – CSUS		30	30	30	45–60		60	60	60	60
Green Line	River District – Railyards – Downtown		30	30	30	30					
11 Natomas / Land Park	North Natomas – South Natomas – River District – Railyards – Downtown – Southside Park – Land Park		30	45	30	30–45		45	45	45	
51 Stockton / Broadway	Downtown – Southside Park –Broadway – Oak Park – Fruitridge Manor – Florin	15	12	15	12–15	15–30	30	30	20	30	30–60
62 Freeport	Downtown – Midtown – Land Park – Sacramento City College – South Land Park – Pocket		30	30	30	30		60	60	60	60
86 Grand	Downtown – South Natomas – Northgate – Del Paso Heights – Hagginwood		15–30	30	30	30–60		60	45	45	45–60
88 West El Camino	Downtown – South Natomas – Gardenland – Old North Sacramento		30	30	30	30–60		45–60	45	45	45–60
142 Airport	Downtown – Sacramento International Airport	20–40	20–40	60	20–40	20–40	20–40	20–40	20–60	20–40	20–40

Notes: Values represent pre-COVID service.
Route 142 began operating in January 2020 in partnership with Yolobus; it is designed to supplement existing hourly service between Downtown Sacramento and the Airport on Yolobus routes 42A and 42B. Route 142 fills in frequency gaps for Route 42B (from Downtown Sacramento to the Airport) and for Route 42A (from the Airport to Downtown Sacramento) to provide a combined headway of approximately 20-30 minutes in each direction on the segment between the Airport and Downtown Sacramento.

In addition to the services described in Table 6, SacRT also operates several commuter / express bus routes into and out of Downtown Sacramento, summarized in Table 7. These services are primarily designed for commuters, with generally less than five roundtrips per day and service provided only during the commute periods, generally in the commute direction only.

Table 7. SacRT (Downtown Sacramento) – Service Summary (Commuter / Express Service)

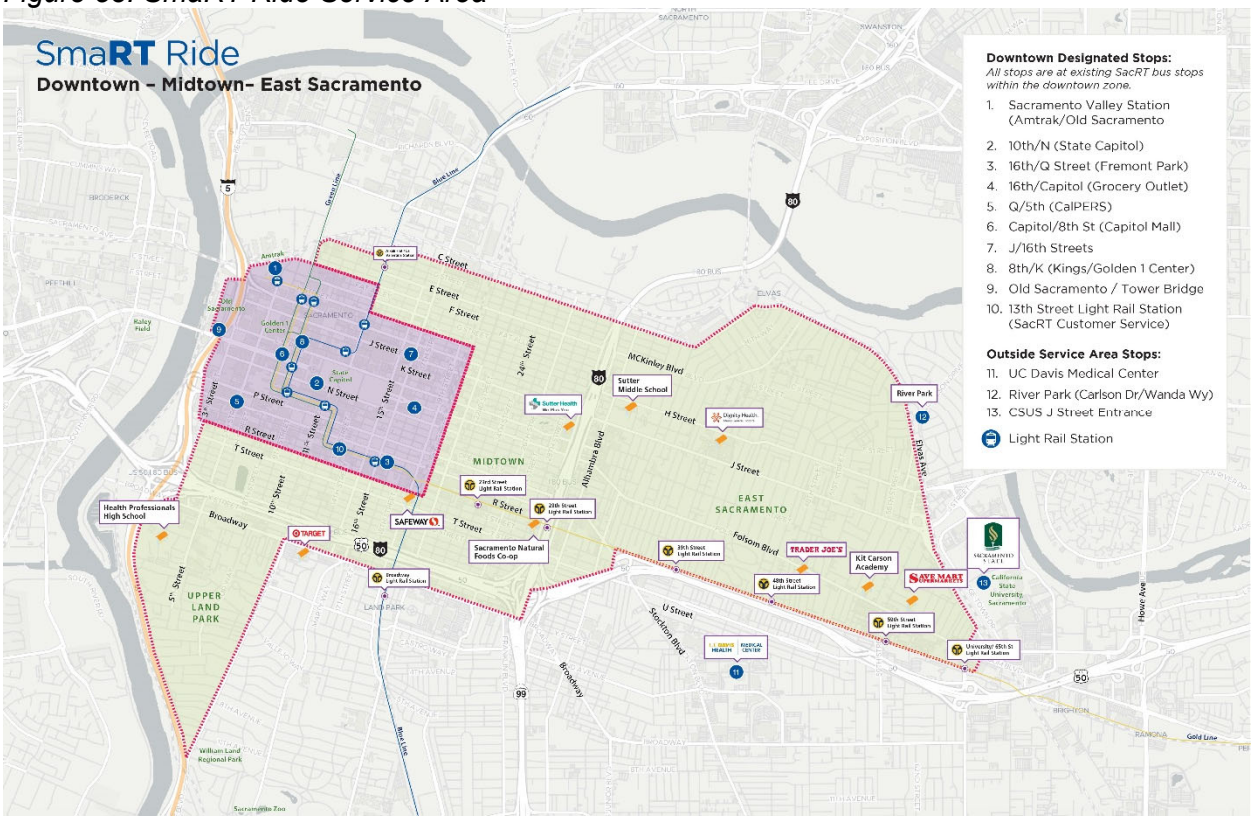
To or from	Route through Downtown	Routes
North of Downtown	Inbound via J St. Outbound via P St.	North Natomas Jibe: 170 Eastside 171 Westside 172 Central 174 Midwest 180 Far East 182 Mid-Central
Northeast or east of Downtown	Inbound via 7th St. Outbound via 8th St.	129 Arden Commuter 134 McKinley Commuter
South or southeast of Downtown	Inbound via 8th St. Outbound via 7th St.	102 Riverside Commuter 103 Riverside Express 106 Land Park Commuter 107 South Land Park Express 109 Hazel Express

Other SacRT Services

SacRT's paratransit service operates under the "SacRT GO" brand, and includes the federally-mandated Americans with Disabilities Act (ADA) service within three-quarters of a mile of an active bus route or light rail station, as well "non-ADA" areas within SacRT's general service area beyond these minimum requirements.

SacRT is also the largest micro-transit provider in the country, with a fleet of 45 vehicles operating as part of its SmaRT Ride program, an app-based, on-demand service for the general public. The service covers nine distinct service areas; SVS falls within the Downtown–Midtown–East Sacramento service area, as illustrated in Figure 53.

Figure 53: SmaRT Ride Service Area



5.2 Schedule Coordination

5.2.1 Sacramento Valley Station

It may be desirable to implement some level of schedule coordination for buses directly serving SVS to minimize transfer times with intercity rail. Routes such as the 30 J Street and 51 Stockton / Broadway already operate at headways of 15 minutes or less during some or much of the day. At this frequency, wait times for passengers would only be 15 minutes at maximum and seven and a half minutes on average, generally meeting the requirement for a “turn-up-and-go” service, at least for passengers transferring to SacRT buses.

Similar to the discussion of schedule coordination for light rail, “turn-up-and-go” service frequency can be considered the most appropriate, reasonable, and equitable means of ensuring an adequate level of schedule coordination due to factors such as the length of regional / intercity trains and variability in passengers’ natural walking speeds.

For routes operating at lower frequencies (e.g., 30–60 minutes headways), however, SacRT would seek to design timetables in a coordinated fashion to minimize transfer times at SVS. This timetable coordination would generally apply to routes such as the 38 Tahoe Park and the 62 Freeport, as well as to off-peak periods for the 30 J Street and 51 Stockton / Broadway when headways are longer than 15 minutes. During the BMC phase, for example, evening buses could be scheduled to depart SVS 10–15 minutes after the scheduled train arrival, with the last bus of the night permitted to hold at SVS for a longer amount of time to avoid stranding passengers. This

redesign would, however, be predicated on a clockface schedule for *Capitol Corridor* service, with headways at multiples of 15 minutes (e.g., 15, 30, 45, or 60 minutes). Headways at other intervals (e.g., 20 or 40 minutes) would complicate schedule coordination for SacRT buses, as SacRT's system is generally designed around 15-, 30-, and 60-minute headways.

For routes that would serve SVS as a touch-and-go stop and not as a terminal (start or end of route), schedule coordination would be less practical, as a dwell time of 8–10 minutes or more to allow for intercity rail transfers in both directions would be a substantial disincentive for through riders. This case would apply when buses are extended north from SVS to the new Railyards terminal. As discussed for light rail schedule coordination, however, the ability and need for bi-directional schedule coordination may be limited. Despite these limitations, coordination in at least one direction is still recommended, particularly for routes or periods with less frequent service. In the evenings, for example, this can be achieved by designing bus timetables during the Railyards terminal phase to arrive and depart the 5th Street / G Street touch-and-go stops approximately 8–10 minutes after the scheduled train arrival to ensure that passengers arriving by train have a reasonable amount of time to make their connection.

5.2.2 Midtown Station

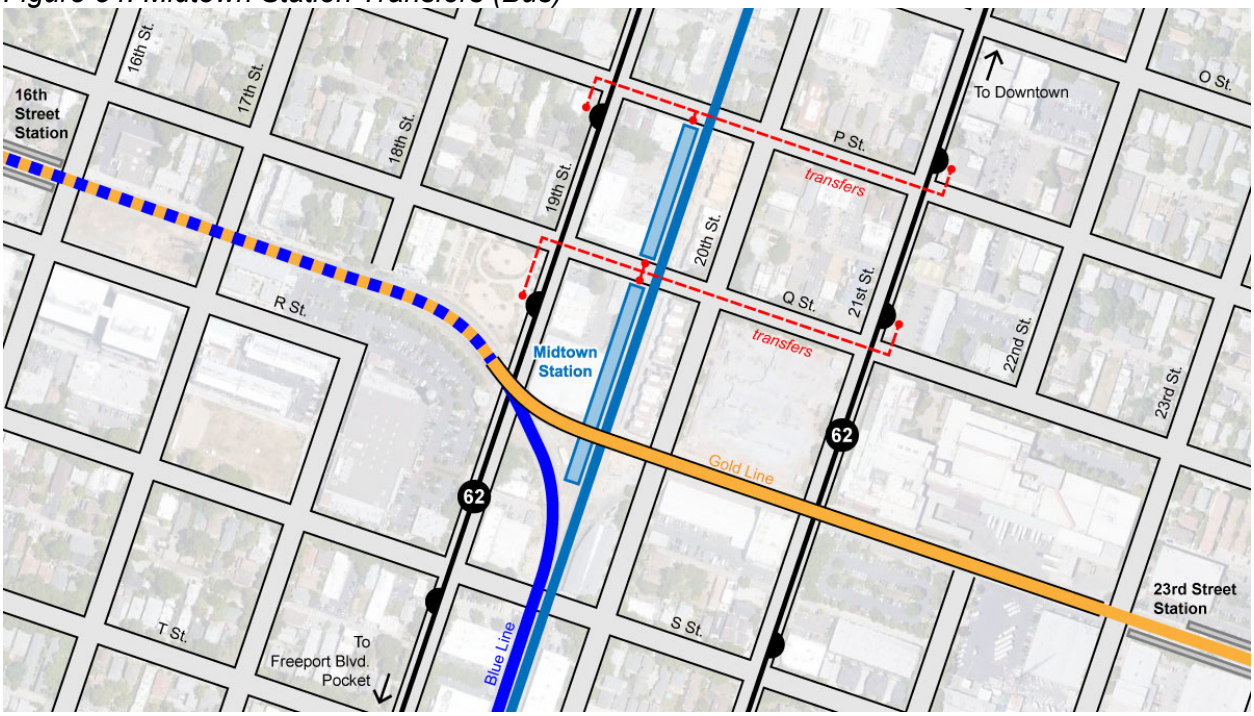
SacRT operates one local bus route in the vicinity of the proposed Midtown Station: Route 62 (Freeport), operating on a half-hourly schedule with nearest stops along 19th Street at Q Street far-side (southbound) and along 21st Street at Q Street far-side (northbound). SacRT and some regional transit providers (e.g., El Dorado Transit) operate peak-only commuter buses along the P Street / Q Street corridor, but these would generally not provide relevant connections for ACE and *San Joaquins* trains at Midtown Station.

ACE and *San Joaquins* riders alighting at the Midtown station would walk 1½ blocks to the east to transfer to Route 62 on 21st Street to reach destinations closer to Downtown. In the outbound direction, passengers would walk ½ block east from 19th Street to access Midtown Station. Primary walking routes for passengers to / from the 62 at Midtown Station are illustrated in Figure 54.

While Route 62 operates on a half-hourly schedule currently, improving frequency to 15-minute headways during the peak periods would reduce average wait times for transferring passengers. Due to many of the same the issues described above in Section 5.2.1 (e.g., walking distance) and potential delays to other passengers (from extended dwells or reroutes), providing turn-up-and-go frequency would likely be the most cost-effective and efficient means of facilitating transfers to / from Route 62.

In particular, walking distance would vary substantially depending on boarding / alighting location on the ACE / *San Joaquins* platform. Passengers boarding or alighting regional / intercity trains near P Street or Q Street would require much less transit time than passengers at the far south end of the platform. Walking distance also varies depending on the desired direction of Route 62 (northbound / inbound or southbound / outbound), as well as variability associated with traffic signals and the grade crossings (the ACE / *San Joaquins* station is only a single-side platform). Thus, transit times between the platform and bus stops could be 2–4 minutes for the southbound direction of Route 62 and as much as 5–8 minutes for the northbound direction of Route 62.

Figure 54: Midtown Station Transfers (Bus)



Note. Satellite imagery from Google Earth.

Schedule coordination heading into and out of Downtown Sacramento (northbound train to northbound bus, and southbound bus to southbound train) can be explored in more detail once a more definitive ACE / *San Joaquins* timetable is available. Regardless, the frequency improvement to 15-minute headways for Route 62 will be a substantial improvement over the existing 30-minute headways, and will allow for convenient connections in all directions.

5.3 Routing Changes

5.3.1 Bus Mobility Center

SVS's importance as a local, regional, and intercity intermodal transit facility will grow in the future, which warrants consideration of additional bus service to provide improved connectivity to and from the station. The station's location at the northwestern corner of Downtown Sacramento, however, would result in substantial detours and increased travel times for passengers on some routes.

SacRT Local Bus Routes
Routes that approach Downtown from the south or east (e.g., 30, 38, 51, 62) would generally be good candidates for extensions to directly serve SVS, as extension would not add out-of-direction time for existing riders.

Routes approaching Downtown from the north and west would be poorer candidates for realignment because the station would be located mid-route, at or near the maximum passenger load points, making an extended dwell at the station to allow for bi-directional transfers with regional / intercity rail impractical. The location of river crossings and freeway on- and off-ramps also means that substantial out-of-direction movement (i.e., detours) at the maximum passenger

load point would be required to serve SVS directly. Routes in this category include the 11 Natomas / Land Park, the 86 Grand, and the 88 West El Camino, which are recommended to stay as-is.

While the BMC is intended primarily for intercity and regional buses in the long-term timeframe, it is expected that service levels will require some time to build up. Therefore, SacRT proposes to extend or realign several of its local bus routes—namely, the 30 J Street, 38 Tahoe Park, 51 Stockton / Broadway, and potentially the 62 Freeport—directly to the BMC. Proposed routing is illustrated in Figure 55. Detailed routing and stop locations for each route, showing the changes from existing service, are shown in Figure 56.

As shown in Figure 56, SacRT proposes to extend the 51 Stockton / Broadway via the new F Street extension and the 30 J Street, 38 Tahoe Park, and 62 Freeport via the new 3rd Street extension, terminating at berths inside the BMC.[28]

If the 3rd Street extension is not completed in time for the opening of the BMC, access at the southwest corner of the BMC would instead be provided via H Street. This scenario would affect the 30, 38, and 62, which would access the BMC via H Street instead of via 3rd Street. The proposed route for the 51 into and out of the BMC would use the F Street extension, and it would not be affected by a potential delayed completion of the 3rd Street extension.

In this situation, SacRT would extend the 30 and 38 from their current terminals (behind the historic station building) west into the BMC via H Street. The 62 could also be rerouted to follow the alignment for the 30 and 38 via 5th Street instead of via 3rd Street. However, SacRT may opt to retain the 62 on its current route to retain better coverage for the Downtown Commons area.

In addition, the extension of Route 51 to serve the BMC is contingent upon securing an agreement for long-term use of BMC berths by SacRT. Due to curb space constraints in the immediate vicinity of SVS, it may be necessary to keep the 51's existing route and terminal (8th Street at F Street) if sufficient berth capacity for the route cannot be secured at the BMC on a long-term basis. While the existing route and terminal require a walk of several blocks when making connections to / from SVS, this option preserves a critical layover location for the route (and for SacRT, in general) in the vicinity of the station in the event that long-term berth capacity at the BMC is not available.

[28] Figure 55 also depicts two route changes that are not expressly part of this plan but are shown for reference:

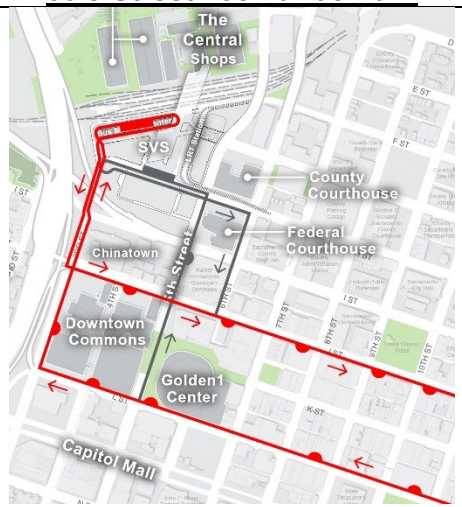
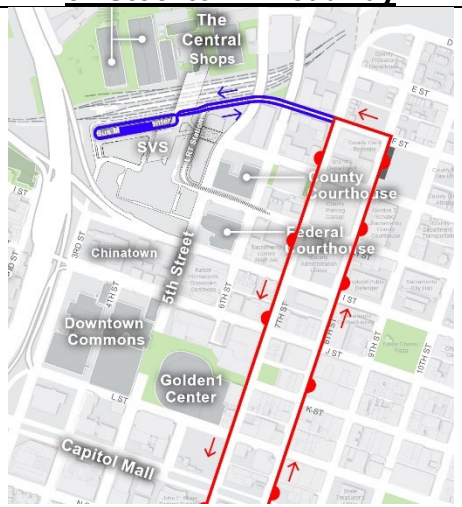
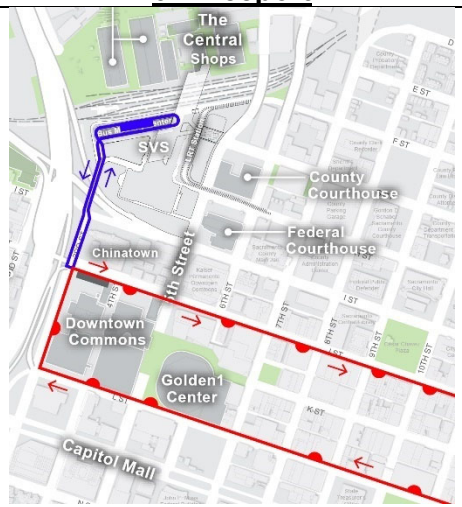
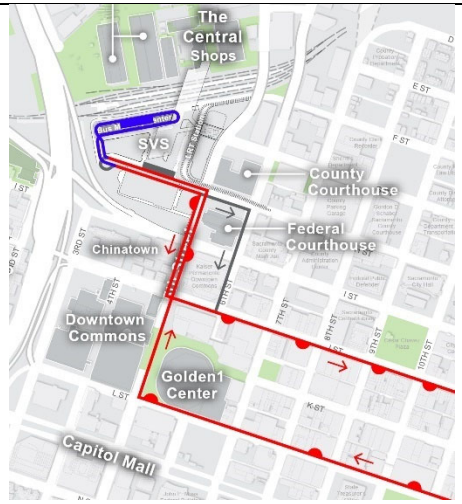
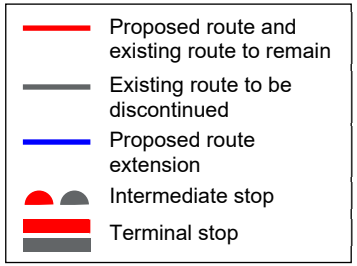
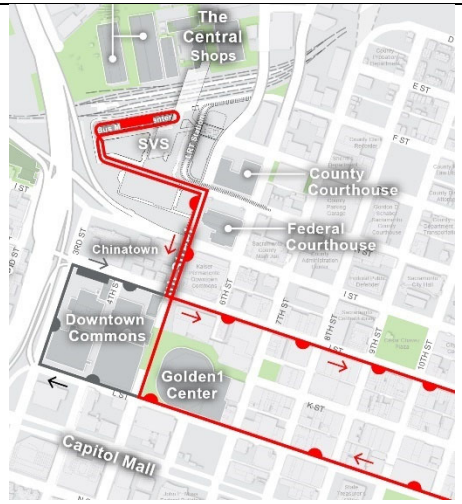
- Future extension of the 86 Grand and 88 West El Camino from their existing terminal (9th Street at K Street) to a new terminal further east (12th Street at K Street).
- A potential future reroute of the southbound direction of the 11 Natomas / Land Park south of P Street from 3rd Street to 5th Street. This change is contemplated for implementation following completion of the two-way conversion of 5th Street.

Figure 55: BMC Terminal – SacRT Bus Service (Overview)

Note. Original base map from City of Sacramento (SVS Area Plan).

Figure 56: BMC Terminal – SacRT Bus Service (Detail)

Note. Original base maps from City of Sacramento (SVS Area Plan).

	30 J Street / 38 Tahoe Park	51 Stockton / Broadway	62 Freeport
With 3rd Street Extension	 *Inbound: L St. → 3rd St. → BMC* *Outbound: BMC → 3rd St. → J St.*	 *Inbound: 8th St. → F St. → BMC* *Outbound: BMC → F St. → 7th St.*	 *Inbound: L St. → 3rd St. → BMC* *Outbound: BMC → 3rd St. → J St.*
Without 3rd Street Extension (via H Street)	 *Inbound: L St. → 5th St. → H St. → BMC* *Outbound: BMC → H St. → 6th St. → J St.*	*Same as above* 	 *Inbound: L St. → 5th St. → H St. → BMC* *Outbound: BMC → H St. → 6th St. → J St.*

Required Berths

Based on current frequency levels, a total of six berths are required to accommodate all four SacRT routes proposed to serve the BMC, as summarized in Table 8. Were SacRT to improve headways on Route 38 and 62, the space requirement would increase to eight berths.

Table 8. Required SacRT Bus Berths at SVS

Route	Peak Headway (minutes)	Required Berths
30 J Street	15	2
38 Tahoe Park	30	1
51 Stockton / Broadway	12–15	2
62 Freeport	15-30	1
Total		6

Note: BMC berth allocations and layovers will be coordinated with regional buses and will be further studied in SACOG's upcoming Downtown Sacramento Service Integration Study.

Commuter / Express Routes

With limited service during only a few hours each weekday (and generally only in the commute direction) commuter buses would, in general, be less useful as a connecting service for intercity train passengers. Nor would they achieve a significant utilization of the physical space. However, there could be some utility to having commuter buses drop-off in the morning and pick-up in the afternoon at SVS (e.g., as a connection to a commute-hour train) if the space was available and if additional operational impacts were minimal. The favorability of such an option would tend to be highly case-specific (e.g., if a particular trip on a particular commuter route could make a timely connection with a particular train, with a viable return trip also being feasible).

SacRT's commuter / express routes to and from the south (e.g. Routes 102, 103, 106, 107, and 109) would be the most logical candidates for extension to SVS, because extension would not add out-of-direction movement. This reasoning might also apply, at least partially, to some regional operators to and from the south and east such as El Dorado Transit.

Routes to and from the west, north, or northeast (e.g., North Natomas Jibe, SacRT Routes 129 and 134, Yuba–Sutter Transit, and Roseville Transit) would appear to be worse candidates for extension or realignment to serve SVS directly, due to out-of-direction movement and delay from intercity transfers at the maximum passenger load point. It is expected, however, that at least some regional transit providers, such as Yolobus, will want to extend or realign at least some of their service to the BMC.

Note also that stops for many commuter routes are already within walking distance of the station. Routes from the northeast (129 and 134) and south / southeast (102, 103, 106, 107, and 109) are currently routed along the 7th Street / 8th Street couplet, and could be accessed via G Street or H Street, with a maximum difference in walk distance of 1,200 feet (i.e., 4 to 5 minutes) compared to stopping in the BMC.

Based on a preliminary analysis of available berth capacity at the BMC, SacRT proposes to extend local bus routes 30, 38, 51, and 62 into the BMC. SacRT does not propose extending or

realigning its commuter routes to the facility, but might do so if excess space was available, and if operating impacts were determined to be minimal or favorable, on a case-by-case basis.

Airport Routes
Current transit service at Sacramento International Airport is provided by Yolobus Routes 42A and 42B and SacRT's 142 Airport service. These routes currently enter and exit via Capitol Mall (to / from Davis) or the J Street / L Street couplet (to / from the Airport via I-5).[29] Providing a direct connection at SVS with the Airport could be important for regional and intercity rail passengers (at least until completion of the Green Line extension); however, the current alignment of these routes makes direct service to and from SVS less than ideal. For Yolobus, Route 42 is an extremely long, resource-intensive route, focused primarily on intercity travel, which Yolobus recently devoted a multi-year study to streamlining. The additional minutes of even a slight detour could be very costly for Yolobus. SacRT's posture, however, would be one of neutrality.

The SacRT 142 Airport service runs on an efficient loop of approximately 45 minutes out and back and 15 minutes of break time and schedule recovery. Break time under 12 minutes would trigger requirements for an additional bus, increasing operating costs 50 to 100 percent. A detour to the BMC could therefore probably be made only in one direction, and only with streamlining of the route (e.g., from 15th Street to 12th Street or 9th Street) which would cause a meaningful reduction in its catchment, coverage of downtown hotels, etc. There would be a question of which direction (inbound or outbound) to detour to SVS, unless SVS was made the end point, where break time was taken. SVS would, in some respects, be a natural place to end the route and take layover/break time; however, for riders from the airport destined for stops east along J Street, if the 142 went directly from the freeway to SVS and stopped there for a break (essentially forcing a transfer to the Gold Line or a SacRT local bus) that might be seen as a step in the wrong direction.

The planned reconfiguration of the northbound I Street on-ramp could provide opportunities to improve 142 coverage of SVS without as many drawbacks. Inbound to Downtown, the 142 would remain unchanged, running straight east on J Street, with customers walking one block from J Street and 4th Street to SVS. Outbound to the airport, Route 142 would turn from L Street to northbound 5th Street, then left onto westbound I Street, and stop on I Street west of 5th Street at a new bus stop adjacent to SVS. This would provide an improved pick-up location (compared to today's L Street and 4th Street pick-up stop) without increasing running time or adding out-of-direction movement and delay for riders coming from the airport.

As the ramp reconfiguration is proceeding separately from the other SVS improvements, this potential change is discussed in more detail in Section 5.3.3.

Other Services
To simplify wayfinding and maximize convenience, particularly for mobility-needs passengers, SacRT plans to use the parking level of the BMC as the designated stop for SacRT GO paratransit and SmaRT Ride demand-response passengers making transfers with regional / intercity rail or BMC buses. As illustrated in Figure 14, the parking level of the BMC would include a dedicated pick-up / drop-off loop for micro-transit and accessible vehicles and will be designed with a minimum vertical clearance of 10 feet to accommodate SacRT shuttles that are up to 9½ feet in

[29] Please refer to Section 5.3.3 for discussion of potential streamlining of Yolobus Route 42A / 42B routing through Downtown Sacramento and corresponding changes to SacRT's 142 Airport service.

height. The loop would have direct access by ramp to the station's underground passageway, which provides the quickest and easiest step-free, ADA-compliant access to and from the station's platforms.

For passengers making transfers with SacRT light rail, SacRT GO and SmaRT Ride shuttles would use the street-level pick-up / drop-off loop along SVS Street 1, adjacent to the light rail platform.

5.3.2 Railyards Terminal

Future development in the Railyards area and adjacent River District will warrant expanded transit service, and with many of these areas currently vacant and awaiting development, there is an opportunity to plan and design a high-quality bus-oriented transit hub in this area that addresses both transit needs in the Railyards and service integration at SVS.

The Kaiser Permanente hospital, in particular, will be a major destination that will likely require proximate bus service seven days a week to provide commute options for medical staff and other employees, minimize traffic congestion in the Railyards area, and ensure equity in patient/visitor access. Similarly, a large amount of office development is programmed for the blocks between the Kaiser site and the Central Shops, likely generating a substantial amount of commuter demand. Therefore, the ideal routing scenario at full build-out of the area would provide good access for both the Kaiser site and the office blocks. It may also be desirable to design the routing and terminal to allow for future extensions, such as to the SMUD Museum of Science and Curiosity, on weekends.

As intercity bus service levels grow at the BMC, and berth capacity for local buses becomes limited, it will be necessary for SacRT to transition to on-street terminals for most of its SVS bus routes. The SVS Area Plan designates the north side of G Street between 5th Street and 6th Street for use as an on-street terminal for local (SacRT) buses, but this location would only feasibly accommodate a maximum of three berths.[30] A second on-street bus terminal in the Railyards area would provide SacRT with additional terminal capacity for its SVS routes. Routes extended to the Railyards terminal could maintain access to SVS via on-street bus stops on 5th Street (at G Street), with direct pedestrian access to the station via the new elevated concourse into the station.

Terminal Design
The terminal would be an on-street facility with curbside berths for one or more bus routes co-located at one site (e.g., one blockface), and it would require nearby restroom access for operators. It is intended as a dedicated area for "end-of-line" bus layover between scheduled trips and could include (but does not explicitly require) minor passenger amenities such as shelters, seating, lighting, etc. A new building or other significant construction activities are not envisioned. Functionally, the terminal would be similar in scope to the SVS on-street terminal at 5th Street / G Street, and would not be substantially different from on-street parking (but for buses) or SacRT's existing curbside bus stops and layover zones scattered throughout Downtown Sacramento.

[30] Although an exact timeline is uncertain, the 5th Street / G Street connection through Lot 40 may not be completed until 10 years (or more) from now. SacRT would seek to continue use of its berths in the BMC until completion of the connection, which would permit direct access to / from the G Street terminal.

Some alternatives would have passenger activity co-located with bus layover, in which case, a larger passenger facility with greater wayfinding investments would be needed. Other alternatives would have bus layover occur “off-site” from most passenger activity, in which case, passenger facilities would likely be smaller scale, as buses would mostly “touch-and-go” at ordinary on-street bus stops along the route.

Routing and Stop Locations

Proposed routing and stop locations are illustrated in Figure 57 and Figure 58 for the SVS area and in Figure 59 for the Railyards area.

As shown in Figure 57 and Figure 58, the 30 J Street and 38 Tahoe Park would be rerouted out of the BMC and into the Railyards area via 5th Street. The 62 Freeport would be rerouted out of the BMC and to the on-street terminal on G Street between 5th Street and 6th Street. Due to limited curb space available at the G Street terminal and the desire to maintain stops on 8th Street far-side of H Street, the 51 Stockton / Broadway would need to remain in the BMC.

In the Railyards area, four options for potential routing and terminal location (Figure 59) have been identified, each with their own benefits and tradeoffs. SacRT has initiated preliminary discussions regarding these options with the Railyards master developer (Downtown Railyard Venture), the City of Sacramento, and potential parcel developers, and will continue coordination efforts in the future towards identifying a preferred option and moving towards detailed design and construction.

Figure 57: Railyards Terminal – SacRT Bus Service (SVS Area Overview)

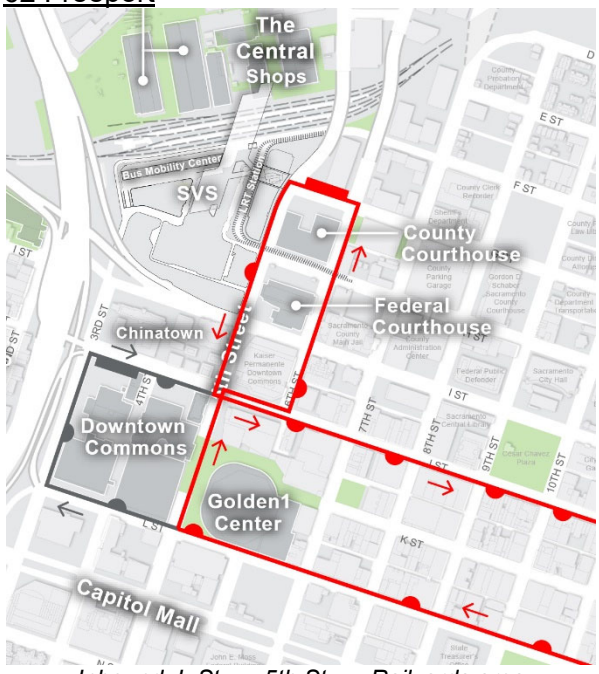
Note. Original base map from City of Sacramento (SVS Area Plan).

Figure 58: Railyards Terminal – SacRT Bus Service (SVS Area Detail)

30 J Street / 38 Tahoe Park

Inbound: L St. → 5th St. → Railyards area
Outbound: Railyards area → 5th St. → J St.

62 Freeport

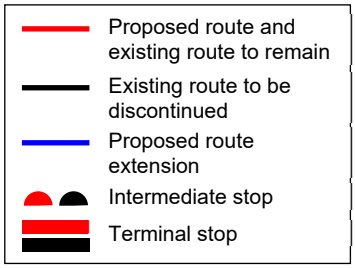


Inbound: L St. → 5th St. → Railyards area
Outbound: Railyards area → 5th St. → J St.

51 Stockton / Broadway

No change from the BMC phase

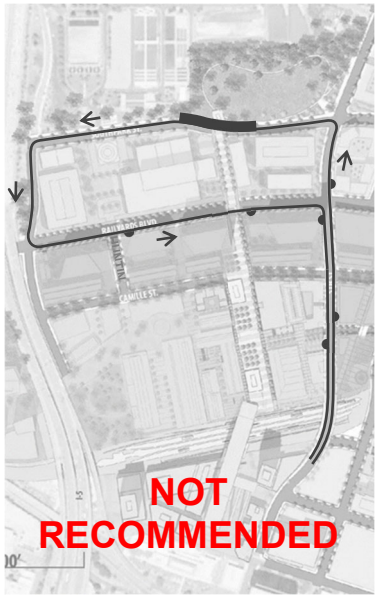
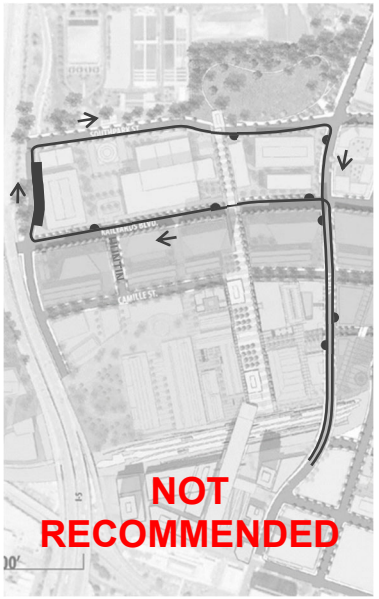
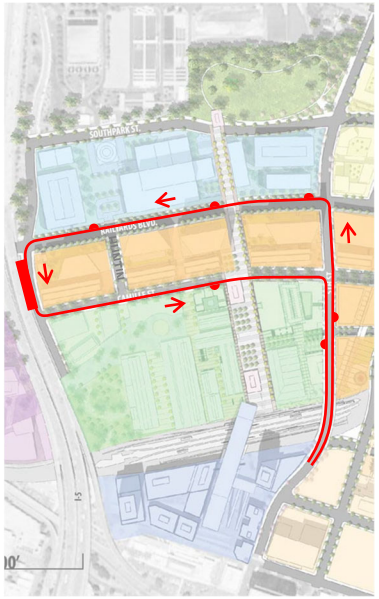
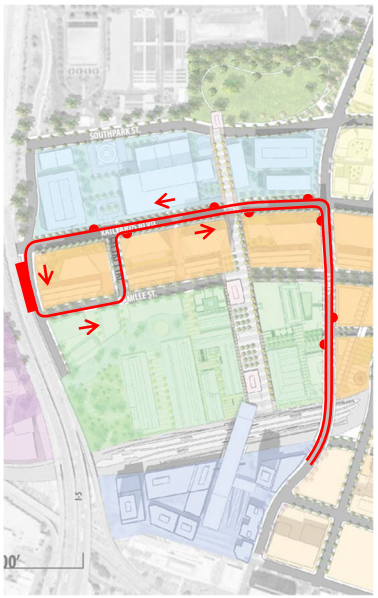
Extension of Route 51 to the BMC in the BMC phase is contingent upon sufficient berth capacity at the BMC being available for use by SacRT on a long-term basis. If berth capacity is not available at the BMC on a long-term basis, then Route 51 would retain its existing route and terminal.



Note. Original base maps from City of Sacramento (SVS Area Plan).

Figure 59: Railyards Terminal – SacRT Bus Service (Railyards Area)

Note. Original base maps from Downtown Railyard Venture.

Option A 5th → South Park → Bercut → Railyards → 5th *Terminal: Vista Park (South Park St., north side at Hopkins Walk)*	**Option B** 5th → Railyards → Bercut → South Park → 5th *Terminal: Bercut Dr., east side north of Railyards Blvd.*	**Option C** 5th → Railyards → Bercut → Camille → 5th *Terminal: Bercut Dr., west side south of Railyards Blvd.*	**Option D** 5th → Railyards → Bercut → Camille → Huntington → Railyards → 5th *Terminal: Bercut Dr., west side south of Railyards Blvd.*
			
☑ Potentially easier to acquire right of way (adjacent to City park) ☑ Relatively good Kaiser access ☑ Potential restroom access at Kaiser	☑ Kaiser supportive of stop and terminal locations, but will need to confirm against latest site design ☑ Excellent Kaiser access at “front door”, no street crossings ☑ Lower cost investment (simpler terminal, focus on improving outbound stops next to Kaiser)	☑ Kaiser supportive of stop locations, but will need to confirm against latest site design ☑ Excellent Kaiser access at “front door” in inbound direction ☑ Excellent office access	☑ Kaiser supportive of stop locations, but will need to confirm against latest site design ☑ Excellent Kaiser access at “front door”, esp. in inbound direction ☑ Excellent office access
☒ Topography may require additional engineering / design and construction (e.g., retaining walls) ☒ Soil contamination complicates excavation ☒ Not at Kaiser’s “front door”, may warrant mid-block crosswalk treatments ☒ Poor office access in inbound direction	☒ Conceptual plans indicate parking structure → no restroom access ☒ Poor office access in outbound direction	☒ Uncertainty regarding receptiveness of other property owners / tenants ☒ Uncertainty regarding restroom access ☒ Poor Kaiser access in outbound direction	☒ Uncertainty regarding receptiveness of other property owners / tenants ☒ Uncertainty regarding restroom access ☒ Outbound direction for Kaiser requires crossing Railyards Blvd.

Required Berths
Under existing conditions, an estimated three berths would be needed at a Railyards terminal as shown in Table 9. If headways were improved on Route 38, the space requirements would increase to a maximum of four berths. Five commuter express bus routes would also be candidates for extension to the Railyards, but would not need dedicated terminal space. Space requirements per berth range from approximately 60 to 100 feet, depending on design. Based on initial discussions, curb space will likely be one of the foremost controlling factors influencing design.

Table 9. Required Berths at Railyards Terminal

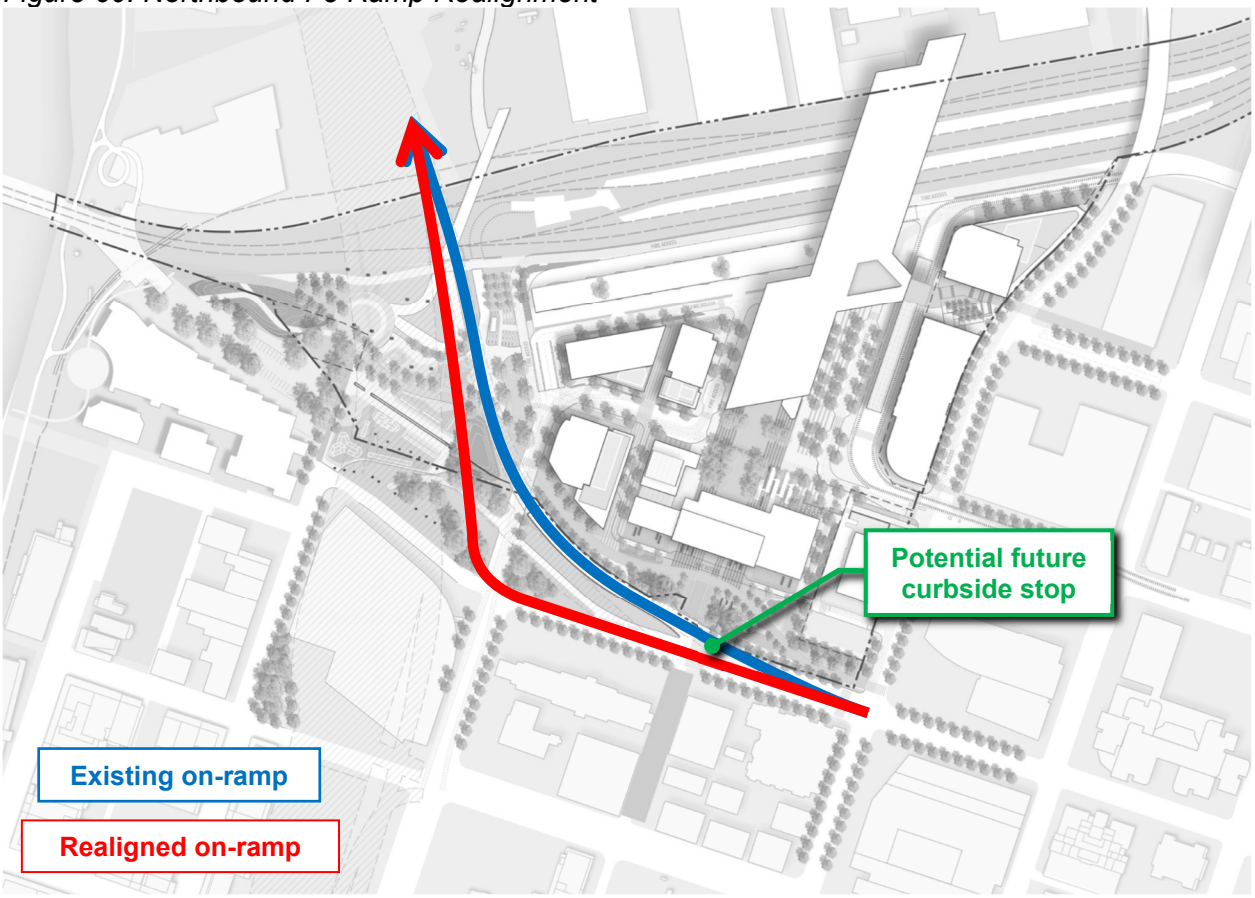
Route	Existing Headway (minutes)	Required Berths	
		Existing	Maximum
30 J Street	15	2	2
38 Tahoe Park	30	1	2
Total		3	4

Phasing
As Routes 30 and 38 operate in tandem, it would likely make sense to extend them both into the Railyards at the same time. The commuter / express routes would likely be longer-term extensions, and could remain at SVS (or their existing terminals at 8th Street / F Street).

5.3.3 I-5 Northbound Ramp Reconfiguration

Pending realignment of the northbound I-5 on-ramp from I Street, SacRT proposes to reroute the outbound direction of the 142 Airport route from L Street to 5th Street and I Street to provide a better airport connection for passengers at SVS. A conceptual diagram illustrating the ramp realignment is provided in Figure 60. A detailed map of the proposed route and stop locations is provided in Figure 61.

Figure 60: Northbound I-5 Ramp Realignment



Note. Image base from City of Sacramento (SVS Area Plan).

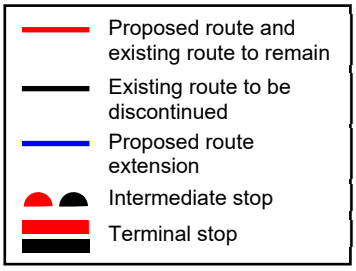
Based on preliminary discussions with City of Sacramento staff, the auxiliary travel lane along I Street would be removed as part of the ramp realignment, and there would be sufficient curbspace along the north side of I Street west of 5th Street to provide a curbside stop at 4th Street, which could also be shared with other regional buses accessing northbound I-5 from this location. This improvement would substantially shorten walking distance for passengers transferring from other modes at SVS, as the closest current stop in the outbound direction is on L Street at 4th Street.

No changes would be made to the 142's inbound route, which exits southbound I-5 and enters Downtown Sacramento via J Street. The existing stop along J Street at 4th Street would continue to serve as the closest stop for SVS-bound passengers, with a connection on foot via 4th Street through Chinatown. Although there are some deficiencies with this walking route (e.g., wayfinding, ADA access), it still offers a quick, convenient connection within the constraints of the J Street off-ramp and the connecting one-way street grid.

This change is discussed separately from the SVS sub-phases because the on-ramp realignment is proceeding independently of the larger SVS Area Plan and is not expressly dependent on the other phases of the SVS program, such as the BMC or the overhead station concourse. Therefore, SacRT would consider implementing this change to the 142 Airport to improve transit connections at SVS if and when the ramp is realigned.

Figure 61: Route 142 Outbound Realignment at SVS

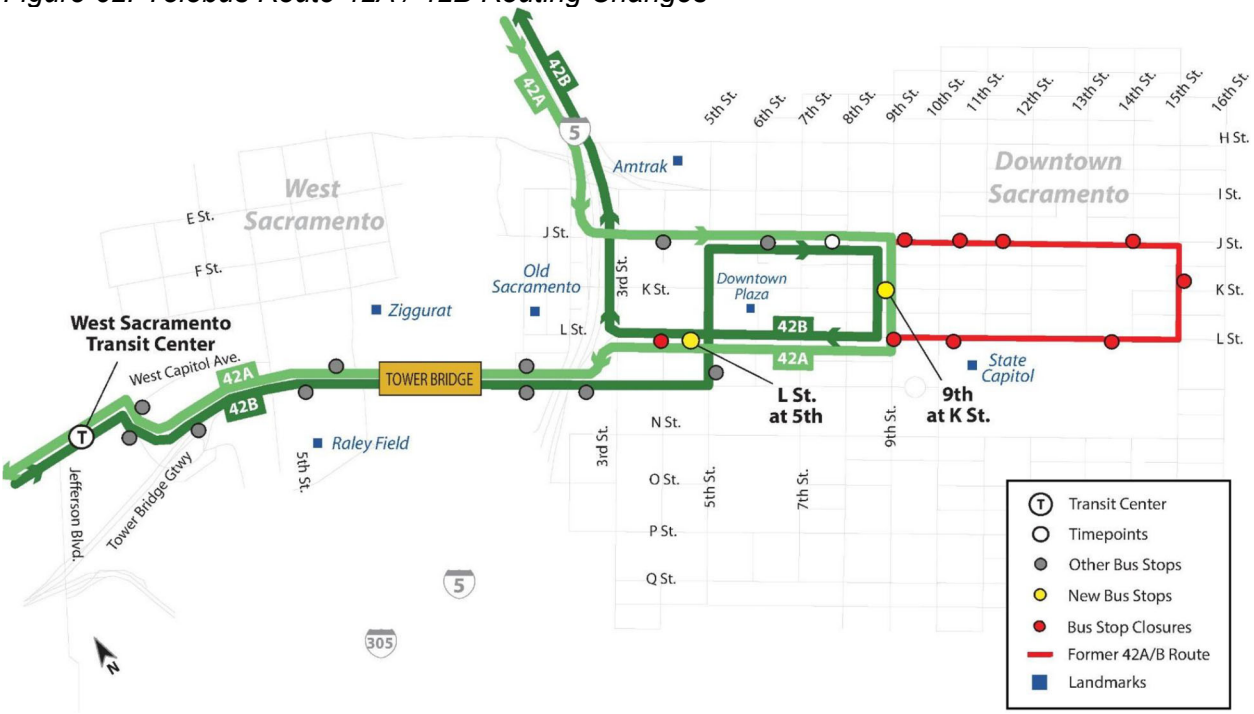
Inbound: I-5 off-ramp → J St. (no change)
Outbound: L St. → 5th St. → I St. → I-5 on-ramp



Note. Original base map from City of Sacramento (SVS Area Plan).

Separate from the ramp reconfiguration, Yolobus has approved streamlining of its Route 42A / 42B routings through Downtown Sacramento as part of the first phase of service changes to come out of its Comprehensive Operational Analysis (YoloGo) study. Segments east of 9th Street will be abandoned and the departure loop will be consolidated along L Street, eliminating the jog south on 9th Street to Capitol Mall. Yolobus's future routing for Route 42A / 42B is illustrated in Figure 62. This change will take effect on September 5, 2021.

Figure 62: Yolobus Route 42A / 42B Routing Changes



Source: Yolo County Transportation District.

5.3.4 Midtown Station

At the future Midtown Station, the 62 Freeport currently operates on the 19th Street / 21st Street couplet, approximately one block away on either side of the station. Routing changes to bring Route 62 closer to the station would likely result in added running time and delays due to additional turning movements and slower travel speeds along 20th Street, which is designed as a low-speed, low-volume neighborhood collector street. SacRT, the City of Sacramento, and the San Joaquin JPA have also cooperated to consolidate and improve existing bus stops on 19th and 21st Streets, which are more natural transit corridors.

Bringing buses closer to the station could also result in bus delays at the P Street and Q Street grade crossings when trains are at or near the station. In contrast, maintaining the existing grade-separated route—together with the peak-period frequency improvements identified in Section 5.2.2—avoids these issues. The investment in headway improvement on Route 62 would moreover have independent utility; the route has already been on the cusp of warranting better headways. Therefore, no routing changes are recommended, only headway improvements to Route 62.

5.4 Other Service Providers

Downtown Sacramento is also served by regional commuter and express buses, including routes operated by the following transit service providers:

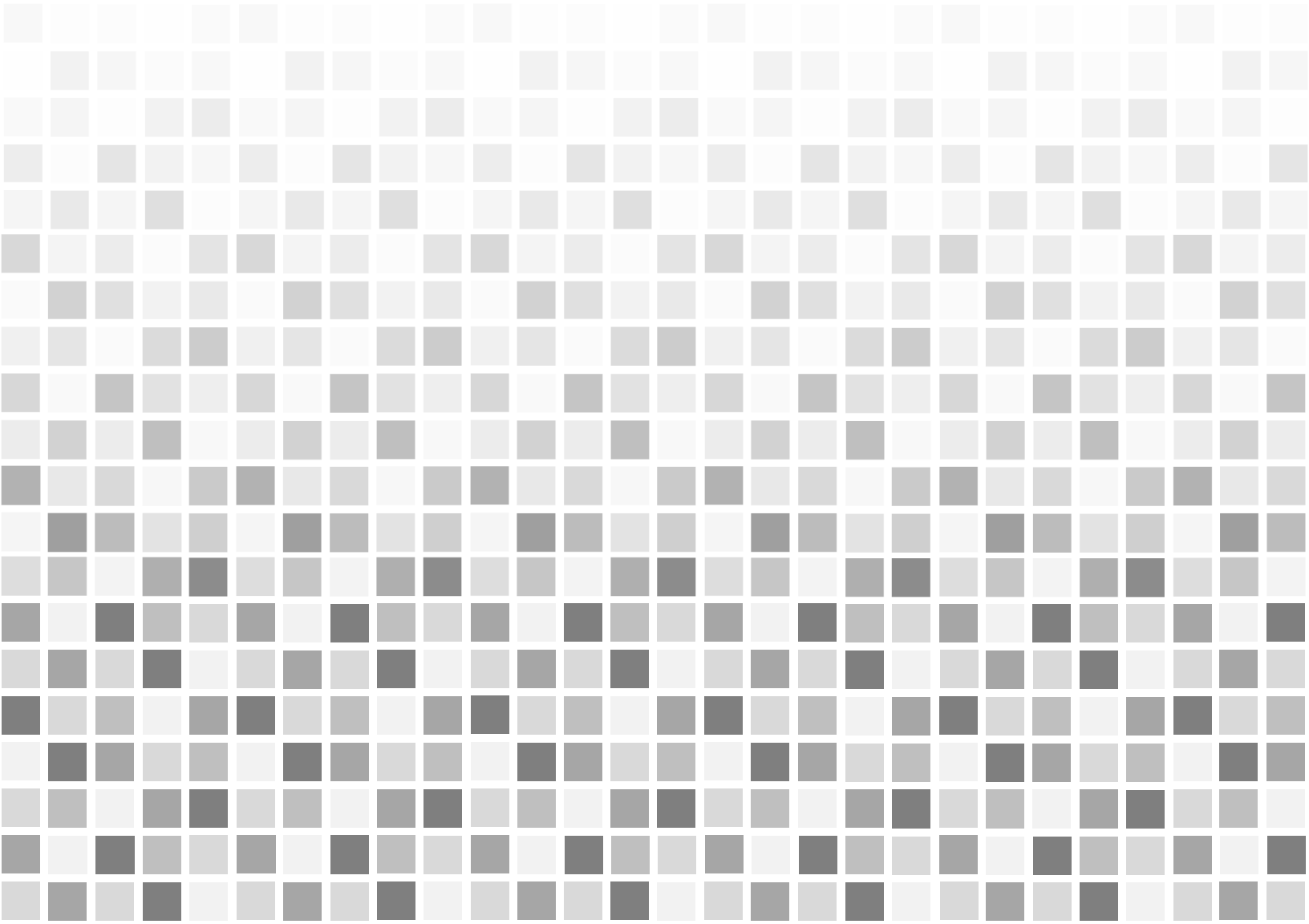
- Yolobus
- Fairfield and Suisun Transit (FAST)
- eTran[31]
- South County Transit
- San Joaquin Regional Transit District (RTD)
- Amador Transit
- El Dorado Transit
- Placer County Transit
- Roseville Transit
- Yuba–Sutter Transit

With the exception of FAST, none of these operators directly serves SVS. These routes are generally oriented towards workers commuting into Downtown Sacramento, with limited service in the reverse-commute direction and during off-peak periods.

Integration of these service providers with intercity rail and local transit needs is the subject of a separate Downtown Sacramento Service Integration Study being undertaken by CCJPA, SACOG, the City of Sacramento, and local and regional bus operators. That study will build off this SacRT-focused study and include the regional transit operators serving Downtown Sacramento to determine how best to integrate them with SVS.

[31] As of July 1, 2021, Elk Grove Transit Services (including eTran) is now annexed into SacRT.

6 Fare and Information Systems Integration and Customer Experience



In addition to the physical and operational improvements described in the previous sections, a key component of network integration is the coordination of fares and customer information. This chapter considers the evolution of fare payment technologies, fare payment methods currently used by SacRT, and emerging platforms and projects making fare payment more seamless and customer-focused.

6.1 Fare Payment Evolution

The early 2000s saw the introduction of smart cards, expanding the methods of fare pre-payment beyond magnetic stripe and flash passes. Pre-payment expedites the fare collection process, reducing costs and vehicle dwell times at stops compared to cash payments. SacRT already had a low cash payment rate of about 15 percent before the introduction of its Connect Card smart card, due to wide adoption of various pass programs, so dwell times and cash handling costs have remained largely unchanged.

However, smart cards are more secure against counterfeiting than magnetic stripe and flash passes and require less maintenance than these passes or cash due to a lack of moving parts. Riders simply tap their pre-loaded smart card on a reader when boarding a bus or entering a transit station to have a fare deducted or validated. Riders can add fare value at vending machines, online, or on an automatic subscription basis. Registered cards can be replaced in case of loss or theft. Smart cards also provide a more accurate record of utilization, which facilitates the evaluation of multi-ride passes and reimbursement of inter-agency transfers. Some transit operators, such as Utah Transit Authority and Chicago Transit Authority, have opted for transponder equipment compatible with contactless credit cards, which avoids the need for a separate transit smart card but has more limited functionality.

With the mass adoption of smartphones, recent years have seen the rise of mobile ticketing apps, the latest evolution in fare payment. Rather than carrying a separate smart card, riders use their phones in essentially the same way. However, the internet-enabled smartphone platform allows payments, account management, and real-time transit information to be integrated within the app, expanding mobility options and ease of use. Older smart cards could not be linked with a central account in real time, preventing them from being unified with a mobile ticketing app. However, improvements in cellular technology have now enabled this functionality, which is now offered by transit operators such as TriMet in the Portland, Oregon metropolitan area.

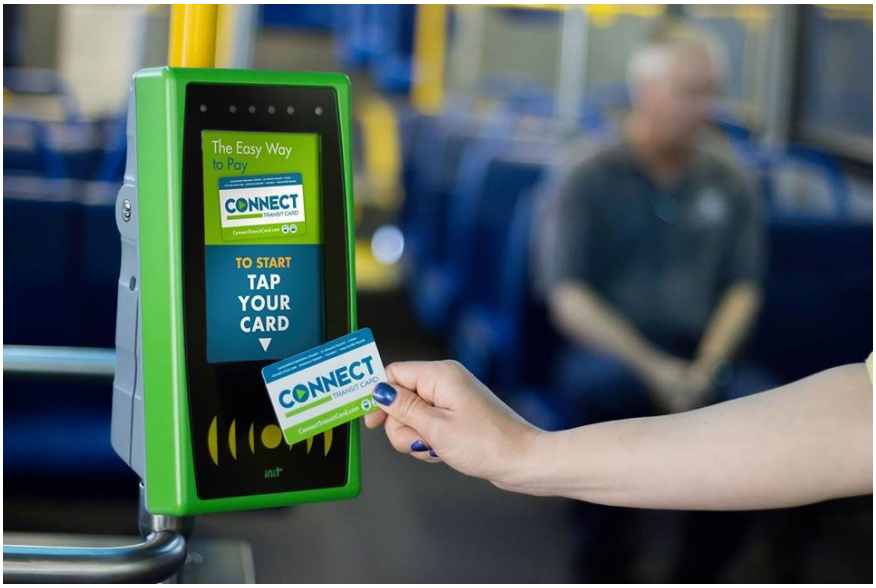
Despite these advances in fare payment technology, cash payments are not likely to go away. Pre-payment may be a barrier for first-time or occasional riders who find it more convenient to pay in cash, and elimination of cash fares could be a Title VI concern if disadvantaged populations or the unbanked continue to depend on this payment method.

6.2 SacRT Fare Payment Methods

SacRT offers its customers several different payment methods to suit their needs. Riders can pay with cash at the farebox aboard buses or at ticket vending machines on light rail platforms, or can purchase prepaid tickets at various outlets throughout the SacRT service area. More and more passengers, however, are choosing to opt into SacRT's electronic fare offerings, Connect Card and ZipPass. Currently, about half of SacRT's non-contracted fare revenue comes from either Connect Card or ZipPass.

Connect Card, shown in Figure 63, is a smart card that allows customers to purchase cash fare value and / or passes online, at retail locations, and through employer benefit programs. Cash value loaded on the card can be used on the services of nine Sacramento-area transit agencies, and SacRT monthly passes are accepted by many of the Connect Card partners.

Figure 63: Connect Card



ZipPass is SacRT's mobile fare payment app, free to download for iPhone and Android smartphone users as shown in Figure 64. Any SacRT fare product can be purchased and downloaded whenever or wherever is convenient for the rider by charging a linked debit or credit card. Unbanked customers can also load ZipPass value to their phones at new fare vending machines being installed at all light rail stations.

Figure 64: ZipPass

SacRT and CCJPA have recently agreed to transition paper transfers to ZipPass, which will allow rail passengers along the *Capitol Corridor* to reach their local destination on SacRT light rail or bus, and vice versa, without dealing with a separate fare transaction. This agreement provides a template for a similar agreement with SJRRC/SJJPA for future transfers to and from ACE / *San Joaquins* trains.

6.3 Emerging Platforms

The ZipPass app is specific to SacRT, which gives the District full control to update and adapt its functionality but may limit its potential to integrate with other mobility options. Emerging third-party transit apps such as Transit and Moovit, as well as back end fare payment platforms such as Token Transit and Masabi, facilitate greater integration to provide transit riders more functionality and convenience.

Transit and Moovit are apps providing real-time transit data, offering schedules and alerts for multiple transportation modes in hundreds of metropolitan areas across the United States and in other countries. The apps are compatible with ridehailing apps such as Uber and Lyft, as well as bikeshare and scooter systems. Back-end mobile ticketing platforms such as Token Transit and Masabi enable Transit and Moovit users to input payment information once and purchase fares and passes for various transit services that have partnered with the app. While these features can be offered by the apps of individual transit agencies, third-party apps provide a platform where agencies can agree to use the same app or a back-end where their individual apps can share information and integrate functionality.

Currently, only the apps' real-time information and trip planning features are available for SacRT, but partnerships to allow in-app fare payments are under consideration.

6.4 Cal-ITP and Related Projects

As customers increasingly desire greater convenience, equity, and multi-modal integration when using transit, the California State Transportation Agency (CalSTA), Caltrans, and intercity and local transit partners have jointly initiated the California Integrated Travel Project (Cal-ITP) with a goal of making transit more accessible and easier to use, thus spurring greater transit use. Cal-ITP is presently focused on three initiatives to achieve this goal:

- *Ensure access to reliable and accurate real time transit information.* Lack of real-time service information (e.g., vehicle arrival times, platform changes, vehicle crowding) decreases trust in the public transportation system among frequent transit riders, and discourages new users.[32] Providing such information on a statewide basis would reverse this problem.

- *Reduce friction in payments.* Traveling from one region to another, riders often must purchase multiple fare media. Mobile ticketing apps are typically limited to a particular service area. A payment medium that would work throughout the statewide transit ecosystem would address this problem.

[32] *Analysis of Proposed Cal-ITP Initiatives: A Feasibility Study* (April 24, 2020). Available online: https://dot.ca.gov/-/media/dot-media/cal-itp/documents/calitp-feasibility-study-042420-a11y.pdf.

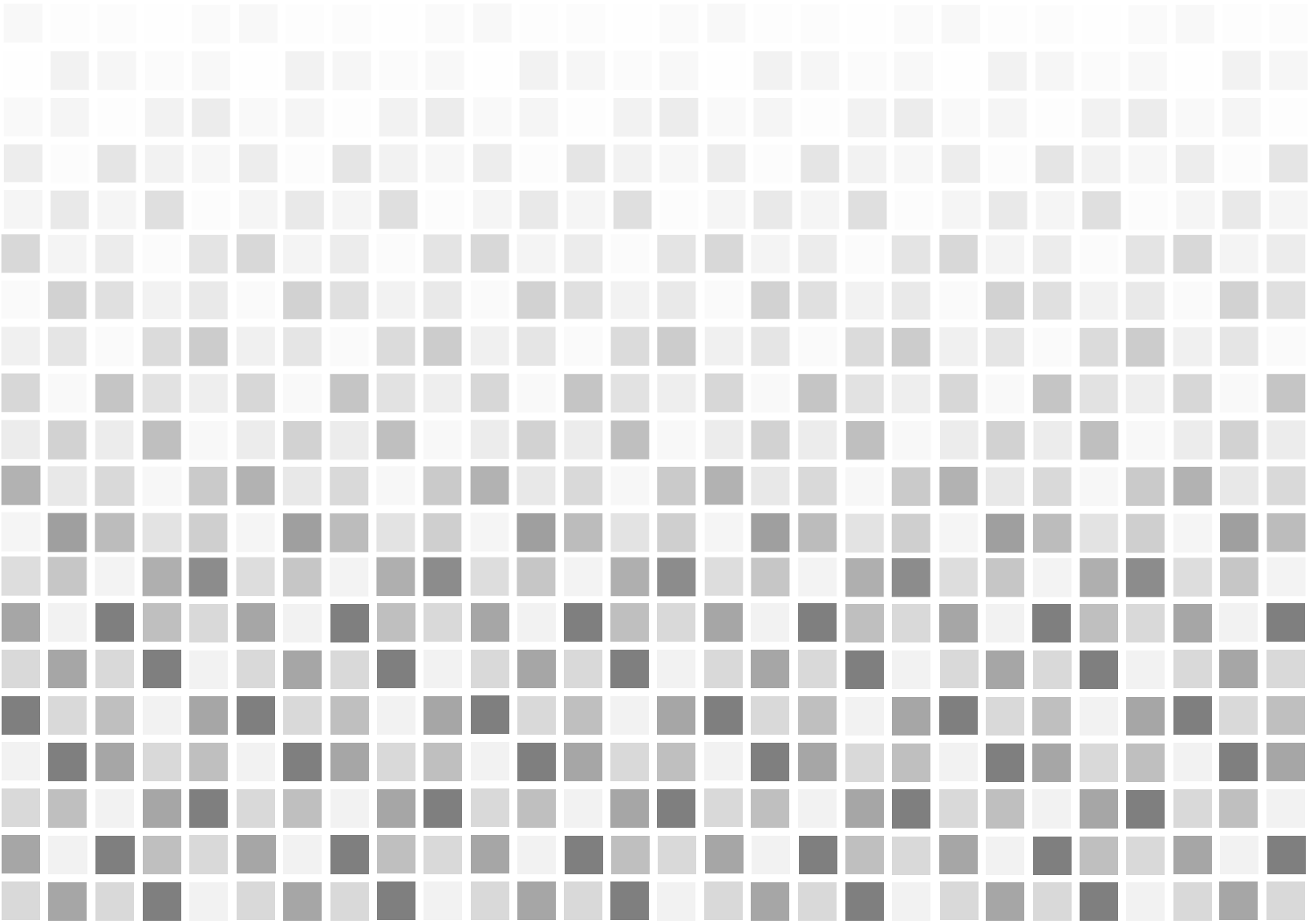
- *Create a statewide eligibility verification program.* Cal-ITP has identified various groups that have complicated onboarding experiences: youth, the elderly, low-income riders, and riders with disabilities, among others. These riders typically receive fare discounts based on certain eligibility criteria. Further, many riders do not have access to a bank card and are forced to pay higher cash fares. All these users, and the transit agencies serving them, could benefit from seamless eligibility verification for their customers, easing barriers to access and ensuring equity.

Approaching fares and customer information at a region-spanning level is not a novel concept: the Presto smart card can be used on nearly a dozen transit systems across the province of Ontario in Canada, and the Netherlands uses a chipcard that is good on public transport throughout the entire country.

6.5 Next Steps

SacRT continues its participation in the Cal-ITP process. Should Cal-ITP succeed in its aforementioned goals, SacRT will want to consider taking action, enabling its riders to realize the benefits of the integrated fare and information systems.

7 Recommendations



This chapter summarizes the recommendations of the Network Integration Plan. These recommendations are based on the analysis presented in the preceding chapters. Implementation of these recommendations is aimed at furthering the integration of SacRT's LRT and bus services with the evolving state rail system, with the goal of creating a seamless, expeditious, and attractive mobility option for SacRT riders.

7.1 Infrastructure Improvements

First, this plan recommends continued progress on critical systemwide initiatives. These are:

- **Low-floor LRT fleet conversion.** Compared to existing high-floor cars, low-floor cars will expedite rider boarding and alighting and improve the system's overall accessibility. New LRVs will also reduce operations and maintenance costs versus the older, high-floor cars, which are expensive to maintain.

- **Low-floor station upgrades.** Many existing stations must be upgraded to permit level boarding with the new low-floor LRVs. While only the first phase for compatibility with two-car low-floor trains is fully funded, the second phase for three-car low-floor trains is critical to address reduced capacity on the Gold Line.

- **Glenn passing track.** Completion of this 0.5-mile section of double track through Glenn Station is essential for implementing 15-minute headways between Sunrise Station and Folsom Station.

Second, complete all high-priority projects for the Gold Line. These are:

- **Hazel passing track.** This 1.2-mile section of double track will ensure service reliability on the Gold Line under 15-minute headways between Sunrise Station and Folsom Station. With only the Glenn passing track, Gold Line trains have little margin for error in avoiding single-track meets east of Sunrise.

- **SVS Loop.** This project will enhance operational flexibility for the Gold Line at SVS. It is also the initial step in the interlining of the Gold and Green Lines, which will streamline operations in Downtown, improve operating cost efficiencies, and accommodate future ridership growth in the Railyards and River District, including MLS stadium ridership. It also sets the stage for the extension of LRT service to Natomas and the Airport.

- **7th Street double track.** Timely completion of this improvement is key to 15-minute interlining of the Gold and Green Lines and extension of LRT service to Natomas and the Airport, as well as a critical component of a robust special event service for the MLS stadium.

Third, SacRT should prioritize or begin moving forward on the following projects:

- **Additional Gold Line double track.** Completion of additional double-tracking east of Sunrise Station will ensure service reliability and provide more flexibility in timetabling and service planning.

- **Replacement LRV storage.** This improvement is needed to address future loss of the SVS tail tracks, as well as to facilitate more robust special event service for the MLS stadium (currently scheduled to open as early as March 2023).

7.2 Light Rail Service

LRT service will see a phasing of improvements, aligned with facilitating capital improvements. First will be a focus on more frequent service between Sunrise and Folsom:

- **15-minute headways to / from Folsom, weekday peak only.** This improvement would satisfy the requirements of the 2018 TIRCP award and would be enabled by the implementation of the Glenn double track.

Second will be building on the shorter headways and restoring seat capacity on the Gold Line lost from in the conversion to low-floor cars:

- **15-minute headways to / from Folsom, weekday peak only + 3 peak short-trippers.** The short-trippers would provide supplemental service between Sunrise Station and SVS. The short-trippers would help mitigate loss in seated capacity attendant with the conversion to low-floor LRVs and termination of four-car, high-floor trains.

- **15-minute headways to / from Folsom, all day, every day + 3 peak short-trippers.** This service pattern will see the full implementation of 15-minute headways to / from Folsom. The Hazel passing track would aid schedule reliability under this operating plan.

Following the implementation of 15-minute service to and from Folsom and the completion of the SVS Loop, SacRT will begin interlining of the Gold and Green Lines:

- **Gold Line to Richards, weekdays only.** Under this improvement, the Green Line would be replaced by extending Gold Line trains from SVS to 7th & Richards / Township 9 Station. In the event that the Richards Boulevard Office Complex or new Kaiser hospital are completed before the SVS Loop, however, ridership can be accommodated on a short-term basis through a combination of longer Green Line trains, expanded Green Line service hours / days, existing bus service already operating north of SVS, and expanded bus service to the future Railyards bus terminal.

As warranted by ridership demand, Green–Gold interlining can subsequently be expanded:

- **Gold Line to Richards, all day, every day.** Interlining would be expanded to include weekend service. This scenario represents the longer-term vision for the Gold Line.

Lastly, SacRT will accommodate special event service for the MLS stadium using interlined Gold Line and / or Blue Line trains operating to / from 7th & Richards / Township 9. Gameday operating plans will vary by event depending on the day, time of day, and expected attendance, but analysis shows that post-game demand can be accommodated through a combination of special and regular-service trains. To allow for more robust and efficient gameday service, however, it is recommended that SacRT accelerate completion of the 7th Street double track and move forward with identifying a preferred solution for replacement of the SVS tail tracks that also addresses special event staging needs.

7.3 Bus Service

In the near-term, SacRT will have Routes 30, 38, 51 and 62 terminate at the SVS Bus Mobility Center. In the longer term, as the RBOC and Kaiser Hospital open and / or space is needed in the BMC for regional / intercity buses, Routes 30 and 38 will extend to a new bus terminal in the Railyards. The routes will retain a touch-and-go stop at 5th and G Streets serving SVS. SacRT should continue coordination efforts with the City, DRV, and individual parcel developers on identifying a preferred option to be carried forward for implementation.

For Midtown Station, SacRT should increase the peak-period frequency on Route 62 to every 15 minutes to facilitate connections with ACE and *San Joaquins* trains. This is particularly important in the interim until completion of the proposed platform at City College Station to allow for easy cross-platform connections with the Blue Line.

7.4 Fare and Information Systems Integration and Customer Experience

SacRT will continue its participation in the Cal-ITP process with the goal of enabling its riders to realize the benefits of the integrated fare and information systems.

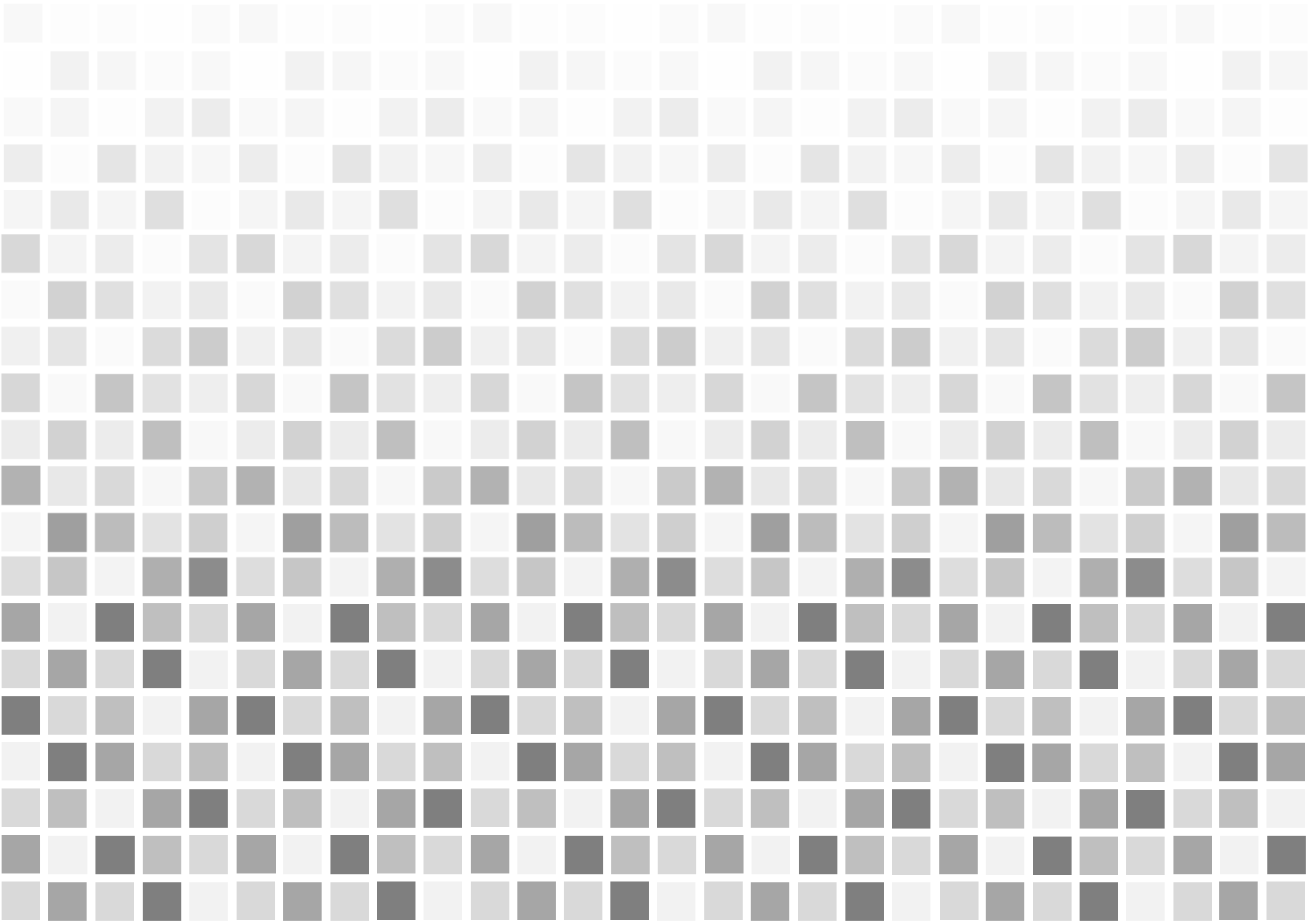
7.5 COVID Effects and Post-COVID Recovery

With the onset of the COVID-19 pandemic and a State-mandated lockdown in early 2020, SacRT saw a precipitous decline in ridership of approximately 70 percent and implemented emergency service cuts, such as running Sunday schedules seven days a week. Through the year, restrictions ameliorated, but low ridership continued. It was a pattern common to transit systems throughout the U.S. and many parts of the world. Despite depressed ridership, social distancing requirements inside trains and buses has resulted in the need to maintain frequency on the light rail system and key bus routes at levels similar to, or only slightly lower, than pre-pandemic levels.

With widespread vaccine distribution starting in early 2021, conditions are expected to change, with more and more workplaces, businesses, and recreational / entertainment facilities such as restaurants, theaters, and sporting venues opening up. As a consequence, riders will return to SacRT trains and buses. However, there is an open question as to whether they will return in pre-pandemic numbers or perhaps something less. In countries with less stringent COVID-19 restrictions, such as Australia and New Zealand, ridership declines have been less dramatic, although still on the order of 35 to 40 percent compared to pre-pandemic levels.

The SacRT Network Integration Plan assumes the return of most of its pre-pandemic riders. Providing for new and improved options for returning riders is the goal that has shaped the plan's recommendations for light rail and bus service integration. While the return to "normal", or "new normal", conditions may take several years and could delay or postpone the timing of proposed service changes, the ultimate goals and vision of the Network Integration Plan remain unchanged.

Appendices



Appendix A: Existing Context

This section provides additional detail regarding the existing context.

Intercity Rail and Thruway Bus Services

Capitol Corridor

The *Capitol Corridor* provides connections to the San Francisco Bay Area to the southwest and to Roseville and Auburn to the northeast. Supplemental Thruway bus service extends beyond Auburn to Colfax, Truckee, and the Reno-Sparks area (Nevada), and provides additional connections to Placerville and South Lake Tahoe. Prior to service reductions due to the COVID-19 pandemic, the *Capitol Corridor* operated 15 roundtrips on weekdays and 11 roundtrips on Saturdays, Sundays, and holidays. The service currently operates 8 roundtrips on weekdays and 5 roundtrips on Saturdays, Sundays, and holidays.

Capitol Corridor service is illustrated below.

Source: Capitol Corridor Joint Powers Authority.

San Joaquins

The *San Joaquins* provide connections to the San Joaquin Valley (Stockton, Modesto, Merced, Fresno, and Bakersfield), with extensive Thruway bus service at Bakersfield providing connections throughout Los Angeles and the Southern California region.

Thruway bus connections at Sacramento include service to Davis, Chico / Redding (via Marysville, Oroville, and Red Bluff), and Stockton (via Elk Grove or Lodi). The *San Joaquins* service is bifurcated at Stockton, with one branch serving the Sacramento area and another branch serving the San Francisco Bay Area.

Prior to service reductions due to the COVID-19 pandemic, the *San Joaquins* operated two roundtrips daily out of Sacramento, with an additional five roundtrips daily out of the San Francisco Bay Area (Oakland). Thruway buses on Thruway Route 3 provide supplemental service between Stockton and Sacramento and between Stockton and San Francisco to maintain seven total roundtrips across both the Sacramento and Bay Area branches of the service. Due to COVID-19 service reductions, Amtrak Thruway buses have temporarily replaced rail service between Sacramento and Stockton, and service on the Bay Area branch has been reduced to four roundtrips daily.

San Joaquins service is illustrated below.

Source: San Joaquin Joint Powers Authority.

Other Services
In addition to the two California services, two long-distance Amtrak services also serve SVS:

- *California Zephyr*: Chicago – Burlington – Omaha – Denver – Glenwood Springs – Salt Lake City – Reno – Sacramento – Emeryville
- *Coast Starlight*: Seattle – Tacoma – Portland – Eugene – Springfield – Sacramento – San Francisco Bay Area – Santa Barbara – Los Angeles

Each of these services operated one roundtrip daily prior to the COVID-19 pandemic, but currently operate three roundtrips a week.

Regional Bus Services

Regional bus services providing direct connections at SVS include the following:

- *Fairfield and Suisun Transit (FAST):* Blue Line to Davis, Dixon, Vacaville, Fairfield, Benicia, and Pleasant Hill (BART); bi-directional service, weekday peak periods only, every 30–60 minutes
- *El Dorado Transit:* Sacramento / South Lake Tahoe Connecting Bus via Cameron Park, Shingle Springs, Placerville, South Lake Tahoe, and Stateline; one roundtrip daily

The City of Sacramento is also currently in coordination with Placer County Transit to provide direct service to / from SVS.

There are several other regional commuter and express bus operators that serve Downtown Sacramento but do not directly serve SVS, including Yolobus, South County Transit, San Joaquin Regional Transit District (RTD), Amador Transit, Roseville Transit, and Yuba–Sutter Transit.

SVS Improvements Completed to Date

Phase 1
In Phase 1 of the SVS program, the City worked with the State and UP to relocate the two mainline tracks at the station approximately 500 feet to the north to allow for a straighter track alignment and facilitate future redevelopment of the SVS site.

As part of the track realignment, three new tunnels were constructed to provide safe, grade-separated access beneath the tracks:

- A central passenger tunnel for access to and from the platforms (together with the covered walkway stretching to the H Street “transitway” easement);
- A service tunnel for service vehicle access (e.g., baggage carts, shuttles for mobility-needs passengers, etc.); and,
- A west tunnel for future public access between the Central Shops Historic District and Old Sacramento and the waterfront.

The Phase 1 improvements opened for service on August 13, 2012.

Phase 2
Phase 2 of the SVS program involved renovation of the historic station building to bring its spaces, systems, and exterior to modern standards while preserving and rehabilitating its historic features. The Phase 2 improvements were designed to allow for future re-adaptation once new, replacement facilities are constructed closer to the realigned tracks under Phase 3 of the program.

Construction work for the Phase 2 improvements began in October 2014 and was completed in March 2017.

Appendix B: Related Projects

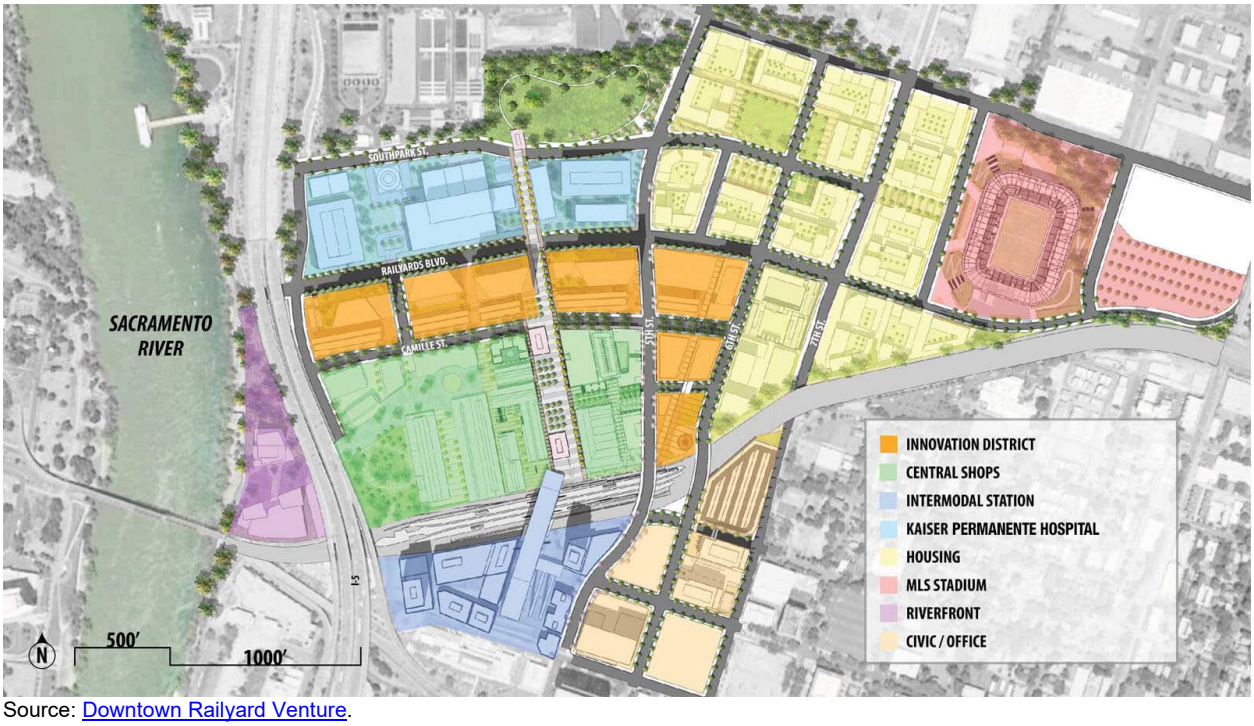
This section describes the Railyards, Downtown / Riverfront Streetcar, and other related projects in detail.

Railyards

The Railyards project is one of the nation's largest infill redevelopment projects, encompassing 244 acres that previously served as a train storage and maintenance yard for the former Southern Pacific Railroad (now part of UP). The project will effectively double the size of Downtown Sacramento by creating a new high-density, mixed-use neighborhood anchored by Sacramento Valley Station, a new Kaiser Permanente medical campus, a County courthouse, and a new professional soccer stadium.

The overall development program and a land use and development district map for the project are provided below. Depending on the final mix of residential and non-residential land uses, the Railyards Specific Plan area could accommodate between 19,000 and 23,000 jobs at build-out.

Land Use	Size
Residential	6,000–10,000 dwelling units
Retail	514,000 square feet
Office	2,757,000–3,857,000 square feet
Flexible mixed-use	771,000 square feet
Medical campus	1,228,000 square feet
Hotel	1,100 rooms
Historic and cultural	485,000 square feet
Open space	33 acres
Soccer stadium	19,621 seats (potential future expansion to 25,000 seats)

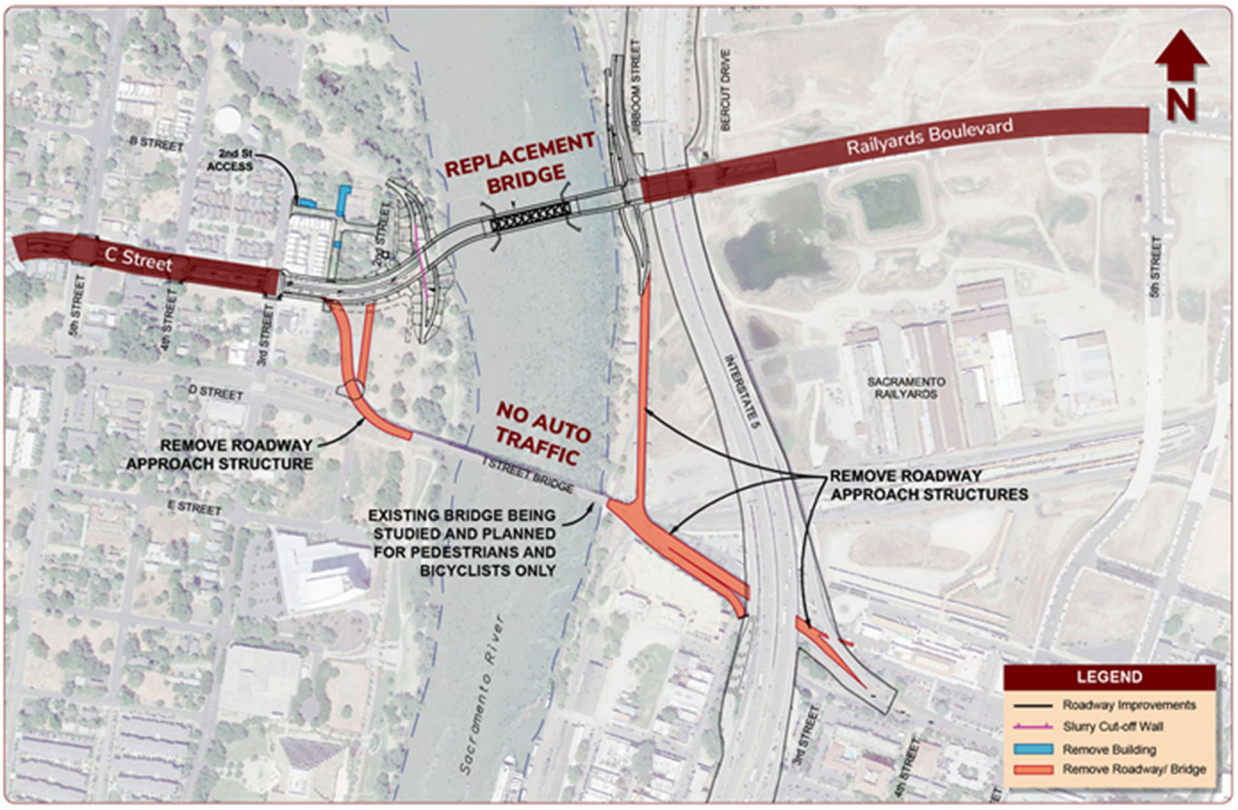


Source: Downtown Railyard Venture.

Kaiser Permanente Hospital
As illustrated in the land use and district map, the new hospital would be located on an 18-acre site along the north side of Railyards Boulevard. The new hospital will replace Kaiser's existing Sacramento Medical Center (at 2025 Morse Avenue in Arden–Arcade) with a 1.3-million-square-foot seismically-safe medical center adjacent to Downtown Sacramento, including a 658,000-square-foot, 420-bed hospital building and 510,000 square feet of medical, support office, and clinic buildings. Kaiser had originally hoped to break ground in 2019, but has yet to begin construction.

MLS Stadium
The new MLS stadium will be located on a 15-acre site at the east end of the Railyards, one block east from 7th Street and a future Green Line station at Railyards Boulevard (part of the SVS Loop project described in further detail under Section 3.3). The current design features 19,621 seats, with future expansion to 25,000 seats. The average number of annual events would be approximately 37, including 25 soccer-related events. Construction was originally scheduled to begin in summer 2020 (in time for a 2022 opening), but it was recently pushed back in July 2020 to a fall 2020 start (in time for a 2023 opening and MLS debut).

I Street Bridge Replacement
Separate from the Railyards project, the City of Sacramento is also working on the I Street Bridge Replacement Project, which will construct a new multi-modal crossing of the Sacramento River north of the I Street Bridge. The new bridge will tie into Railyards Boulevard at the Sacramento end and C Street at the West Sacramento end, as illustrated below.



Source: City of Sacramento.

The existing I Street Bridge will remain in use, with the lower deck continuing to accommodate freight and passenger trains and the upper deck converted to pedestrian and bicycle use only. Roadway approaches at both ends will be demolished, improving waterfront access and cross-river connectivity.

A final bridge design was selected in February 2020, and construction is expected to begin in 2023 and finish in 2026. Work on converting the upper deck of the existing bridge would follow completion of the new bridge.

Other Projects

Other relevant projects for consideration in service integration efforts include the following:

- Green Line to the Airport project: Extension of the Green Line from 7th & Richards / Township 9 Station north into Natomas and to Sacramento International Airport.

- River District development: Current active projects include the Township 9 development, new state offices as part of the Richards Boulevard Office Complex, and redevelopment of the Twin Rivers public housing site (Mirasol Village).

- The City's Grid 3.0 plan and Central City Specific Plan: Changes to street circulation and new bikeways in the Central City. Current active projects include the conversion of portions of 5th Street to two-way traffic circulation and new protected bikeways.

Separately, H Street between 5th Street and 6th Street is planned for conversion from one-way eastbound to one-way westbound traffic circulation as part of the SVS Area Plan.

Appendix C: Conceptual Timetables

Scenario A1: Weekdays

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
										4:58	5:32	5:40	5:44
3:49	3:54	4:01	4:35	4:41	4:46	4:48	5:00	5:01	5:07	5:13	5:47	5:55	5:59
4:04	4:09	4:16	4:50							5:28	6:02	6:10	6:14
4:19	4:24	4:31	5:05	5:11	5:16	5:18	5:30	5:31	5:37	5:43	6:17	6:25	6:29
4:34	4:39	4:46	5:20							5:58	6:32	6:40	6:44
4:49	4:54	5:01	5:35	5:41	5:46	5:48	6:00	6:01	6:07	6:13	6:47	6:55	6:59
5:04	5:09	5:16	5:50							6:28	7:02	7:10	7:14
5:19	5:24	5:31	6:05	6:11	6:16	6:18	6:30	6:31	6:37	6:43	7:17	7:25	7:29
5:34	5:39	5:46	6:20							6:58	7:32	7:40	7:44
5:49	5:54	6:01	6:35	6:41	6:46	6:48	7:00	7:01	7:07	7:13	7:47	7:55	7:59
6:04	6:09	6:16	6:50							7:28	8:02	8:10	8:14
6:19	6:24	6:31	7:05	7:11	7:16	7:18	7:30	7:31	7:37	7:43	8:17	8:25	8:29
6:34	6:39	6:46	7:20							7:58	8:32	8:40	8:44
6:49	6:54	7:01	7:35	7:41	7:46	7:48	8:00	8:01	8:07	8:13	8:47	8:55	8:59
7:04	7:09	7:16	7:50							8:28	9:02	9:10	9:14
7:19	7:24	7:31	8:05	8:11	8:16	8:18	8:30	8:31	8:37	8:43	9:17	9:25	9:29
7:34	7:39	7:46	8:20							8:58	9:32	9:40	9:44
7:49	7:54	8:01	8:35	8:41	8:46	8:48	9:00	9:01	9:07	9:13	9:47	9:55	9:59
8:04	8:09	8:16	8:50							9:28	10:02	10:10	10:14
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8:34	8:39	8:46	9:20							9:58	10:32	10:40	10:44
8:49	8:54	9:01	9:35	9:41	9:46	9:48	10:00	10:01	10:07	10:13	10:47	10:55	10:59
9:04	9:09	9:16	9:50							10:28	11:02	11:10	11:14
9:19	9:24	9:31	10:05	10:11	10:16	10:18	10:30	10:31	10:37	10:43	11:17	11:25	11:29
9:34	9:39	9:46	10:20							10:58	11:32	11:40	11:44
9:49	9:54	10:01	10:35	10:41	10:46	10:48	11:00	11:01	11:07	11:13	11:47	11:55	11:59
10:04	10:09	10:16	10:50							11:28	12:02	12:10	12:14
10:19	10:24	10:31	11:05	11:11	11:16	11:18	11:30	11:31	11:37	11:43	12:17	12:25	12:29
10:34	10:39	10:46	11:20							11:58	12:32	12:40	12:44
10:49	10:54	11:01	11:35	11:41	11:46	11:48	12:00	12:01	12:07	12:13	12:47	12:55	12:59
11:04	11:09	11:16	11:50							12:28	13:02	13:10	13:14
11:19	11:24	11:31	12:05	12:11	12:16	12:18	12:30	12:31	12:37	12:43	13:17	13:25	13:29
11:34	11:39	11:46	12:20							12:58	13:32	13:40	13:44
11:49	11:54	12:01	12:35	12:41	12:46	12:48	13:00	13:01	13:07	13:13	13:47	13:55	13:59
12:04	12:09	12:16	12:50							13:28	14:02	14:10	14:14
12:19	12:24	12:31	13:05	13:11	13:16	13:18	13:30	13:31	13:37	13:43	14:17	14:25	14:29
12:34	12:39	12:46	13:20							13:58	14:32	14:40	14:44
12:49	12:54	13:01	13:35	13:41	13:46	13:48	14:00	14:01	14:07	14:13	14:47	14:55	14:59
13:04	13:09	13:16	13:50							14:28	15:02	15:10	15:14
13:19	13:24	13:31	14:05	14:11	14:16	14:18	14:30	14:31	14:37	14:43	15:17	15:25	15:29
13:34	13:39	13:46	14:20							14:58	15:32	15:40	15:44
13:49	13:54	14:01	14:35	14:41	14:46	14:48	15:00	15:01	15:07	15:13	15:47	15:55	15:59
14:04	14:09	14:16	14:50							15:28	16:02	16:10	16:14
14:19	14:24	14:31	15:05	15:11	15:16	15:18	15:30	15:31	15:37	15:43	16:17	16:25	16:29
14:34	14:39	14:46	15:20							15:58	16:32	16:40	16:44
14:49	14:54	15:01	15:35	15:41	15:46	15:48	16:00	16:01	16:07	16:13	16:47	16:55	16:59
15:04	15:09	15:16	15:50							16:28	17:02	17:10	17:14
15:19	15:24	15:31	16:05	16:11	16:16	16:18	16:30	16:31	16:37	16:43	17:17	17:25	17:29
15:34	15:39	15:46	16:20							16:58	17:32	17:40	17:44
15:49	15:54	16:01	16:35	16:41	16:46	16:48	17:00	17:01	17:07	17:13	17:47	17:55	17:59
16:04	16:09	16:16	16:50							17:28	18:02	18:10	18:14
16:19	16:24	16:31	17:05	17:11	17:16	17:18	17:30	17:31	17:37	17:43	18:17	18:25	18:29

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
16:34	16:39	16:46	17:20							17:58	18:32	18:40	
16:49	16:54	17:01	17:35	17:41	17:46	17:48	18:00	18:01	18:07	18:13	18:47	18:55	18:59
17:04	17:09	17:16	17:50							18:28	19:02	19:10	
17:19	17:24	17:31	18:05	18:11	18:16	18:18	18:30	18:31	18:37	18:43	19:17	19:25	19:29
17:34	17:39	17:46	18:20							18:58	19:32	19:40	
17:49	17:54	18:01	18:35	18:41	18:46	18:48	19:00	19:01	19:07	19:13	19:47	19:55	19:59
18:04	18:09	18:16	18:50										
18:19	18:24	18:31	19:05	19:11	19:16	19:18	19:30	19:31	19:37	19:43	20:17	20:25	20:29
18:49	18:54	19:01	19:35	19:41	19:46	19:48	20:00	20:01	20:07	20:13	20:47	20:55	20:59
19:19	19:24	19:31	20:05	20:11	20:16	20:18	20:30	20:31	20:37	20:43	21:17	21:25	21:29
19:49	19:54	20:01	20:35	20:41	20:46	20:48	21:00	21:01	21:07	21:13	21:47	21:55	21:59
20:19	20:24	20:31	21:05	21:11	21:16	21:18	21:30	21:31	21:37	21:43	22:17	22:25	22:29
20:49	20:54	21:01	21:35	21:41	21:46	21:48	22:00	22:01	22:07	22:13	22:47	22:55	
21:19	21:24	21:31	22:05	22:11	22:16	22:18	22:30	22:31	22:37	22:43	23:17	23:25	
21:49	21:54	22:01	22:35	22:41	22:46	22:48	23:00	23:01	23:07	23:13	23:47	23:55	
22:19	22:24	22:31	23:05	23:11	23:16	23:18	23:30	23:31	23:37	23:43	0:17	0:25	
22:49	22:54	23:01	23:35										

Scenario A1: Saturdays

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
4:49	4:54	5:01	5:35							5:43	6:17	6:25	6:29
5:19	5:24	5:31	6:05							6:13	6:47	6:55	6:59
5:49	5:54	6:01	6:35							6:43	7:17	7:25	7:29
										7:13	7:47	7:55	7:59
6:19	6:24	6:31	7:05	7:11	7:16	7:18	7:30	7:31	7:37	7:43	8:17	8:25	8:29
6:49	6:54	7:01	7:35	7:41	7:46	7:48	8:00	8:01	8:07	8:13	8:47	8:55	8:59
7:19	7:24	7:31	8:05	8:11	8:16	8:18	8:30	8:31	8:37	8:43	9:17	9:25	9:29
7:49	7:54	8:01	8:35	8:41	8:46	8:48	9:00	9:01	9:07	9:13	9:47	9:55	9:59
8:19	8:24	8:31	9:05	9:11	9:16	9:18	9:30	9:31	9:37	9:43	10:17	10:25	10:29
8:49	8:54	9:01	9:35	9:41	9:46	9:48				9:58	10:32	10:40	10:44
9:04	9:09	9:16	9:50				10:00	10:01	10:07	10:13	10:47	10:55	10:59
9:19	9:24	9:31	10:05	10:11	10:16	10:18				10:28	11:02	11:10	11:14
9:34	9:39	9:46	10:20				10:30	10:31	10:37	10:43	11:17	11:25	11:29
9:49	9:54	10:01	10:35	10:41	10:46	10:48				10:58	11:32	11:40	11:44
10:04	10:09	10:16	10:50				11:00	11:01	11:07	11:13	11:47	11:55	11:59
10:19	10:24	10:31	11:05	11:11	11:16	11:18				11:28	12:02	12:10	12:14
10:34	10:39	10:46	11:20				11:30	11:31	11:37	11:43	12:17	12:25	12:29
10:49	10:54	11:01	11:35	11:41	11:46	11:48				11:58	12:32	12:40	12:44
11:04	11:09	11:16	11:50				12:00	12:01	12:07	12:13	12:47	12:55	12:59
11:19	11:24	11:31	12:05	12:11	12:16	12:18				12:28	13:02	13:10	13:14
11:34	11:39	11:46	12:20				12:30	12:31	12:37	12:43	13:17	13:25	13:29
11:49	11:54	12:01	12:35	12:41	12:46	12:48				12:58	13:32	13:40	13:44
12:04	12:09	12:16	12:50				13:00	13:01	13:07	13:13	13:47	13:55	13:59
12:19	12:24	12:31	13:05	13:11	13:16	13:18				13:28	14:02	14:10	14:14
12:34	12:39	12:46	13:20				13:30	13:31	13:37	13:43	14:17	14:25	14:29
12:49	12:54	13:01	13:35	13:41	13:46	13:48				13:58	14:32	14:40	14:44
13:04	13:09	13:16	13:50				14:00	14:01	14:07	14:13	14:47	14:55	14:59
13:19	13:24	13:31	14:05	14:11	14:16	14:18				14:28	15:02	15:10	15:14
13:34	13:39	13:46	14:20				14:30	14:31	14:37	14:43	15:17	15:25	15:29
13:49	13:54	14:01	14:35	14:41	14:46	14:48				14:58	15:32	15:40	15:44
14:04	14:09	14:16	14:50				15:00	15:01	15:07	15:13	15:47	15:55	15:59
14:19	14:24	14:31	15:05	15:11	15:16	15:18				15:28	16:02	16:10	16:14
14:34	14:39	14:46	15:20				15:30	15:31	15:37	15:43	16:17	16:25	16:29
14:49	14:54	15:01	15:35	15:41	15:46	15:48				15:58	16:32	16:40	16:44
15:04	15:09	15:16	15:50				16:00	16:01	16:07	16:13	16:47	16:55	16:59
15:19	15:24	15:31	16:05	16:11	16:16	16:18				16:28	17:02	17:10	17:14
15:34	15:39	15:46	16:20				16:30	16:31	16:37	16:43	17:17	17:25	17:29
15:49	15:54	16:01	16:35	16:41	16:46	16:48				16:58	17:32	17:40	17:44
16:04	16:09	16:16	16:50				17:00	17:01	17:07	17:13	17:47	17:55	17:59
16:19	16:24	16:31	17:05	17:11	17:16	17:18				17:28	18:02	18:10	18:14
16:34	16:39	16:46	17:20				17:30	17:31	17:37	17:43	18:17	18:25	18:29
16:49	16:54	17:01	17:35	17:41	17:46	17:48				17:58	18:32	18:40	18:44
17:04	17:09	17:16	17:50				18:00	18:01	18:07	18:13	18:47	18:55	18:59
17:19	17:24	17:31	18:05	18:11	18:16	18:18				18:28	19:02	19:10	19:14
17:34	17:39	17:46	18:20				18:30	18:31	18:37	18:43	19:17	19:25	19:29
17:49	17:54	18:01	18:35	18:41	18:46	18:48				18:58	19:32	19:40	
18:04	18:09	18:16	18:50				19:00	19:01	19:07	19:13	19:47	19:55	19:59
18:19	18:24	18:31	19:05	19:11	19:16	19:18				19:28	20:02	20:10	
18:34	18:39	18:46	19:20				19:30	19:31	19:37	19:43	20:17	20:25	20:29
18:49	18:54	19:01	19:35	19:41	19:46	19:48				19:58	20:32	20:40	
19:04	19:09	19:16	19:50				20:00	20:01	20:07	20:13	20:47	20:55	20:59
19:19	19:24	19:31	20:05	20:11	20:16	20:18	20:30	20:31	20:37	20:43	21:17	21:25	21:29

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
19:49	19:54	20:01	20:35	20:41	20:46	20:48	21:00	21:01	21:07	21:13	21:47	21:55	21:59
20:19	20:24	20:31	21:05	21:11	21:16	21:18	21:30	21:31	21:37	21:43	22:17	22:25	22:29
20:49	20:54	21:01	21:35	21:41	21:46	21:48	22:00	22:01	22:07	22:13	22:47	22:55	
21:19	21:24	21:31	22:05	22:11	22:16	22:18	22:30	22:31	22:37	22:43	23:17	23:25	
21:49	21:54	22:01	22:35	22:41	22:46	22:48	23:00	23:01	23:07	23:13	23:47	23:55	
22:19	22:24	22:31	23:05	23:11	23:16	23:18	23:30	23:31	23:37	23:43	0:17	0:25	
22:49	22:54	23:01	23:35										

Scenario A1: Sundays

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
4:49	4:54	5:01	5:35							5:43	6:17	6:25	6:29
5:19	5:24	5:31	6:05							6:13	6:47	6:55	6:59
5:49	5:54	6:01	6:35							6:43	7:17	7:25	7:29
6:19	6:24	6:31	7:05							7:13	7:47	7:55	7:59
6:49	6:54	7:01	7:35							7:43	8:17	8:25	8:29
7:19	7:24	7:31	8:05							8:13	8:47	8:55	8:59
7:49	7:54	8:01	8:35							8:43	9:17	9:25	9:29
8:19	8:24	8:31	9:05							9:13	9:47	9:55	9:59
										9:43	10:17	10:25	10:29
8:49	8:54	9:01	9:35	9:41	9:46	9:48	10:00	10:01	10:07	10:13	10:47	10:55	10:59
9:19	9:24	9:31	10:05	10:11	10:16	10:18	10:30	10:31	10:37	10:43	11:17	11:25	11:29
9:49	9:54	10:01	10:35	10:41	10:46	10:48				10:58	11:32	11:40	11:44
10:04	10:09	10:16	10:50				11:00	11:01	11:07	11:13	11:47	11:55	11:59
10:19	10:24	10:31	11:05	11:11	11:16	11:18				11:28	12:02	12:10	12:14
10:34	10:39	10:46	11:20				11:30	11:31	11:37	11:43	12:17	12:25	12:29
10:49	10:54	11:01	11:35	11:41	11:46	11:48				11:58	12:32	12:40	12:44
11:04	11:09	11:16	11:50				12:00	12:01	12:07	12:13	12:47	12:55	12:59
11:19	11:24	11:31	12:05	12:11	12:16	12:18				12:28	13:02	13:10	13:14
11:34	11:39	11:46	12:20				12:30	12:31	12:37	12:43	13:17	13:25	13:29
11:49	11:54	12:01	12:35	12:41	12:46	12:48				12:58	13:32	13:40	13:44
12:04	12:09	12:16	12:50				13:00	13:01	13:07	13:13	13:47	13:55	13:59
12:19	12:24	12:31	13:05	13:11	13:16	13:18				13:28	14:02	14:10	14:14
12:34	12:39	12:46	13:20				13:30	13:31	13:37	13:43	14:17	14:25	14:29
12:49	12:54	13:01	13:35	13:41	13:46	13:48				13:58	14:32	14:40	14:44
13:04	13:09	13:16	13:50				14:00	14:01	14:07	14:13	14:47	14:55	14:59
13:19	13:24	13:31	14:05	14:11	14:16	14:18				14:28	15:02	15:10	15:14
13:34	13:39	13:46	14:20				14:30	14:31	14:37	14:43	15:17	15:25	15:29
13:49	13:54	14:01	14:35	14:41	14:46	14:48				14:58	15:32	15:40	15:44
14:04	14:09	14:16	14:50				15:00	15:01	15:07	15:13	15:47	15:55	15:59
14:19	14:24	14:31	15:05	15:11	15:16	15:18				15:28	16:02	16:10	16:14
14:34	14:39	14:46	15:20				15:30	15:31	15:37	15:43	16:17	16:25	16:29
14:49	14:54	15:01	15:35	15:41	15:46	15:48				15:58	16:32	16:40	16:44
15:04	15:09	15:16	15:50				16:00	16:01	16:07	16:13	16:47	16:55	16:59
15:19	15:24	15:31	16:05	16:11	16:16	16:18				16:28	17:02	17:10	
15:34	15:39	15:46	16:20				16:30	16:31	16:37	16:43	17:17	17:25	17:29
15:49	15:54	16:01	16:35	16:41	16:46	16:48				16:58	17:32	17:40	
16:04	16:09	16:16	16:50				17:00	17:01	17:07	17:13	17:47	17:55	17:59
16:19	16:24	16:31	17:05	17:11	17:16	17:18				17:28	18:02	18:10	
16:34	16:39	16:46	17:20				17:30	17:31	17:37	17:43	18:17	18:25	18:29
16:49	16:54	17:01	17:35	17:41	17:46	17:48	18:00	18:01	18:07	18:13	18:47	18:55	18:59
17:19	17:24	17:31	18:05	18:11	18:16	18:18	18:30	18:31	18:37	18:43	19:17	19:25	19:29
17:49	17:54	18:01	18:35	18:41	18:46	18:48	19:00	19:01	19:07	19:13	19:47	19:55	19:59
18:19	18:24	18:31	19:05	19:11	19:16	19:18	19:30	19:31	19:37	19:43	20:17	20:25	20:29
18:49	18:54	19:01	19:35	19:41	19:46	19:48	20:00	20:01	20:07	20:13	20:47	20:55	
19:19	19:24	19:31	20:05	20:11	20:16	20:18	20:30	20:31	20:37	20:43	21:17	21:25	
19:49	19:54	20:01	20:35	20:41	20:46	20:48	21:00	21:01	21:07	21:13	21:47	21:55	
20:19	20:24	20:31	21:05	21:11	21:16	21:18	21:30	21:31	21:37	21:43	22:17	22:25	
20:49	20:54	21:01	21:35										

Scenario A2: Weekdays

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
										4:58	5:32	5:40	5:44
3:49	3:54	4:01	4:35	4:41	4:46	4:49	4:59	5:01	5:07	5:13	5:47	5:55	5:59
4:04	4:09	4:16	4:50	4:56	5:01	5:04	5:14	5:16	5:22	5:28	6:02	6:10	6:14
4:19	4:24	4:31	5:05	5:11	5:16	5:19	5:29	5:31	5:37	5:43	6:17	6:25	6:29
4:34	4:39	4:46	5:20	5:26	5:31	5:34	5:44	5:46	5:52	5:58	6:32	6:40	6:44
4:49	4:54	5:01	5:35	5:41	5:46	5:49	5:59	6:01	6:07	6:13	6:47	6:55	6:59
5:04	5:09	5:16	5:50	5:56	6:01	6:04	6:14	6:16	6:22	6:28	7:02	7:10	7:14
5:19	5:24	5:31	6:05	6:11	6:16	6:19	6:29	6:31	6:37	6:43	7:17	7:25	7:29
5:34	5:39	5:46	6:20	6:26	6:31	6:34	6:44	6:46	6:52	6:58	7:32	7:40	7:44
5:49	5:54	6:01	6:35	6:41	6:46	6:49	6:59	7:01	7:07	7:13	7:47	7:55	7:59
6:04	6:09	6:16	6:50	6:56	7:01	7:04	7:14	7:16	7:22	7:28	8:02	8:10	8:14
6:19	6:24	6:31	7:05	7:11	7:16	7:19	7:29	7:31	7:37	7:43	8:17	8:25	8:29
6:34	6:39	6:46	7:20	7:26	7:31	7:34	7:44	7:46	7:52	7:58	8:32	8:40	8:44
6:49	6:54	7:01	7:35	7:41	7:46	7:49	7:59	8:01	8:07	8:13	8:47	8:55	8:59
7:04	7:09	7:16	7:50							8:28	9:02	9:10	9:14
7:19	7:24	7:31	8:05	8:11	8:16	8:19	8:29	8:31	8:37	8:43	9:17	9:25	9:29
7:34	7:39	7:46	8:20							8:58	9:32	9:40	9:44
7:49	7:54	8:01	8:35	8:41	8:46	8:49	8:59	9:01	9:07	9:13	9:47	9:55	9:59
8:04	8:09	8:16	8:50							9:28	10:02	10:10	10:14
8:19	8:24	8:31	9:05	9:11	9:16	9:19	9:29	9:31	9:37	9:43	10:17	10:25	10:29
8:34	8:39	8:46	9:20							9:58	10:32	10:40	10:44
8:49	8:54	9:01	9:35	9:41	9:46	9:49	9:59	10:01	10:07	10:13	10:47	10:55	10:59
9:04	9:09	9:16	9:50							10:28	11:02	11:10	11:14
9:19	9:24	9:31	10:05	10:11	10:16	10:19	10:29	10:31	10:37	10:43	11:17	11:25	11:29
9:34	9:39	9:46	10:20							10:58	11:32	11:40	11:44
9:49	9:54	10:01	10:35	10:41	10:46	10:49	10:59	11:01	11:07	11:13	11:47	11:55	11:59
10:04	10:09	10:16	10:50							11:28	12:02	12:10	12:14
10:19	10:24	10:31	11:05	11:11	11:16	11:19	11:29	11:31	11:37	11:43	12:17	12:25	12:29
10:34	10:39	10:46	11:20							11:58	12:32	12:40	12:44
10:49	10:54	11:01	11:35	11:41	11:46	11:49	11:59	12:01	12:07	12:13	12:47	12:55	12:59
11:04	11:09	11:16	11:50							12:28	13:02	13:10	13:14
11:19	11:24	11:31	12:05	12:11	12:16	12:19	12:29	12:31	12:37	12:43	13:17	13:25	13:29
11:34	11:39	11:46	12:20							12:58	13:32	13:40	13:44
11:49	11:54	12:01	12:35	12:41	12:46	12:49	12:59	13:01	13:07	13:13	13:47	13:55	13:59
12:04	12:09	12:16	12:50							13:28	14:02	14:10	14:14
12:19	12:24	12:31	13:05	13:11	13:16	13:19	13:29	13:31	13:37	13:43	14:17	14:25	14:29
12:34	12:39	12:46	13:20							13:58	14:32	14:40	14:44
12:49	12:54	13:01	13:35	13:41	13:46	13:49	13:59	14:01	14:07	14:13	14:47	14:55	14:59
13:04	13:09	13:16	13:50							14:28	15:02	15:10	15:14
13:19	13:24	13:31	14:05	14:11	14:16	14:19	14:29	14:31	14:37	14:43	15:17	15:25	15:29
13:34	13:39	13:46	14:20							14:58	15:32	15:40	15:44
13:49	13:54	14:01	14:35	14:41	14:46	14:49	14:59	15:01	15:07	15:13	15:47	15:55	15:59
14:04	14:09	14:16	14:50							15:28	16:02	16:10	16:14
14:19	14:24	14:31	15:05	15:11	15:16	15:19	15:29	15:31	15:37	15:43	16:17	16:25	16:29
14:34	14:39	14:46	15:20							15:58	16:32	16:40	16:44
14:49	14:54	15:01	15:35	15:41	15:46	15:49	15:59	16:01	16:07	16:13	16:47	16:55	16:59
15:04	15:09	15:16	15:50	15:56	16:01	16:04	16:14	16:16	16:22	16:28	17:02	17:10	17:14
15:19	15:24	15:31	16:05	16:11	16:16	16:19	16:29	16:31	16:37	16:43	17:17	17:25	17:29
15:34	15:39	15:46	16:20	16:26	16:31	16:34	16:44	16:46	16:52	16:58	17:32	17:40	17:44
15:49	15:54	16:01	16:35	16:41	16:46	16:49	16:59	17:01	17:07	17:13	17:47	17:55	17:59
16:04	16:09	16:16	16:50	16:56	17:01	17:04	17:14	17:16	17:22	17:28	18:02	18:10	18:14
16:19	16:24	16:31	17:05	17:11	17:16	17:19	17:29	17:31	17:37	17:43	18:17	18:25	18:29

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
16:34	16:39	16:46	17:20	17:26	17:31	17:34	17:44	17:46	17:52	17:58	18:32	18:40	
16:49	16:54	17:01	17:35	17:41	17:46	17:49	17:59	18:01	18:07	18:13	18:47	18:55	18:59
17:04	17:09	17:16	17:50	17:56	18:01	18:04	18:14	18:16	18:22	18:28	19:02	19:10	
17:19	17:24	17:31	18:05	18:11	18:16	18:19	18:29	18:31	18:37	18:43	19:17	19:25	19:29
17:34	17:39	17:46	18:20	18:26	18:31	18:34	18:44	18:46	18:52	18:58	19:32	19:40	
17:49	17:54	18:01	18:35	18:41	18:46	18:49	18:59	19:01	19:07	19:13	19:47	19:55	19:59
18:04	18:09	18:16	18:50	18:56	19:01	19:04	19:14	19:16	19:22	19:28	20:02	20:10	
18:19	18:24	18:31	19:05	19:11	19:16	19:19	19:29	19:31	19:37	19:43	20:17	20:25	20:29
18:49	18:54	19:01	19:35	19:41	19:46	19:49	19:59	20:01	20:07	20:13	20:47	20:55	20:59
19:19	19:24	19:31	20:05	20:11	20:16	20:19	20:29	20:31	20:37	20:43	21:17	21:25	21:29
19:49	19:54	20:01	20:35	20:41	20:46	20:49	20:59	21:01	21:07	21:13	21:47	21:55	21:59
20:19	20:24	20:31	21:05	21:11	21:16	21:19	21:29	21:31	21:37	21:43	22:17	22:25	22:29
20:49	20:54	21:01	21:35	21:41	21:46	21:49	21:59	22:01	22:07	22:13	22:47	22:55	
21:19	21:24	21:31	22:05	22:11	22:16	22:19	22:29	22:31	22:37	22:43	23:17	23:25	
21:49	21:54	22:01	22:35	22:41	22:46	22:49	22:59	23:01	23:07	23:13	23:47	23:55	
22:19	22:24	22:31	23:05	23:11	23:16	23:19	23:29	23:31	23:37	23:43	0:17	0:25	
22:49	22:54	23:01	23:35										

Note: Timepoints at Historic Folsom include one minute of additional running time at Glenn passing track (compared to existing timetable) due to CPUC speed restrictions.

Scenario A3: Weekdays

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
										4:58	5:32	5:40	5:44
3:49	3:54	4:01	4:35	4:41	4:46	4:49	4:59	5:01	5:07	5:13	5:47	5:55	5:59
4:04	4:09	4:16	4:50	4:56	5:01	5:04	5:14	5:16	5:22	5:28	6:02	6:10	6:14
4:19	4:24	4:31	5:05	5:11	5:16	5:19	5:29	5:31	5:37	5:43	6:17	6:25	6:29
4:34	4:39	4:46	5:20	5:26	5:31	5:34	5:44	5:46	5:52	5:58	6:32	6:40	6:44
4:49	4:54	5:01	5:35	5:41	5:46	5:49	5:59	6:01	6:07	6:13	6:47	6:55	6:59
5:04	5:09	5:16	5:50	5:56	6:01	6:04	6:14	6:16	6:22	6:28	7:02	7:10	7:14
5:19	5:24	5:31	6:05	6:11	6:16	6:19	6:29	6:31	6:37	6:43	7:17	7:25	7:29
										6:47	7:21	7:29	7:33
5:34	5:39	5:46	6:20	6:26	6:31	6:34	6:44	6:46	6:52	6:58	7:32	7:40	7:44
										7:02	7:36	7:44	7:48
5:49	5:54	6:01	6:35	6:41	6:46	6:49	6:59	7:01	7:07	7:13	7:47	7:55	7:59
										7:17	7:51	7:59	8:03
6:04	6:09	6:16	6:50	6:56	7:01	7:04	7:14	7:16	7:22	7:28	8:02	8:10	8:14
6:19	6:24	6:31	7:05	7:11	7:16	7:19	7:29	7:31	7:37	7:43	8:17	8:25	8:29
6:34	6:39	6:46	7:20	7:26	7:31	7:34	7:44	7:46	7:52	7:58	8:32	8:40	8:44
6:49	6:54	7:01	7:35	7:41	7:46	7:49	7:59	8:01	8:07	8:13	8:47	8:55	8:59
7:04	7:09	7:16	7:50							8:28	9:02	9:10	9:14
7:19	7:24	7:31	8:05	8:11	8:16	8:19	8:29	8:31	8:37	8:43	9:17	9:25	9:29
7:34	7:39	7:46	8:20							8:58	9:32	9:40	9:44
7:49	7:54	8:01	8:35	8:41	8:46	8:49	8:59	9:01	9:07	9:13	9:47	9:55	9:59
8:04	8:09	8:16	8:50							9:28	10:02	10:10	10:14
8:19	8:24	8:31	9:05	9:11	9:16	9:19	9:29	9:31	9:37	9:43	10:17	10:25	10:29
8:34	8:39	8:46	9:20							9:58	10:32	10:40	10:44
8:49	8:54	9:01	9:35	9:41	9:46	9:49	9:59	10:01	10:07	10:13	10:47	10:55	10:59
9:04	9:09	9:16	9:50							10:28	11:02	11:10	11:14
9:19	9:24	9:31	10:05	10:11	10:16	10:19	10:29	10:31	10:37	10:43	11:17	11:25	11:29
9:34	9:39	9:46	10:20							10:58	11:32	11:40	11:44
9:49	9:54	10:01	10:35	10:41	10:46	10:49	10:59	11:01	11:07	11:13	11:47	11:55	11:59
10:04	10:09	10:16	10:50							11:28	12:02	12:10	12:14
10:19	10:24	10:31	11:05	11:11	11:16	11:19	11:29	11:31	11:37	11:43	12:17	12:25	12:29
10:34	10:39	10:46	11:20							11:58	12:32	12:40	12:44
10:49	10:54	11:01	11:35	11:41	11:46	11:49	11:59	12:01	12:07	12:13	12:47	12:55	12:59
11:04	11:09	11:16	11:50							12:28	13:02	13:10	13:14
11:19	11:24	11:31	12:05	12:11	12:16	12:19	12:29	12:31	12:37	12:43	13:17	13:25	13:29
11:34	11:39	11:46	12:20							12:58	13:32	13:40	13:44
11:49	11:54	12:01	12:35	12:41	12:46	12:49	12:59	13:01	13:07	13:13	13:47	13:55	13:59
12:04	12:09	12:16	12:50							13:28	14:02	14:10	14:14
12:19	12:24	12:31	13:05	13:11	13:16	13:19	13:29	13:31	13:37	13:43	14:17	14:25	14:29
12:34	12:39	12:46	13:20							13:58	14:32	14:40	14:44
12:49	12:54	13:01	13:35	13:41	13:46	13:49	13:59	14:01	14:07	14:13	14:47	14:55	14:59
13:04	13:09	13:16	13:50							14:28	15:02	15:10	15:14
13:19	13:24	13:31	14:05	14:11	14:16	14:19	14:29	14:31	14:37	14:43	15:17	15:25	15:29
13:34	13:39	13:46	14:20							14:58	15:32	15:40	15:44
13:49	13:54	14:01	14:35	14:41	14:46	14:49	14:59	15:01	15:07	15:13	15:47	15:55	15:59
14:04	14:09	14:16	14:50							15:28	16:02	16:10	16:14
14:19	14:24	14:31	15:05	15:11	15:16	15:19	15:29	15:31	15:37	15:43	16:17	16:25	16:29
14:34	14:39	14:46	15:20							15:58	16:32	16:40	16:44
14:49	14:54	15:01	15:35	15:41	15:46	15:49	15:59	16:01	16:07	16:13	16:47	16:55	16:59
15:04	15:09	15:16	15:50	15:56	16:01	16:04	16:14	16:16	16:22	16:28	17:02	17:10	17:14
15:19	15:24	15:31	16:05	16:11	16:16	16:19	16:29	16:31	16:37	16:43	17:17	17:25	17:29
15:34	15:39	15:46	16:20	16:26	16:31	16:34	16:44	16:46	16:52	16:58	17:32	17:40	17:44

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
15:49	15:54	16:01	16:35	16:41	16:46	16:49	16:59	17:01	17:07	17:13	17:47	17:55	17:59
16:04	16:09	16:16	16:50	16:56	17:01	17:04	17:14	17:16	17:22	17:28	18:02	18:10	18:14
16:19	16:24	16:31	17:05	17:11	17:16	17:19	17:29	17:31	17:37	17:43	18:17	18:25	18:29
16:23	16:28	16:35	17:09										
16:34	16:39	16:46	17:20	17:26	17:31	17:34	17:44	17:46	17:52	17:58	18:32	18:40	
16:38	16:43	16:50	17:24										
16:49	16:54	17:01	17:35	17:41	17:46	17:49	17:59	18:01	18:07	18:13	18:47	18:55	18:59
16:53	16:58	17:05	17:39										
17:04	17:09	17:16	17:50	17:56	18:01	18:04	18:14	18:16	18:22	18:28	19:02	19:10	
17:19	17:24	17:31	18:05	18:11	18:16	18:19	18:29	18:31	18:37	18:43	19:17	19:25	19:29
17:34	17:39	17:46	18:20	18:26	18:31	18:34	18:44	18:46	18:52	18:58	19:32	19:40	
17:49	17:54	18:01	18:35	18:41	18:46	18:49	18:59	19:01	19:07	19:13	19:47	19:55	19:59
18:04	18:09	18:16	18:50	18:56	19:01	19:04	19:14	19:16	19:22	19:28	20:02	20:10	
18:19	18:24	18:31	19:05	19:11	19:16	19:19	19:29	19:31	19:37	19:43	20:17	20:25	20:29
18:49	18:54	19:01	19:35	19:41	19:46	19:49	19:59	20:01	20:07	20:13	20:47	20:55	20:59
19:19	19:24	19:31	20:05	20:11	20:16	20:19	20:29	20:31	20:37	20:43	21:17	21:25	21:29
19:49	19:54	20:01	20:35	20:41	20:46	20:49	20:59	21:01	21:07	21:13	21:47	21:55	21:59
20:19	20:24	20:31	21:05	21:11	21:16	21:19	21:29	21:31	21:37	21:43	22:17	22:25	22:29
20:49	20:54	21:01	21:35	21:41	21:46	21:49	21:59	22:01	22:07	22:13	22:47	22:55	
21:19	21:24	21:31	22:05	22:11	22:16	22:19	22:29	22:31	22:37	22:43	23:17	23:25	
21:49	21:54	22:01	22:35	22:41	22:46	22:49	22:59	23:01	23:07	23:13	23:47	23:55	
22:19	22:24	22:31	23:05	23:11	23:16	23:19	23:29	23:31	23:37	23:43	0:17	0:25	
22:49	22:54	23:01	23:35										

Note: Timepoints at Historic Folsom include one minute of additional running time at Glenn passing track (compared to existing timetable) due to CPUC speed restrictions.

Scenario A4: Weekdays

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
							4:44	4:46	4:52	4:58	5:32	5:40	5:44
3:49	3:54	4:01	4:35	4:41	4:46	4:49	4:59	5:01	5:07	5:13	5:47	5:55	5:59
4:04	4:09	4:16	4:50	4:56	5:01	5:04	5:14	5:16	5:22	5:28	6:02	6:10	6:14
4:19	4:24	4:31	5:05	5:11	5:16	5:19	5:29	5:31	5:37	5:43	6:17	6:25	6:29
4:34	4:39	4:46	5:20	5:26	5:31	5:34	5:44	5:46	5:52	5:58	6:32	6:40	6:44
4:49	4:54	5:01	5:35	5:41	5:46	5:49	5:59	6:01	6:07	6:13	6:47	6:55	6:59
5:04	5:09	5:16	5:50	5:56	6:01	6:04	6:14	6:16	6:22	6:28	7:02	7:10	7:14
5:19	5:24	5:31	6:05	6:11	6:16	6:19	6:29	6:31	6:37	6:43	7:17	7:25	7:29
										6:47	7:21	7:29	7:33
5:34	5:39	5:46	6:20	6:26	6:31	6:34	6:44	6:46	6:52	6:58	7:32	7:40	7:44
										7:02	7:36	7:44	7:48
5:49	5:54	6:01	6:35	6:41	6:46	6:49	6:59	7:01	7:07	7:13	7:47	7:55	7:59
										7:17	7:51	7:59	8:03
6:04	6:09	6:16	6:50	6:56	7:01	7:04	7:14	7:16	7:22	7:28	8:02	8:10	8:14
6:19	6:24	6:31	7:05	7:11	7:16	7:19	7:29	7:31	7:37	7:43	8:17	8:25	8:29
6:34	6:39	6:46	7:20	7:26	7:31	7:34	7:44	7:46	7:52	7:58	8:32	8:40	8:44
6:49	6:54	7:01	7:35	7:41	7:46	7:49	7:59	8:01	8:07	8:13	8:47	8:55	8:59
7:04	7:09	7:16	7:50	7:56	8:01	8:04	8:14	8:16	8:22	8:28	9:02	9:10	9:14
7:19	7:24	7:31	8:05	8:11	8:16	8:19	8:29	8:31	8:37	8:43	9:17	9:25	9:29
7:34	7:39	7:46	8:20	8:26	8:31	8:34	8:44	8:46	8:52	8:58	9:32	9:40	9:44
7:49	7:54	8:01	8:35	8:41	8:46	8:49	8:59	9:01	9:07	9:13	9:47	9:55	9:59
8:04	8:09	8:16	8:50	8:56	9:01	9:04	9:14	9:16	9:22	9:28	10:02	10:10	10:14
8:19	8:24	8:31	9:05	9:11	9:16	9:19	9:29	9:31	9:37	9:43	10:17	10:25	10:29
8:34	8:39	8:46	9:20	9:26	9:31	9:34	9:44	9:46	9:52	9:58	10:32	10:40	10:44
8:49	8:54	9:01	9:35	9:41	9:46	9:49	9:59	10:01	10:07	10:13	10:47	10:55	10:59
9:04	9:09	9:16	9:50	9:56	10:01	10:04	10:14	10:16	10:22	10:28	11:02	11:10	11:14
9:19	9:24	9:31	10:05	10:11	10:16	10:19	10:29	10:31	10:37	10:43	11:17	11:25	11:29
9:34	9:39	9:46	10:20	10:26	10:31	10:34	10:44	10:46	10:52	10:58	11:32	11:40	11:44
9:49	9:54	10:01	10:35	10:41	10:46	10:49	10:59	11:01	11:07	11:13	11:47	11:55	11:59
10:04	10:09	10:16	10:50	10:56	11:01	11:04	11:14	11:16	11:22	11:28	12:02	12:10	12:14
10:19	10:24	10:31	11:05	11:11	11:16	11:19	11:29	11:31	11:37	11:43	12:17	12:25	12:29
10:34	10:39	10:46	11:20	11:26	11:31	11:34	11:44	11:46	11:52	11:58	12:32	12:40	12:44
10:49	10:54	11:01	11:35	11:41	11:46	11:49	11:59	12:01	12:07	12:13	12:47	12:55	12:59
11:04	11:09	11:16	11:50	11:56	12:01	12:04	12:14	12:16	12:22	12:28	13:02	13:10	13:14
11:19	11:24	11:31	12:05	12:11	12:16	12:19	12:29	12:31	12:37	12:43	13:17	13:25	13:29
11:34	11:39	11:46	12:20	12:26	12:31	12:34	12:44	12:46	12:52	12:58	13:32	13:40	13:44
11:49	11:54	12:01	12:35	12:41	12:46	12:49	12:59	13:01	13:07	13:13	13:47	13:55	13:59
12:04	12:09	12:16	12:50	12:56	13:01	13:04	13:14	13:16	13:22	13:28	14:02	14:10	14:14
12:19	12:24	12:31	13:05	13:11	13:16	13:19	13:29	13:31	13:37	13:43	14:17	14:25	14:29
12:34	12:39	12:46	13:20	13:26	13:31	13:34	13:44	13:46	13:52	13:58	14:32	14:40	14:44
12:49	12:54	13:01	13:35	13:41	13:46	13:49	13:59	14:01	14:07	14:13	14:47	14:55	14:59
13:04	13:09	13:16	13:50	13:56	14:01	14:04	14:14	14:16	14:22	14:28	15:02	15:10	15:14
13:19	13:24	13:31	14:05	14:11	14:16	14:19	14:29	14:31	14:37	14:43	15:17	15:25	15:29
13:34	13:39	13:46	14:20	14:26	14:31	14:34	14:44	14:46	14:52	14:58	15:32	15:40	15:44
13:49	13:54	14:01	14:35	14:41	14:46	14:49	14:59	15:01	15:07	15:13	15:47	15:55	15:59
14:04	14:09	14:16	14:50	14:56	15:01	15:04	15:14	15:16	15:22	15:28	16:02	16:10	16:14
14:19	14:24	14:31	15:05	15:11	15:16	15:19	15:29	15:31	15:37	15:43	16:17	16:25	16:29
14:34	14:39	14:46	15:20	15:26	15:31	15:34	15:44	15:46	15:52	15:58	16:32	16:40	16:44
14:49	14:54	15:01	15:35	15:41	15:46	15:49	15:59	16:01	16:07	16:13	16:47	16:55	16:59
15:04	15:09	15:16	15:50	15:56	16:01	16:04	16:14	16:16	16:22	16:28	17:02	17:10	17:14
15:19	15:24	15:31	16:05	16:11	16:16	16:19	16:29	16:31	16:37	16:43	17:17	17:25	17:29
15:34	15:39	15:46	16:20	16:26	16:31	16:34	16:44	16:46	16:52	16:58	17:32	17:40	17:44

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
15:49	15:54	16:01	16:35	16:41	16:46	16:49	16:59	17:01	17:07	17:13	17:47	17:55	17:59
16:04	16:09	16:16	16:50	16:56	17:01	17:04	17:14	17:16	17:22	17:28	18:02	18:10	18:14
16:19	16:24	16:31	17:05	17:11	17:16	17:19	17:29	17:31	17:37	17:43	18:17	18:25	18:29
16:23	16:28	16:35	17:09										
16:34	16:39	16:46	17:20	17:26	17:31	17:34	17:44	17:46	17:52	17:58	18:32	18:40	
16:38	16:43	16:50	17:24										
16:49	16:54	17:01	17:35	17:41	17:46	17:49	17:59	18:01	18:07	18:13	18:47	18:55	18:59
16:53	16:58	17:05	17:39										
17:04	17:09	17:16	17:50	17:56	18:01	18:04	18:14	18:16	18:22	18:28	19:02	19:10	
17:19	17:24	17:31	18:05	18:11	18:16	18:19	18:29	18:31	18:37	18:43	19:17	19:25	19:29
17:34	17:39	17:46	18:20	18:26	18:31	18:34	18:44	18:46	18:52	18:58	19:32	19:40	
17:49	17:54	18:01	18:35	18:41	18:46	18:49	18:59	19:01	19:07	19:13	19:47	19:55	19:59
18:04	18:09	18:16	18:50	18:56	19:01	19:04	19:14	19:16	19:22	19:28	20:02	20:10	
18:19	18:24	18:31	19:05	19:11	19:16	19:19	19:29	19:31	19:37	19:43	20:17	20:25	20:29
18:49	18:54	19:01	19:35	19:41	19:46	19:49	19:59	20:01	20:07	20:13	20:47	20:55	20:59
19:19	19:24	19:31	20:05	20:11	20:16	20:19	20:29	20:31	20:37	20:43	21:17	21:25	21:29
19:49	19:54	20:01	20:35	20:41	20:46	20:49	20:59	21:01	21:07	21:13	21:47	21:55	21:59
20:19	20:24	20:31	21:05	21:11	21:16	21:19	21:29	21:31	21:37	21:43	22:17	22:25	22:29
20:49	20:54	21:01	21:35	21:41	21:46	21:49	21:59	22:01	22:07	22:13	22:47	22:55	
21:19	21:24	21:31	22:05	22:11	22:16	22:19	22:29	22:31	22:37	22:43	23:17	23:25	
21:49	21:54	22:01	22:35	22:41	22:46	22:49	22:59	23:01	23:07	23:13	23:47	23:55	
22:19	22:24	22:31	23:05	23:11	23:16	23:19	23:29	23:31	23:37	23:43	0:17	0:25	
22:49	22:54	23:01	23:35										

Note: Timepoints at Historic Folsom include one minute of additional running time at Glenn passing track (compared to existing timetable) due to CPUC speed restrictions.

Scenario A4: Saturdays

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
4:49	4:54	5:01	5:35							5:43	6:17	6:25	6:29
5:19	5:24	5:31	6:05							6:13	6:47	6:55	6:59
5:49	5:54	6:01	6:35							6:43	7:17	7:25	7:29
										7:13	7:47	7:55	7:59
6:19	6:24	6:31	7:05	7:11	7:16	7:19	7:29	7:31	7:37	7:43	8:17	8:25	8:29
6:49	6:54	7:01	7:35	7:41	7:46	7:49	7:59	8:01	8:07	8:13	8:47	8:55	8:59
7:19	7:24	7:31	8:05	8:11	8:16	8:19	8:29	8:31	8:37	8:43	9:17	9:25	9:29
7:49	7:54	8:01	8:35	8:41	8:46	8:49	8:59	9:01	9:07	9:13	9:47	9:55	9:59
8:19	8:24	8:31	9:05	9:11	9:16	9:19	9:29	9:31	9:37	9:43	10:17	10:25	10:29
8:49	8:54	9:01	9:35	9:41	9:46	9:49	9:44	9:46	9:52	9:58	10:32	10:40	10:44
9:04	9:09	9:16	9:50	9:56	10:01	10:04	9:59	10:01	10:07	10:13	10:47	10:55	10:59
9:19	9:24	9:31	10:05	10:11	10:16	10:19	10:14	10:16	10:22	10:28	11:02	11:10	11:14
9:34	9:39	9:46	10:20	10:26	10:31	10:34	10:29	10:31	10:37	10:43	11:17	11:25	11:29
9:49	9:54	10:01	10:35	10:41	10:46	10:49	10:44	10:46	10:52	10:58	11:32	11:40	11:44
10:04	10:09	10:16	10:50	10:56	11:01	11:04	10:59	11:01	11:07	11:13	11:47	11:55	11:59
10:19	10:24	10:31	11:05	11:11	11:16	11:19	11:14	11:16	11:22	11:28	12:02	12:10	12:14
10:34	10:39	10:46	11:20	11:26	11:31	11:34	11:29	11:31	11:37	11:43	12:17	12:25	12:29
10:49	10:54	11:01	11:35	11:41	11:46	11:49	11:44	11:46	11:52	11:58	12:32	12:40	12:44
11:04	11:09	11:16	11:50	11:56	12:01	12:04	11:59	12:01	12:07	12:13	12:47	12:55	12:59
11:19	11:24	11:31	12:05	12:11	12:16	12:19	12:14	12:16	12:22	12:28	13:02	13:10	13:14
11:34	11:39	11:46	12:20	12:26	12:31	12:34	12:29	12:31	12:37	12:43	13:17	13:25	13:29
11:49	11:54	12:01	12:35	12:41	12:46	12:49	12:44	12:46	12:52	12:58	13:32	13:40	13:44
12:04	12:09	12:16	12:50	12:56	13:01	13:04	12:59	13:01	13:07	13:13	13:47	13:55	13:59
12:19	12:24	12:31	13:05	13:11	13:16	13:19	13:14	13:16	13:22	13:28	14:02	14:10	14:14
12:34	12:39	12:46	13:20	13:26	13:31	13:34	13:29	13:31	13:37	13:43	14:17	14:25	14:29
12:49	12:54	13:01	13:35	13:41	13:46	13:49	13:44	13:46	13:52	13:58	14:32	14:40	14:44
13:04	13:09	13:16	13:50	13:56	14:01	14:04	13:59	14:01	14:07	14:13	14:47	14:55	14:59
13:19	13:24	13:31	14:05	14:11	14:16	14:19	14:14	14:16	14:22	14:28	15:02	15:10	15:14
13:34	13:39	13:46	14:20	14:26	14:31	14:34	14:29	14:31	14:37	14:43	15:17	15:25	15:29
13:49	13:54	14:01	14:35	14:41	14:46	14:49	14:44	14:46	14:52	14:58	15:32	15:40	15:44
14:04	14:09	14:16	14:50	14:56	15:01	15:04	14:59	15:01	15:07	15:13	15:47	15:55	15:59
14:19	14:24	14:31	15:05	15:11	15:16	15:19	15:14	15:16	15:22	15:28	16:02	16:10	16:14
14:34	14:39	14:46	15:20	15:26	15:31	15:34	15:29	15:31	15:37	15:43	16:17	16:25	16:29
14:49	14:54	15:01	15:35	15:41	15:46	15:49	15:44	15:46	15:52	15:58	16:32	16:40	16:44
15:04	15:09	15:16	15:50	15:56	16:01	16:04	15:59	16:01	16:07	16:13	16:47	16:55	16:59
15:19	15:24	15:31	16:05	16:11	16:16	16:19	16:14	16:16	16:22	16:28	17:02	17:10	17:14
15:34	15:39	15:46	16:20	16:26	16:31	16:34	16:29	16:31	16:37	16:43	17:17	17:25	17:29
15:49	15:54	16:01	16:35	16:41	16:46	16:49	16:44	16:46	16:52	16:58	17:32	17:40	17:44
16:04	16:09	16:16	16:50	16:56	17:01	17:04	16:59	17:01	17:07	17:13	17:47	17:55	17:59
16:19	16:24	16:31	17:05	17:11	17:16	17:19	17:14	17:16	17:22	17:28	18:02	18:10	18:14
16:34	16:39	16:46	17:20	17:26	17:31	17:34	17:29	17:31	17:37	17:43	18:17	18:25	18:29
16:49	16:54	17:01	17:35	17:41	17:46	17:49	17:44	17:46	17:52	17:58	18:32	18:40	18:44
17:04	17:09	17:16	17:50	17:56	18:01	18:04	17:59	18:01	18:07	18:13	18:47	18:55	18:59
17:19	17:24	17:31	18:05	18:11	18:16	18:19	18:14	18:16	18:22	18:28	19:02	19:10	19:14
17:34	17:39	17:46	18:20	18:26	18:31	18:34	18:29	18:31	18:37	18:43	19:17	19:25	19:29
17:49	17:54	18:01	18:35	18:41	18:46	18:49	18:44	18:46	18:52	18:58	19:32	19:40	
18:04	18:09	18:16	18:50	18:56	19:01	19:04	18:59	19:01	19:07	19:13	19:47	19:55	19:59
18:19	18:24	18:31	19:05	19:11	19:16	19:19	19:14	19:16	19:22	19:28	20:02	20:10	
18:34	18:39	18:46	19:20	19:26	19:31	19:34	19:29	19:31	19:37	19:43	20:17	20:25	20:29
18:49	18:54	19:01	19:35	19:41	19:46	19:49	19:44	19:46	19:52	19:58	20:32	20:40	
19:04	19:09	19:16	19:50				19:59	20:01	20:07	20:13	20:47	20:55	20:59
19:19	19:24	19:31	20:05	20:11	20:16	20:19	20:29	20:31	20:37	20:43	21:17	21:25	21:29

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
19:49	19:54	20:01	20:35	20:41	20:46	20:49	20:59	21:01	21:07	21:13	21:47	21:55	21:59
20:19	20:24	20:31	21:05	21:11	21:16	21:19	21:29	21:31	21:37	21:43	22:17	22:25	22:29
20:49	20:54	21:01	21:35	21:41	21:46	21:49	21:59	22:01	22:07	22:13	22:47	22:55	
21:19	21:24	21:31	22:05	22:11	22:16	22:19	22:29	22:31	22:37	22:43	23:17	23:25	
21:49	21:54	22:01	22:35	22:41	22:46	22:49	22:59	23:01	23:07	23:13	23:47	23:55	
22:19	22:24	22:31	23:05	23:11	23:16	23:19	23:29	23:31	23:37	23:43	0:17	0:25	
22:49	22:54	23:01	23:35										

Note: Timepoints at Historic Folsom include one minute of additional running time at Glenn passing track (compared to existing timetable) due to CPUC speed restrictions.

Scenario A4: Sundays

Outbound							Inbound						
SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS
4:49	4:54	5:01	5:35							5:43	6:17	6:25	6:29
5:19	5:24	5:31	6:05							6:13	6:47	6:55	6:59
5:49	5:54	6:01	6:35							6:43	7:17	7:25	7:29
6:19	6:24	6:31	7:05							7:13	7:47	7:55	7:59
6:49	6:54	7:01	7:35							7:43	8:17	8:25	8:29
7:19	7:24	7:31	8:05							8:13	8:47	8:55	8:59
7:49	7:54	8:01	8:35							8:43	9:17	9:25	9:29
8:19	8:24	8:31	9:05							9:13	9:47	9:55	9:59
										9:43	10:17	10:25	10:29
8:49	8:54	9:01	9:35	9:41	9:46	9:49	9:59	10:01	10:07	10:13	10:47	10:55	10:59
9:19	9:24	9:31	10:05	10:11	10:16	10:19	10:29	10:31	10:37	10:43	11:17	11:25	11:29
9:49	9:54	10:01	10:35	10:41	10:46	10:49	10:44	10:46	10:52	10:58	11:32	11:40	11:44
10:04	10:09	10:16	10:50	10:56	11:01	11:04	10:59	11:01	11:07	11:13	11:47	11:55	11:59
10:19	10:24	10:31	11:05	11:11	11:16	11:19	11:14	11:16	11:22	11:28	12:02	12:10	12:14
10:34	10:39	10:46	11:20	11:26	11:31	11:34	11:29	11:31	11:37	11:43	12:17	12:25	12:29
10:49	10:54	11:01	11:35	11:41	11:46	11:49	11:44	11:46	11:52	11:58	12:32	12:40	12:44
11:04	11:09	11:16	11:50	11:56	12:01	12:04	11:59	12:01	12:07	12:13	12:47	12:55	12:59
11:19	11:24	11:31	12:05	12:11	12:16	12:19	12:14	12:16	12:22	12:28	13:02	13:10	13:14
11:34	11:39	11:46	12:20	12:26	12:31	12:34	12:29	12:31	12:37	12:43	13:17	13:25	13:29
11:49	11:54	12:01	12:35	12:41	12:46	12:49	12:44	12:46	12:52	12:58	13:32	13:40	13:44
12:04	12:09	12:16	12:50	12:56	13:01	13:04	12:59	13:01	13:07	13:13	13:47	13:55	13:59
12:19	12:24	12:31	13:05	13:11	13:16	13:19	13:14	13:16	13:22	13:28	14:02	14:10	14:14
12:34	12:39	12:46	13:20	13:26	13:31	13:34	13:29	13:31	13:37	13:43	14:17	14:25	14:29
12:49	12:54	13:01	13:35	13:41	13:46	13:49	13:44	13:46	13:52	13:58	14:32	14:40	14:44
13:04	13:09	13:16	13:50	13:56	14:01	14:04	13:59	14:01	14:07	14:13	14:47	14:55	14:59
13:19	13:24	13:31	14:05	14:11	14:16	14:19	14:14	14:16	14:22	14:28	15:02	15:10	15:14
13:34	13:39	13:46	14:20	14:26	14:31	14:34	14:29	14:31	14:37	14:43	15:17	15:25	15:29
13:49	13:54	14:01	14:35	14:41	14:46	14:49	14:44	14:46	14:52	14:58	15:32	15:40	15:44
14:04	14:09	14:16	14:50	14:56	15:01	15:04	14:59	15:01	15:07	15:13	15:47	15:55	15:59
14:19	14:24	14:31	15:05	15:11	15:16	15:19	15:14	15:16	15:22	15:28	16:02	16:10	16:14
14:34	14:39	14:46	15:20	15:26	15:31	15:34	15:29	15:31	15:37	15:43	16:17	16:25	16:29
14:49	14:54	15:01	15:35	15:41	15:46	15:49	15:44	15:46	15:52	15:58	16:32	16:40	16:44
15:04	15:09	15:16	15:50	15:56	16:01	16:04	15:59	16:01	16:07	16:13	16:47	16:55	16:59
15:19	15:24	15:31	16:05	16:11	16:16	16:19	16:14	16:16	16:22	16:28	17:02	17:10	
15:34	15:39	15:46	16:20	16:26	16:31	16:34	16:29	16:31	16:37	16:43	17:17	17:25	17:29
15:49	15:54	16:01	16:35	16:41	16:46	16:49	16:44	16:46	16:52	16:58	17:32	17:40	
16:04	16:09	16:16	16:50	16:56	17:01	17:04	16:59	17:01	17:07	17:13	17:47	17:55	17:59
16:19	16:24	16:31	17:05	17:11	17:16	17:19	17:14	17:16	17:22	17:28	18:02	18:10	
16:34	16:39	16:46	17:20				17:29	17:31	17:37	17:43	18:17	18:25	18:29
16:49	16:54	17:01	17:35	17:41	17:46	17:49	17:59	18:01	18:07	18:13	18:47	18:55	18:59
17:19	17:24	17:31	18:05	18:11	18:16	18:19	18:29	18:31	18:37	18:43	19:17	19:25	19:29
17:49	17:54	18:01	18:35	18:41	18:46	18:49	18:59	19:01	19:07	19:13	19:47	19:55	19:59
18:19	18:24	18:31	19:05	19:11	19:16	19:19	19:29	19:31	19:37	19:43	20:17	20:25	20:29
18:49	18:54	19:01	19:35	19:41	19:46	19:49	19:59	20:01	20:07	20:13	20:47	20:55	
19:19	19:24	19:31	20:05	20:11	20:16	20:19	20:29	20:31	20:37	20:43	21:17	21:25	
19:49	19:54	20:01	20:35	20:41	20:46	20:49	20:59	21:01	21:07	21:13	21:47	21:55	
20:19	20:24	20:31	21:05	21:11	21:16	21:19	21:29	21:31	21:37	21:43	22:17	22:25	
20:49	20:54	21:01	21:35										

Note: Timepoints at Historic Folsom include one minute of additional running time at Glenn passing track (compared to existing timetable) due to CPUC speed restrictions.

Scenario C1: Weekdays

Outbound								Inbound							
7th & Rich.	SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS	7th & Rich.
								4:44	4:46	4:52	4:58	5:32	5:40	5:44	5:50
3:43	3:49	3:54	4:01	4:35	4:41	4:46	4:49	4:59	5:01	5:07	5:13	5:47	5:55	5:59	6:05
3:58	4:04	4:09	4:16	4:50	4:56	5:01	5:04	5:14	5:16	5:22	5:28	6:02	6:10	6:14	6:20
4:13	4:19	4:24	4:31	5:05	5:11	5:16	5:19	5:29	5:31	5:37	5:43	6:17	6:25	6:29	6:35
4:28	4:34	4:39	4:46	5:20	5:26	5:31	5:34	5:44	5:46	5:52	5:58	6:32	6:40	6:44	6:50
4:43	4:49	4:54	5:01	5:35	5:41	5:46	5:49	5:59	6:01	6:07	6:13	6:47	6:55	6:59	7:05
4:58	5:04	5:09	5:16	5:50	5:56	6:01	6:04	6:14	6:16	6:22	6:28	7:02	7:10	7:14	7:20
5:13	5:19	5:24	5:31	6:05	6:11	6:16	6:19	6:29	6:31	6:37	6:43	7:17	7:25	7:29	7:35
											6:47	7:21	7:29	7:33	7:39
5:28	5:34	5:39	5:46	6:20	6:26	6:31	6:34	6:44	6:46	6:52	6:58	7:32	7:40	7:44	7:50
											7:02	7:36	7:44	7:48	7:54
5:43	5:49	5:54	6:01	6:35	6:41	6:46	6:49	6:59	7:01	7:07	7:13	7:47	7:55	7:59	8:05
											7:17	7:51	7:59	8:03	8:24
5:58	6:04	6:09	6:16	6:50	6:56	7:01	7:04	7:14	7:16	7:22	7:28	8:02	8:10	8:14	8:20
6:13	6:19	6:24	6:31	7:05	7:11	7:16	7:19	7:29	7:31	7:37	7:43	8:17	8:25	8:29	8:35
6:28	6:34	6:39	6:46	7:20	7:26	7:31	7:34	7:44	7:46	7:52	7:58	8:32	8:40	8:44	8:50
6:43	6:49	6:54	7:01	7:35	7:41	7:46	7:49	7:59	8:01	8:07	8:13	8:47	8:55	8:59	9:05
6:58	7:04	7:09	7:16	7:50	7:56	8:01	8:04	8:14	8:16	8:22	8:28	9:02	9:10	9:14	9:20
7:13	7:19	7:24	7:31	8:05	8:11	8:16	8:19	8:29	8:31	8:37	8:43	9:17	9:25	9:29	9:35
7:28	7:34	7:39	7:46	8:20	8:26	8:31	8:34	8:44	8:46	8:52	8:58	9:32	9:40	9:44	9:50
7:43	7:49	7:54	8:01	8:35	8:41	8:46	8:49	8:59	9:01	9:07	9:13	9:47	9:55	9:59	10:05
7:58	8:04	8:09	8:16	8:50	8:56	9:01	9:04	9:14	9:16	9:22	9:28	10:02	10:10	10:14	10:20
8:13	8:19	8:24	8:31	9:05	9:11	9:16	9:19	9:29	9:31	9:37	9:43	10:17	10:25	10:29	10:35
8:28	8:34	8:39	8:46	9:20	9:26	9:31	9:34	9:44	9:46	9:52	9:58	10:32	10:40	10:44	10:50
8:43	8:49	8:54	9:01	9:35	9:41	9:46	9:49	9:59	10:01	10:07	10:13	10:47	10:55	10:59	11:05
8:58	9:04	9:09	9:16	9:50	9:56	10:01	10:04	10:14	10:16	10:22	10:28	11:02	11:10	11:14	11:20
9:13	9:19	9:24	9:31	10:05	10:11	10:16	10:19	10:29	10:31	10:37	10:43	11:17	11:25	11:29	11:35
9:28	9:34	9:39	9:46	10:20	10:26	10:31	10:34	10:44	10:46	10:52	10:58	11:32	11:40	11:44	11:50
9:43	9:49	9:54	10:01	10:35	10:41	10:46	10:49	10:59	11:01	11:07	11:13	11:47	11:55	11:59	12:05
9:58	10:04	10:09	10:16	10:50	10:56	11:01	11:04	11:14	11:16	11:22	11:28	12:02	12:10	12:14	12:20
10:13	10:19	10:24	10:31	11:05	11:11	11:16	11:19	11:29	11:31	11:37	11:43	12:17	12:25	12:29	12:35
10:28	10:34	10:39	10:46	11:20	11:26	11:31	11:34	11:44	11:46	11:52	11:58	12:32	12:40	12:44	12:50
10:43	10:49	10:54	11:01	11:35	11:41	11:46	11:49	11:59	12:01	12:07	12:13	12:47	12:55	12:59	13:05
10:58	11:04	11:09	11:16	11:50	11:56	12:01	12:04	12:14	12:16	12:22	12:28	13:02	13:10	13:14	13:20
11:13	11:19	11:24	11:31	12:05	12:11	12:16	12:19	12:29	12:31	12:37	12:43	13:17	13:25	13:29	13:35
11:28	11:34	11:39	11:46	12:20	12:26	12:31	12:34	12:44	12:46	12:52	12:58	13:32	13:40	13:44	13:50
11:43	11:49	11:54	12:01	12:35	12:41	12:46	12:49	12:59	13:01	13:07	13:13	13:47	13:55	13:59	14:05
11:58	12:04	12:09	12:16	12:50	12:56	13:01	13:04	13:14	13:16	13:22	13:28	14:02	14:10	14:14	14:20
12:13	12:19	12:24	12:31	13:05	13:11	13:16	13:19	13:29	13:31	13:37	13:43	14:17	14:25	14:29	14:35
12:28	12:34	12:39	12:46	13:20	13:26	13:31	13:34	13:44	13:46	13:52	13:58	14:32	14:40	14:44	14:50
12:43	12:49	12:54	13:01	13:35	13:41	13:46	13:49	13:59	14:01	14:07	14:13	14:47	14:55	14:59	15:05
12:58	13:04	13:09	13:16	13:50	13:56	14:01	14:04	14:14	14:16	14:22	14:28	15:02	15:10	15:14	15:20
13:13	13:19	13:24	13:31	14:05	14:11	14:16	14:19	14:29	14:31	14:37	14:43	15:17	15:25	15:29	15:35
13:28	13:34	13:39	13:46	14:20	14:26	14:31	14:34	14:44	14:46	14:52	14:58	15:32	15:40	15:44	15:50
13:43	13:49	13:54	14:01	14:35	14:41	14:46	14:49	14:59	15:01	15:07	15:13	15:47	15:55	15:59	16:05
13:58	14:04	14:09	14:16	14:50	14:56	15:01	15:04	15:14	15:16	15:22	15:28	16:02	16:10	16:14	16:20
14:13	14:19	14:24	14:31	15:05	15:11	15:16	15:19	15:29	15:31	15:37	15:43	16:17	16:25	16:29	16:35
14:28	14:34	14:39	14:46	15:20	15:26	15:31	15:34	15:44	15:46	15:52	15:58	16:32	16:40	16:44	16:50
14:43	14:49	14:54	15:01	15:35	15:41	15:46	15:49	15:59	16:01	16:07	16:13	16:47	16:55	16:59	17:05
14:58	15:04	15:09	15:16	15:50	15:56	16:01	16:04	16:14	16:16	16:22	16:28	17:02	17:10	17:14	17:20
15:13	15:19	15:24	15:31	16:05	16:11	16:16	16:19	16:29	16:31	16:37	16:43	17:17	17:25	17:29	17:35
15:28	15:34	15:39	15:46	16:20	16:26	16:31	16:34	16:44	16:46	16:52	16:58	17:32	17:40	17:44	17:50

Regional Transit
Network Integration Plan

Outbound								Inbound							
7th & Rich.	SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS	7th & Rich.
15:43	15:49	15:54	16:01	16:35	16:41	16:46	16:49	16:59	17:01	17:07	17:13	17:47	17:55	17:59	18:05
15:58	16:04	16:09	16:16	16:50	16:56	17:01	17:04	17:14	17:16	17:22	17:28	18:02	18:10	18:14	18:20
16:13	16:19	16:24	16:31	17:05	17:11	17:16	17:19	17:29	17:31	17:37	17:43	18:17	18:25	18:29	18:35
16:17	16:23	16:28	16:35	17:09											
16:28	16:34	16:39	16:46	17:20	17:26	17:31	17:34	17:44	17:46	17:52	17:58	18:32	18:40	18:44	18:50
16:32	16:38	16:43	16:50	17:24											
16:43	16:49	16:54	17:01	17:35	17:41	17:46	17:49	17:59	18:01	18:07	18:13	18:47	18:55	18:59	19:05
16:47	16:53	16:58	17:05	17:39											
16:58	17:04	17:09	17:16	17:50	17:56	18:01	18:04	18:14	18:16	18:22	18:28	19:02	19:10	19:14	19:20
17:13	17:19	17:24	17:31	18:05	18:11	18:16	18:19	18:29	18:31	18:37	18:43	19:17	19:25	19:29	19:35
17:28	17:34	17:39	17:46	18:20	18:26	18:31	18:34	18:44	18:46	18:52	18:58	19:32	19:40	19:44	19:50
17:43	17:49	17:54	18:01	18:35	18:41	18:46	18:49	18:59	19:01	19:07	19:13	19:47	19:55	19:59	20:05
17:58	18:04	18:09	18:16	18:50	18:56	19:01	19:04	19:14	19:16	19:22	19:28	20:02	20:10	20:14	20:20
18:13	18:19	18:24	18:31	19:05	19:11	19:16	19:19	19:29	19:31	19:37	19:43	20:17	20:25	20:29	20:35
18:43	18:49	18:54	19:01	19:35	19:41	19:46	19:49	19:59	20:01	20:07	20:13	20:47	20:55	20:59	21:05
19:13	19:19	19:24	19:31	20:05	20:11	20:16	20:19	20:29	20:31	20:37	20:43	21:17	21:25	21:29	21:35
19:43	19:49	19:54	20:01	20:35	20:41	20:46	20:49	20:59	21:01	21:07	21:13	21:47	21:55	21:59	22:05
20:13	20:19	20:24	20:31	21:05	21:11	21:16	21:19	21:29	21:31	21:37	21:43	22:17	22:25	22:29	22:35
20:43	20:49	20:54	21:01	21:35	21:41	21:46	21:49	21:59	22:01	22:07	22:13	22:47	22:55		
21:13	21:19	21:24	21:31	22:05	22:11	22:16	22:19	22:29	22:31	22:37	22:43	23:17	23:25		
21:43	21:49	21:54	22:01	22:35	22:41	22:46	22:49	22:59	23:01	23:07	23:13	23:47	23:55		
22:13	22:19	22:24	22:31	23:05	23:11	23:16	23:19	23:29	23:31	23:37	23:43	0:17	0:25		
22:43	22:49	22:54	23:01	23:35											

Note: Timepoints at Historic Folsom include one minute of additional running time at Glenn passing track (compared to existing timetable) due to CPUC speed restrictions.

Scenario C2: Saturdays

Outbound								Inbound							
7th & Rich.	SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS	7th & Rich.
4:43	4:49	4:54	5:01	5:35							5:43	6:17	6:25	6:29	6:35
5:13	5:19	5:24	5:31	6:05							6:13	6:47	6:55	6:59	7:05
5:43	5:49	5:54	6:01	6:35							6:43	7:17	7:25	7:29	7:35
											7:13	7:47	7:55	7:59	8:05
6:13	6:19	6:24	6:31	7:05	7:11	7:16	7:19	7:29	7:31	7:37	7:43	8:17	8:25	8:29	8:35
6:43	6:49	6:54	7:01	7:35	7:41	7:46	7:49	7:59	8:01	8:07	8:13	8:47	8:55	8:59	9:05
7:13	7:19	7:24	7:31	8:05	8:11	8:16	8:19	8:29	8:31	8:37	8:43	9:17	9:25	9:29	9:35
7:43	7:49	7:54	8:01	8:35	8:41	8:46	8:49	8:59	9:01	9:07	9:13	9:47	9:55	9:59	10:05
8:13	8:19	8:24	8:31	9:05	9:11	9:16	9:19	9:29	9:31	9:37	9:43	10:17	10:25	10:29	10:35
8:43	8:49	8:54	9:01	9:35	9:41	9:46	9:49	9:44	9:46	9:52	9:58	10:32	10:40	10:44	10:50
8:58	9:04	9:09	9:16	9:50	9:56	10:01	10:04	9:59	10:01	10:07	10:13	10:47	10:55	10:59	11:05
9:13	9:19	9:24	9:31	10:05	10:11	10:16	10:19	10:14	10:16	10:22	10:28	11:02	11:10	11:14	11:20
9:28	9:34	9:39	9:46	10:20	10:26	10:31	10:34	10:29	10:31	10:37	10:43	11:17	11:25	11:29	11:35
9:43	9:49	9:54	10:01	10:35	10:41	10:46	10:49	10:44	10:46	10:52	10:58	11:32	11:40	11:44	11:50
9:58	10:04	10:09	10:16	10:50	10:56	11:01	11:04	10:59	11:01	11:07	11:13	11:47	11:55	11:59	12:05
10:13	10:19	10:24	10:31	11:05	11:11	11:16	11:19	11:14	11:16	11:22	11:28	12:02	12:10	12:14	12:20
10:28	10:34	10:39	10:46	11:20	11:26	11:31	11:34	11:29	11:31	11:37	11:43	12:17	12:25	12:29	12:35
10:43	10:49	10:54	11:01	11:35	11:41	11:46	11:49	11:44	11:46	11:52	11:58	12:32	12:40	12:44	12:50
10:58	11:04	11:09	11:16	11:50	11:56	12:01	12:04	11:59	12:01	12:07	12:13	12:47	12:55	12:59	13:05
11:13	11:19	11:24	11:31	12:05	12:11	12:16	12:19	12:14	12:16	12:22	12:28	13:02	13:10	13:14	13:20
11:28	11:34	11:39	11:46	12:20	12:26	12:31	12:34	12:29	12:31	12:37	12:43	13:17	13:25	13:29	13:35
11:43	11:49	11:54	12:01	12:35	12:41	12:46	12:49	12:44	12:46	12:52	12:58	13:32	13:40	13:44	13:50
11:58	12:04	12:09	12:16	12:50	12:56	13:01	13:04	12:59	13:01	13:07	13:13	13:47	13:55	13:59	14:05
12:13	12:19	12:24	12:31	13:05	13:11	13:16	13:19	13:14	13:16	13:22	13:28	14:02	14:10	14:14	14:20
12:28	12:34	12:39	12:46	13:20	13:26	13:31	13:34	13:29	13:31	13:37	13:43	14:17	14:25	14:29	14:35
12:43	12:49	12:54	13:01	13:35	13:41	13:46	13:49	13:44	13:46	13:52	13:58	14:32	14:40	14:44	14:50
12:58	13:04	13:09	13:16	13:50	13:56	14:01	14:04	13:59	14:01	14:07	14:13	14:47	14:55	14:59	15:05
13:13	13:19	13:24	13:31	14:05	14:11	14:16	14:19	14:14	14:16	14:22	14:28	15:02	15:10	15:14	15:20
13:28	13:34	13:39	13:46	14:20	14:26	14:31	14:34	14:29	14:31	14:37	14:43	15:17	15:25	15:29	15:35
13:43	13:49	13:54	14:01	14:35	14:41	14:46	14:49	14:44	14:46	14:52	14:58	15:32	15:40	15:44	15:50
13:58	14:04	14:09	14:16	14:50	14:56	15:01	15:04	14:59	15:01	15:07	15:13	15:47	15:55	15:59	16:05
14:13	14:19	14:24	14:31	15:05	15:11	15:16	15:19	15:14	15:16	15:22	15:28	16:02	16:10	16:14	16:20
14:28	14:34	14:39	14:46	15:20	15:26	15:31	15:34	15:29	15:31	15:37	15:43	16:17	16:25	16:29	16:35
14:43	14:49	14:54	15:01	15:35	15:41	15:46	15:49	15:44	15:46	15:52	15:58	16:32	16:40	16:44	16:50
14:58	15:04	15:09	15:16	15:50	15:56	16:01	16:04	15:59	16:01	16:07	16:13	16:47	16:55	16:59	17:05
15:13	15:19	15:24	15:31	16:05	16:11	16:16	16:19	16:14	16:16	16:22	16:28	17:02	17:10	17:14	17:20
15:28	15:34	15:39	15:46	16:20	16:26	16:31	16:34	16:29	16:31	16:37	16:43	17:17	17:25	17:29	17:35
15:43	15:49	15:54	16:01	16:35	16:41	16:46	16:49	16:44	16:46	16:52	16:58	17:32	17:40	17:44	17:50
15:58	16:04	16:09	16:16	16:50	16:56	17:01	17:04	16:59	17:01	17:07	17:13	17:47	17:55	17:59	18:05
16:13	16:19	16:24	16:31	17:05	17:11	17:16	17:19	17:14	17:16	17:22	17:28	18:02	18:10	18:14	18:20
16:28	16:34	16:39	16:46	17:20	17:26	17:31	17:34	17:29	17:31	17:37	17:43	18:17	18:25	18:29	18:35
16:43	16:49	16:54	17:01	17:35	17:41	17:46	17:49	17:44	17:46	17:52	17:58	18:32	18:40	18:44	18:50
16:58	17:04	17:09	17:16	17:50	17:56	18:01	18:04	17:59	18:01	18:07	18:13	18:47	18:55	18:59	19:05
17:13	17:19	17:24	17:31	18:05	18:11	18:16	18:19	18:14	18:16	18:22	18:28	19:02	19:10	19:14	19:20
17:28	17:34	17:39	17:46	18:20	18:26	18:31	18:34	18:29	18:31	18:37	18:43	19:17	19:25	19:29	19:35
17:43	17:49	17:54	18:01	18:35	18:41	18:46	18:49	18:44	18:46	18:52	18:58	19:32	19:40	19:44	19:50
17:58	18:04	18:09	18:16	18:50	18:56	19:01	19:04	18:59	19:01	19:07	19:13	19:47	19:55	19:59	20:05
18:13	18:19	18:24	18:31	19:05	19:11	19:16	19:19	19:14	19:16	19:22	19:28	20:02	20:10	20:41	20:20
18:28	18:34	18:39	18:46	19:20	19:26	19:31	19:34	19:29	19:31	19:37	19:43	20:17	20:25	20:29	20:35
18:43	18:49	18:54	19:01	19:35	19:41	19:46	19:49	19:44	19:46	19:52	19:58	20:32	20:40	20:44	20:50
18:58	19:04	19:09	19:16	19:50				19:59	20:01	20:07	20:13	20:47	20:55	20:59	21:05
19:13	19:19	19:24	19:31	20:05	20:11	20:16	20:19	20:29	20:31	20:37	20:43	21:17	21:25	21:29	21:35

Outbound								Inbound							
7th & Rich.	SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS	7th & Rich.
19:43	19:49	19:54	20:01	20:35	20:41	20:46	20:49	20:59	21:01	21:07	21:13	21:47	21:55	21:59	22:05
20:13	20:19	20:24	20:31	21:05	21:11	21:16	21:19	21:29	21:31	21:37	21:43	22:17	22:25	22:29	22:35
20:43	20:49	20:54	21:01	21:35	21:41	21:46	21:49	21:59	22:01	22:07	22:13	22:47	22:55		
21:13	21:19	21:24	21:31	22:05	22:11	22:16	22:19	22:29	22:31	22:37	22:43	23:17	23:25		
21:43	21:49	21:54	22:01	22:35	22:41	22:46	22:49	22:59	23:01	23:07	23:13	23:47	23:55		
22:13	22:19	22:24	22:31	23:05	23:11	23:16	23:19	23:29	23:31	23:37	23:43	0:17	0:25		
22:43	22:49	22:54	23:01	23:35											

Note: Timepoints at Historic Folsom include one minute of additional running time at Glenn passing track (compared to existing timetable) due to CPUC speed restrictions.

Scenario C2: Sundays

Outbound								Inbound							
7th & Rich.	SVS	7th & Capitol	16th Street	Sun-rise	Hazel	Glenn	Hist. Folsom	Hist. Folsom	Glenn	Hazel	Sun-rise	16th Street	8th & K	SVS	7th & Rich.
4:43	4:49	4:54	5:01	5:35							5:43	6:17	6:25	6:29	6:35
5:13	5:19	5:24	5:31	6:05							6:13	6:47	6:55	6:59	7:05
5:43	5:49	5:54	6:01	6:35							6:43	7:17	7:25	7:29	7:35
6:13	6:19	6:24	6:31	7:05							7:13	7:47	7:55	7:59	8:05
6:43	6:49	6:54	7:01	7:35							7:43	8:17	8:25	8:29	8:35
7:13	7:19	7:24	7:31	8:05							8:13	8:47	8:55	8:59	9:05
7:43	7:49	7:54	8:01	8:35							8:43	9:17	9:25	9:29	9:35
8:13	8:19	8:24	8:31	9:05							9:13	9:47	9:55	9:59	10:05
											9:43	10:17	10:25	10:29	10:35
8:43	8:49	8:54	9:01	9:35	9:41	9:46	9:49	9:59	10:01	10:07	10:13	10:47	10:55	10:59	11:05
9:13	9:19	9:24	9:31	10:05	10:11	10:16	10:19	10:29	10:31	10:37	10:43	11:17	11:25	11:29	11:35
9:43	9:49	9:54	10:01	10:35	10:41	10:46	10:49	10:44	10:46	10:52	10:58	11:32	11:40	11:44	11:50
9:58	10:04	10:09	10:16	10:50	10:56	11:01	11:04	10:59	11:01	11:07	11:13	11:47	11:55	11:59	12:05
10:13	10:19	10:24	10:31	11:05	11:11	11:16	11:19	11:14	11:16	11:22	11:28	12:02	12:10	12:14	12:20
10:28	10:34	10:39	10:46	11:20	11:26	11:31	11:34	11:29	11:31	11:37	11:43	12:17	12:25	12:29	12:35
10:43	10:49	10:54	11:01	11:35	11:41	11:46	11:49	11:44	11:46	11:52	11:58	12:32	12:40	12:44	12:50
10:58	11:04	11:09	11:16	11:50	11:56	12:01	12:04	11:59	12:01	12:07	12:13	12:47	12:55	12:59	13:05
11:13	11:19	11:24	11:31	12:05	12:11	12:16	12:19	12:14	12:16	12:22	12:28	13:02	13:10	13:14	13:20
11:28	11:34	11:39	11:46	12:20	12:26	12:31	12:34	12:29	12:31	12:37	12:43	13:17	13:25	13:29	13:35
11:43	11:49	11:54	12:01	12:35	12:41	12:46	12:49	12:44	12:46	12:52	12:58	13:32	13:40	13:44	13:50
11:58	12:04	12:09	12:16	12:50	12:56	13:01	13:04	12:59	13:01	13:07	13:13	13:47	13:55	13:59	14:05
12:13	12:19	12:24	12:31	13:05	13:11	13:16	13:19	13:14	13:16	13:22	13:28	14:02	14:10	14:14	14:20
12:28	12:34	12:39	12:46	13:20	13:26	13:31	13:34	13:29	13:31	13:37	13:43	14:17	14:25	14:29	14:35
12:43	12:49	12:54	13:01	13:35	13:41	13:46	13:49	13:44	13:46	13:52	13:58	14:32	14:40	14:44	14:50
12:58	13:04	13:09	13:16	13:50	13:56	14:01	14:04	13:59	14:01	14:07	14:13	14:47	14:55	14:59	15:05
13:13	13:19	13:24	13:31	14:05	14:11	14:16	14:19	14:14	14:16	14:22	14:28	15:02	15:10	15:14	15:20
13:28	13:34	13:39	13:46	14:20	14:26	14:31	14:34	14:29	14:31	14:37	14:43	15:17	15:25	15:29	15:35
13:43	13:49	13:54	14:01	14:35	14:41	14:46	14:49	14:44	14:46	14:52	14:58	15:32	15:40	15:44	15:50
13:58	14:04	14:09	14:16	14:50	14:56	15:01	15:04	14:59	15:01	15:07	15:13	15:47	15:55	15:59	16:05
14:13	14:19	14:24	14:31	15:05	15:11	15:16	15:19	15:14	15:16	15:22	15:28	16:02	16:10	16:14	16:20
14:28	14:34	14:39	14:46	15:20	15:26	15:31	15:34	15:29	15:31	15:37	15:43	16:17	16:25	16:29	16:35
14:43	14:49	14:54	15:01	15:35	15:41	15:46	15:49	15:44	15:46	15:52	15:58	16:32	16:40	16:44	16:50
14:58	15:04	15:09	15:16	15:50	15:56	16:01	16:04	15:59	16:01	16:07	16:13	16:47	16:55	16:59	17:05
15:13	15:19	15:24	15:31	16:05	16:11	16:16	16:19	16:14	16:16	16:22	16:28	17:02	17:10	17:14	17:20
15:28	15:34	15:39	15:46	16:20	16:26	16:31	16:34	16:29	16:31	16:37	16:43	17:17	17:25	17:29	17:35
15:43	15:49	15:54	16:01	16:35	16:41	16:46	16:49	16:44	16:46	16:52	16:58	17:32	17:40	17:44	17:50
15:58	16:04	16:09	16:16	16:50	16:56	17:01	17:04	16:59	17:01	17:07	17:13	17:47	17:55	17:59	18:05
16:13	16:19	16:24	16:31	17:05	17:11	17:16	17:19	17:14	17:16	17:22	17:28	18:02	18:10	18:14	18:20
16:28	16:34	16:39	16:46	17:20				17:29	17:31	17:37	17:43	18:17	18:25	18:29	18:35
16:43	16:49	16:54	17:01	17:35	17:41	17:46	17:49	17:59	18:01	18:07	18:13	18:47	18:55	18:59	19:05
17:13	17:19	17:24	17:31	18:05	18:11	18:16	18:19	18:29	18:31	18:37	18:43	19:17	19:25	19:29	19:35
17:43	17:49	17:54	18:01	18:35	18:41	18:46	18:49	18:59	19:01	19:07	19:13	19:47	19:55	19:59	20:05
18:13	18:19	18:24	18:31	19:05	19:11	19:16	19:19	19:29	19:31	19:37	19:43	20:17	20:25	20:29	20:35
18:43	18:49	18:54	19:01	19:35	19:41	19:46	19:49	19:59	20:01	20:07	20:13	20:47	20:55		
19:13	19:19	19:24	19:31	20:05	20:11	20:16	20:19	20:29	20:31	20:37	20:43	21:17	21:25		
19:43	19:49	19:54	20:01	20:35	20:41	20:46	20:49	20:59	21:01	21:07	21:13	21:47	21:55		
20:13	20:19	20:24	20:31	21:05	21:11	21:16	21:19	21:29	21:31	21:37	21:43	22:17	22:25		
20:43	20:49	20:54	21:01	21:35											

Note: Timepoints at Historic Folsom include one minute of additional running time at Glenn passing track (compared to existing timetable) due to CPUC speed restrictions.

Scenario G1: Weekdays

Southbound			Northbound			
7th & Rich.	7th & Capitol	13th Street	13th Street	8th & K	St. Rose	7th & Rich.
5:59	6:05	6:10	6:13	6:19		6:24
6:29	6:35	6:40	6:43	6:49		6:54
6:59	7:05	7:10	7:13	7:19		7:24
7:29	7:35	7:40	7:43	7:49		7:54
7:59	8:05	8:10	8:13	8:19		8:24
8:29	8:35	8:40	8:43	8:49		8:54
8:59	9:05	9:10	9:13	9:19		9:24
9:29	9:35	9:40	9:43	9:49		9:54
9:59	10:05	10:10	10:13	10:19		10:24
10:29	10:35	10:40	10:43	10:49		10:54
10:59	11:05	11:10	11:13	11:19		11:24
11:29	11:35	11:40	11:43	11:49		11:54
11:59	12:05	12:10	12:13	12:19		12:24
12:29	12:35	12:40	12:43	12:49		12:54
12:59	13:05	13:10	13:13	13:19		13:24
13:29	13:35	13:40	13:43	13:49		13:54
13:59	14:05	14:10	14:13	14:19		14:24
14:29	14:35	14:40	14:43	14:49		14:54
14:59	15:05	15:10	15:13	15:19		15:24
15:29	15:35	15:40	15:43	15:49		15:54
15:59	16:05	16:10	16:13	16:19		16:24
16:29	16:35	16:40	16:43	16:49		16:54
16:59	17:05	17:10	17:13	17:19		17:24
17:29	17:35	17:40	17:43	17:49		17:54
17:59	18:05	18:10	18:13	18:19		18:24
18:29	18:35	18:40	18:43	18:49		18:54
18:59	19:05	19:10	19:13	19:19		19:24
19:29	19:35	19:40	19:43	19:49		19:54
19:59	20:05	20:10	20:13	20:19		20:24
20:29	20:35	20:40	20:43		20:49	

Appendix D: Responses to Comments on Draft Plan

This section summarizes responses to comments received on the Draft Plan and associated changes in the Final Plan.

City of Sacramento

General Comments

Comment	Response
Document would read easier if the major sections had a page separator.	Separator page added at the beginning of each chapter.
Attributions of figures in document would be preferable as a caption, as done in map of San Joaquin route on page 109 and other figures in the Appendices. Notes to individual figure attributions have been included in the Specific Comments section.	For readability, figure attributions were provided in a separate section in the draft, preceding the appendices. In response to the comment, attributions have been relocated to each individual figure.
The Plan focuses on the Gold Line and does not consider planned extensions of the Blue Line or the Green Line (just a comment that could be better clarified and explained)	Clarifications have been incorporated into the introduction to Chapter 4.
Confirm that the RT fleet of buses and trains uses GPS for real time vehicle tracking	Real-time arrival predictions using automatic vehicle location (AVL) technology are currently only available for SacRT's bus fleet. SacRT is currently working on expanding the system to its light rail fleet.
Increased bus (and light rail) service will be crucial for the success of the Railyards project.	Comment acknowledged. Improved bus and light rail service in the Railyards is a cornerstone of many of the plan's recommendations.
Bus routes that include stops at the future MLS stadium on 7th, the Central Shops, and Kaiser are strongly supported.	Comment acknowledged. All four options for bus routings through the Railyards area presented in the plan are adjacent or proximate to Kaiser and the Central Shops district. The MLS stadium will be served directly by light rail at the new Railyards station, and will also be within walking distance of the proposed bus service extension into the Railyards.

Specific Comments

Page	Item	Comment	Response
ES-1		"Infrastructure improvements" a more direct route for the Blue Line on H Street to the SVS would seem to fit well with the vision but is not considered	Comment noted. The relocation of the Blue Line to H Street was originally part of the Downtown / Riverfront Streetcar project, but was dropped in subsequent refinements to that project. There is no clear consensus yet on an H Street relocation as a stand-alone project, and the project is not included in SacRT's Capital Improvement Program.
ES-3		Is a 'terminal' needed in the Railyards? Seems that coordination of layover stops would be a more efficient approach and the phase-in of Railyards routes seem to work against this as a concept. A bus terminal is not a component of the Railyards Specific Plan.	The "terminal" would function much like the "coordination of layover stops" as mentioned in the comment—it would be an on-street facility with curbside berths co-located for one or more bus routes, and would not involve a new building or significant construction activity. It is intended as an "end-of-line" bus layover between scheduled trips and could include (but does not explicitly require) minor passenger amenities such as shelters, seating, lighting, etc., and is, functionally, not substantially different from on-street parking or SacRT's existing curbside bus stops scattered throughout Downtown Sacramento. If berths become unavailable for SacRT in the BMC, there will be a need for replacement berth space for SacRT buses terminating at SVS. While the SVS Area Plan includes an on-street terminal along the north side of G Street between 5th Street and 6th Street, this can only feasibly accommodate up to 3 berths, and there is limited curb space elsewhere in the immediate vicinity. Extension of one or more of these routes beyond

Page	Item	Comment	Response
			SVS into the Railyards resolves this situation by eliminating the need for layover space in or around SVS, and also allows for better bus service to / from the Railyards.
3	1.5.1	While at the northern edge, it is within the Railyards Plan Area, not the Central City Plan Area and therefore the policies of the Railyards Specific Plan govern.	Clarifications added as a footnote in Section 3.1.1
3	1.5.2	…history ~~historic~~ museum…	Corrected.
3	1.5.3	$30 million in TIRCP funding for the Downtown/Riverfront Streetcar was reprogrammed	Some Proposition 1A funds have been reprogrammed but TIRCP funds have not.
		1.5.3 should mention that the existing storage tracks will be eliminated	Clarification added under SVS Area Plan description in Section 1.5.1.
5	Section 2	High Speed Rail and its future integration into the SVS should be mentioned	Clarification added.
6	2.2.1	Would move the North Entrance project from section 2.3 to this list, as this project does have, or should have, connectivity with Railyards bus routing.	Comment acknowledged. The projects listed in Section 2.2.1 are focused on significant infrastructure investments that have substantial implications for SacRT's future service planning. Each of these projects is discussed in further detail in Chapter 3 of the plan. The North Entrance project, while important, is more contextual and localized in significance, and is more appropriately discussed at its current location in Section 2.3, since the project is tied (through the TIRCP funding award) to the three additional service integration studies mentioned there.
8	2.3	Perhaps more detail, such as: "Caltrans Project Study Report (PSR) to analyze a reconfiguration of the Northbound I-5 ramp at I Street and 3rd Street that could allow north and southbound bi-directional freeway access to buses serving the SVS BMC."	Clarifications incorporated.

Page	Item	Comment	Response
9	Fig. 2	Graphically a hard to read-and would be more informative if it could reference ridership milestones for the improvements.	Comment acknowledged. White space in the figure has now been condensed to improve readability. The plan does not look at ridership at the same level of detail as the breakdown of projects in the timeline, and available data on future ridership projections are limited. Generally speaking, measurable ridership growth could be expected from the Glenn passing track and the SVS Loop, as these two projects include substantive improvements to service levels. Potential ridership growth as a result of the other capital projects shown in the timeline is smaller and less certain, as they are primarily focused on passenger convenience, accessibility, and / or service reliability.
10	Fig. 3	Please credit: City of Sacramento SVS Area Plan	Attributions relocated to each individual figure.
10	Text	Would be more correct to reference: “Sacramento Valley Station is located at the southern edge of the Railyards Plan Area, abutting the northern edge of the Central City Plan Area, roughly bounded by……” It might be pertinent to note the potential for redevelopment opportunity for the block between 3rd and 4th holding a low-density motel and restaurant. Also, the proximity to Old Sacramento would be good to note.	Clarifications added, where relevant.
11	Fig. 4	Central Shops passageway (10) should have leader lines to both ends of the tunnel. The southern entrance is below the freeway, just to the west of the start of the service access tunnel. Item (8) is label Underground passageway – better to name as “Passenger tunnel (Steve Cohn Passageway)”	Updates incorporated.

Page	Item	Comment	Response
11	Text	Use the name above instead of “below grade tunnel” and the reference is not to “station” but to “station platforms.” “H Street” is not a street within the city parcel (that implies public ROW), it is an easement referenced as “transit way” as an extension of H Street.	Clarifications added.
11	Text	Omitted is any reference to rail Throughway bus services and regional carriers that occupy the 8-bay bus berths and share the roundabout. Solano FAST Blue Line is also a tenant with hourly service though Solano County and to Pleasant Hill BART; and as of July 15, El Dorado Transit is a tenant, serving CCJPA along the Hwy 50 corridor to Carson City. By time of final of this document, we also expect to have Placer Transit also serving CCJPA.	Clarifications added to Section 3.1.2 and Appendix A.
13	Text	The reference to 31-acre site is not correct. The city now owns a total of 34.99 ac divided in two parcels – 17.52 ac parcel is the developable parcel south of the tracks. The platforms are on a separate 17.47 ac parcel that encompasses the entire rail ROW from the bridge to 12th Street. So, best to just reference the developable parcel at 17.5 acres.	All references to SVS site acreage removed globally.
14	Fig. 7	Please credit: City of Sacramento SVS Area Plan	Attributions relocated to each individual figure.
15	Fig. 8	Please credit: City of Sacramento SVS Area Plan / Perkins & Will / Steelblue LLC	Attributions relocated to each individual figure.
16	Fig. 9,10	Please credit: City of Sacramento SVS Area Plan	Attributions relocated to each individual figure.
17	Fig. 11	Please credit: City of Sacramento SVS Area Plan	Attributions relocated to each individual figure.
17	Fig. 12	Phase 3.1 correction: new north-side entrance is in design, completion target 2023	Clarifications added to figure.
		Phase 3.2 correction: The pedestrian bridge over LRT at 5th Street requires negotiation with the property owner to expand the existing 16 ft wide easement to provide	Clarifications added to figure.

Page	Item	Comment	Response
		adequate ramp slopes to navigate the required rail clearances	
18	BMC	The description of "potential pick-up/drop-off areas" is actually dedicated PUDO for transit (i.e. micro-transit and accessible vehicles). General PUDO is in the grade-level loop between the new LRT platform and the existing rampway to the Steve Cohn Passageway – this should have it's own section descriptor.	Clarifications added.
18	LRT	Could edit to read: "Demolition of existing SacRT light rail tracks and platforms with new platform alignment at east edge of City property are included……."	Clarifications incorporated.
19	Fig. 13	Please credit: City of Sacramento SVS Area Plan	Attributions relocated to each individual figure.
20	Fig. 14	Please credit: City of Sacramento SVS Area Plan	Attributions relocated to each individual figure.
21	Fig. 15	Please credit: City of Sacramento SVS Area Plan	Attributions relocated to each individual figure.
21	Fig. 16	Please credit: City of Sacramento SVS Area Plan – annotated.	Attributions relocated to each individual figure.
		Also, this needs some reference that this diagram is for Phase 3.1 Light Rail to Passenger Rail and Separately to regional bus above. Therefore, should there be two colors that separate the LRT-Bus and LRT-Rail circulation paths? What is the conclusion of this analysis? - How is it used and where?	Comment acknowledged. Some clarifications added, where appropriate. This figure is intended for informational purposes only for SacRT's Mobility Advisory Council. It is illustrative in nature, focusing on the distance along key routes to / from the future light rail platform under Phase 3.1; it is not intended to show all accessible paths of travel at the station.
22	Fig. 17	Please credit: City of Sacramento SVS Area Plan	Attributions relocated to each individual figure.
23	Fig. 18	Please credit: City of Sacramento SVS Area Plan / Perkins & Will / Steelblue LLC	Attributions relocated to each individual figure.
23	Fig. 19	Please credit: City of Sacramento SVS Area Plan – annotated	Attributions relocated to each individual figure.

Page	Item	Comment	Response
23	Text	Better not to give a dimension. 16 ft is the existing allocated, the plaza shown in the plan document is 80 ft, however that is not a fixed dimension.	Dimensions of access easement removed.
24	Text	Reference to mobility-needs users is not correct; the primary future use will be for cyclists in the passageway.	Updated.
24	Fig. 20	Please credit: City of Sacramento SVS Area Plan	Attributions relocated to each individual figure.
25	Fig. 21	Please credit: City of Sacramento SVS Area Plan – annotated	Attributions relocated to each individual figure.
25	Text	General note on phasing of 5th & G access is that it is dependent upon private development of Lot 40. Lot 40 is currently owned by DRV. This parcel could become active at any time which the city does not control. The phasing in the SVS Area Plan is hypothetical based upon existing market conditions and availability of easier sites to develop at present and near future.	Clarifications added in footnote.
26	Fig. 22	Please credit: City of Sacramento SVS Area Plan / Perkins & Will / Steelblue LLC	Attributions relocated to each individual figure.
26	Text	Should there be a reference of future LRT to airport from this station?	Clarification added.
26	Footnote	Text size should be footnote size	No change. The footnote is at the correct size (10-point). Body text in the plan is generally at 11-point font size.
27	Fig. 23/text	Note to design – Crossover at F St needs to be reviewed under the perspective of bus operations from BMC, seems could be problematic for sight distance of buses coming off ramp to upper bus loop. F Street is to be exclusive transit (LRT/bus) from north end of LRT platform to 5th St. overpass. Between 5th and 7th there will be parking access to development parcels north and south of f Street.	Comment acknowledged. As indicated in the figure, the detailed design of the SVS Loop, including crossover locations, is still underway and subject to change.
27	3.3	The city's option of a pedestrian tunnel under UP tracks was tabled in favor of increased bike path connectivity via	Text updated.

Page	Item	Comment	Response
		6th Street crossing over the main track. This project has been approved as a condition of the development project under construction on Railyards Blvd between 6th and 7th Street.	
28	Fig. 24	The diagram does not show the southbound LRT leg to 7th Street.	Figure has been updated.
32	Text	The 12th Street Station is an exception to the double tracked mini-high configuration	Clarification added in footnote.
33	2nd ¶	There should be a consistent capacity used in this document (125 and 100 are both used).	Standard LRV capacity for general service planning (i.e., regular service) is 100 passengers. The higher capacity assumption (125 passengers) is used for short-distance trips or special event service. Clarifications added in footnote under discussion of special event service (Section 4.5 > Gameday Operations Plan).
41	3.7 text	Placement of the streetcar stop to the west of the Transit Plaza is a preferred location. The Transit Plaza is intended as a pedestrian/bike only space. Concern is for the existence of tracks through the plaza and potential conflicts with pedestrians and bikes. This space is anticipated to see large volumes of people and conflicts with vehicles are of concern. Also, the physical safety issues of embed track rails in pavement are of concern for cyclists entering the plaza from the planned H Street cycle track. Finally, the presence of tracks crossing the vehicular loop for pick-up/drop-off (PUDO) has a high conflict potential during peak periods, especially. Therefore, the use of this track must be limited to times of low vehicular use.	Comment acknowledged. The text and accompanying route map already show the SVS connection as “off-hours access”. This track connection is required for maintenance facility access and general serviceability of the streetcar. As the streetcar project no longer includes a dedicated maintenance facility, maintenance work on streetcar vehicles must instead be performed at SacRT’s existing light rail maintenance facility on the Blue Line.
45	Tables	Would be helpful to somehow identify major bus transfer stations	Comments acknowledged. The primary intent of these heat maps is to illustrate in general terms

Page	Item	Comment	Response
46	Tables	Would be helpful to somehow identify major bus transfer stations	how loading is heavier on Folsom trains than on Sunrise trains. While data on boarding / alighting activity are provided for each station, the focus of the analysis in the study (see Section 4.3.2) is on the loading distribution across scheduled trips. Gold Line stations outside of Downtown serving as key transfer points with SacRT bus service include 29th Street, University / 65th Street, Watt / Manlove, and Mather Field / Mills.
48	Fig. 41	Please credit: City of Sacramento SVS Area Plan – annotated	Attributions relocated to each individual figure.
56	Last¶	Determining RBOC ridership demand by looking at "ridership at comparable existing stations with similar land uses" does not seem appropriate. RBOC is 1.4 MSF of office right across from an existing LRT station. Suggest using that project's EIR mode share projections to better capture ridership demand generated by RBOC.	Comment acknowledged. To avoid confusion, the loading analysis has been removed from the report and the discussion of the timing / phasing of Green–Gold interlining has been revised accordingly.
58	Table 4	Footnote to Table 4 - A capacity of 125 passengers per LRV was assumed on page 71, so this 100' figure appears to conflict with capacity used elsewhere in this document. Is 100 the capacity of the new low floor model?	Standard LRV capacity for general service planning (i.e., regular service) is 100 passengers. The higher capacity assumption (125 passengers) is used for short-distance trips or special event service. As already mentioned in the discussion of systemwide low-floor conversion (Section 3.5 > Low-Floor Fleet), the new low-floor LRVs will have a similar overall capacity to the existing LRV fleet, although there may be slight differences in the ratio of seated vs. standing passengers.
58	Text	"…train length on the Green Line could simply be increased to two cars…" - Increasing train length to two	Comment acknowledged. SacRT is aware of the existing constraints at the Green Line turnaround

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		cars is not possible with existing single track due to turnaround issues around R Street.	at 13th Street, but these constraints are not unsolvable and can be addressed if the need arises. Other solutions could include running Green Line trains beyond 13th Street and turning them around at another location.
58-59	Text	The text recognizes the RBOC as a passenger demand source during the weekend only. However, it seems that this office complex will spur residential development from Township 9 and along the route through the Railyards. This should be factored in some manner.	While there may be some synergistic effects with surrounding development in Township 9 and the Railyards, it would be speculative to assume that the RBOC project will substantially catalyze residential development in these areas. It should also be noted that ridership patterns for residential development would typically manifest as reverse-direction commutes relative to RBOC employees, and would generally not be expected to cause a significant increase in demand for transit service beyond what would already be required to serve RBOC.
62	4.3.5	Strike and re-phase: "In the future, however, these tracks ~~may~~ need to be *removed*. ~~downsized or repurposed for use by the Downtown / Riverfront Streetcar~~…" The tracks need to be removed in order to construct the Bus Mobility Center and develop City property outlined in the SVS Area Plan. Should there be an absolute need for a single track connecting the River Front Streetcar station at the west edge of the Transit Plaza to the Gold Line, for the purpose only of vehicle transfer at start/end of service, then a new track will need to be embedded in the plaza paving. As mentioned elsewhere, this track is not desirable for the intended use of the plaza.	Clarifications added.
62	Text	…and ~~likely~~ conflict with the City's overall vision…	Updated.

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64	Text	Remove North B Street Levee option. MLS includes extension on 8th Street from Railyards to North B Street and a new signal at 8th Street and North B Street.	The North B Street levee option is no longer under consideration. Figure 47 has been updated accordingly.
64	Lot 40	This diagram for storage tracks on the north edge of Lot 40 is unworkable. There is a large amount of electrical utilities in this location serving SVS and the track platforms on the western edge. The eastern portion of the property edge must be reserved for service access for future building on this property.	Comment acknowledged. Clarifications on potential utility conflicts and property access have been included in the figure.
68-70	Stations	Not sure if the assessment of these two stations is correct - Alkali Flat/La Valentina and Dos Rios are not very likely stations for those bound for the MLS stadium given the distance and conditions The La Valentina station at 12th requires passengers to walk a very undesirable path along 12th Street and under the UPRR mainline for approximately 200 ft. This path has considerable safety concerns for pedestrians at all times, and particularly at night. The distance measured for the route is .66 miles (see image). The new Dos Rios Station would avoid the security challenge route under the railroad overpass, but the required crossing of a 4-lane arterial and the distance of .86 miles (4,620 ft) it has challenges and would likely be a considerable deterrent to most patrons from outlying areas. Could a game-day shuttle bus system for the Blue Line to provide service to MLS?	Comment acknowledged. The discussion of gameday service has been revised to conservatively assume all stadium demand is accommodated via Railyards Station. Due to the distance and safety issues noted in the comment, SacRT does not intend to actively promote use of the Blue Line stations and would instead direct passengers to the Green Line. Given this, SacRT does not intend to operate any gameday shuttle buses for the Blue Line at this time. Passengers who choose to use the Blue Line stations would have additional first-mile / last-mile alternatives in lieu of walking, including shared bikes and scooters or transportation network company (TNC) vehicles (e.g., Uber, Lyft).

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		 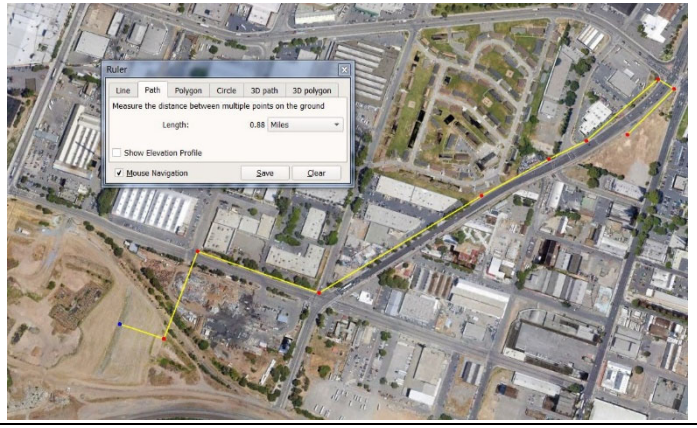	

Page	Item	Comment	Response
70	Principles	As noted above, special event bus loop from Blue Line should be considered if Blue Line stations are needed to supplement the Green Line Service	
76	4.6.3	Please clarify statement: "If implemented, the Downtown /Riverfront Streetcar may also have implications for the existing tail tracks at SVS as mentioned under Section 4.3.5." The implementation of the Bus Mobility Center (BMC) requires the removal of the storage tracks, regardless of the Downtown / Riverfront Streetcar, as they block access to construct the BMC. The BMC serves the goals for SVS as a regional bus hub connection to rail in the 2018 State Rail Plan. Section 4.3.5 has been noted for editing of the assumptions made in this section.	Sentence deleted.
78	Table 7	Note on the table column for I-5 Ramp Reconfiguration: As designed currently, the Streetcar project does not bring a road section into SVS, and the City has been funded for a Caltrans PSR to study 3rd/I Street and the Northbound I Street ramp for improved access to SVS with an extension of 3rd Street. Therefore, these access assumptions (e.g. 3rd Street may be 5 to 10 years in the future; the existing transit-way from 5th and H Streets would continue as the access to the (future 3rd Street) rampway of the BMC. Therefore, a timeline with interim conditions should be provided.	Clarifications added in table note.
		SVS would benefit to direct airport connection, it does not have to be RT; it could be Yolobus.	Comment acknowledged. Service changes to Yolobus are at the discretion of YCTD, but SacRT would continue to work with Yolobus as part of operating Route 142 to ensure appropriate route and scheduling coordination with Routes 42A / 42B.

Page	Item	Comment	Response
		The "Terminal" concept needs definition.	Text revised and clarifications added under a new "Terminal Design" subsection.
82	Text	Isn't eTran now RT?	Updated. The annexation of eTran into SacRT took place on July 1, 2021, after the publication of the draft plan.
84	5.3.1	The statement of increased travel times – this implies routes coming into the BMC. The understanding during the development of the SVS Area Plan was that RT preferred to keep routes to streetside, particular at 5th & G Streets. However, as mentioned elsewhere, there will be a need for some routes to use the BMC until such time the 5th & G Street access is constructed (possibly 10 years). Phasing of this transition should be discussed.	Increased travel time is a concern for SacRT, even when not directly serving the BMC, as it translates directly into increased vehicle demand (i.e., more buses) and increased operating costs. However, SacRT does recognize the substantial benefits of direct service to the BMC, and the plan strives to maximize these benefits while minimizing potential cost implications. The plan also attempts to balance demand for SVS service with added inconvenience and travel time loss for existing riders who would not benefit from a direct connection to the station. Clarifications regarding the timeframe for completion of the 5th Street / G Street access have been incorporated into Section 5.3.2.
		Also, the discussion of a Terminal at Railyards, how does this relate to the 1 block layover stops along G Street between 5th and 6th Streets, as added to the SVS Area Plan?	The G Street layover area can only feasibly accommodate a maximum of three berths, and is insufficient to handle all four routes proposed for direct service to / from SVS (30, 38, 51, and 62). The proposed Railyards terminal would be a second area, very similar to the G Street layover area, but located within the Railyards. This allows one or more of the SVS routes to be extended into the Railyards, alleviating the need for layover space in the immediate vicinity of SVS, where curb space is limited.

Page	Item	Comment	Response
85	Fig. 54	Route 86 and 88 on 9th Street should be shifted to 12th Street per recent agreement with James Drake	Figure updated and clarifications added to text.
85	Fig. 54	Timeline needed. Timeline on discontinued SVS route should be indicated.	Comment acknowledged. The timeline for route realignments is largely dependent on factors outside of the direct control of SacRT. Routes can only be realigned into the BMC once the facility is completed and opened for use. As already mentioned in the text in Section 5.3.1, there is also uncertainty regarding the completion of the 3rd Street extension. Construction in other areas surrounding the station may also affect the existing route or the ability to transition to realigned routes. As such, Figure 54 is only intended to depict “steady-state” conditions for direct SacRT service into and out of the BMC. SacRT will coordinate with the City and other stakeholders on any necessary interim reroutes and other changes until the “steady-state” condition is reached.
87	Table 10	Berth allocations and layovers will require coordination with regional buses and will be further studied in upcoming SACOG Network Integration Study.	Clarifications added in table note.
88	Airport	It seems problematic for both SacRT and Yolobus to make desirable connections between SVS and the airport at this time, but perhaps, along with a better SVS/I-5 connection, new routes will come about with the future Railyards bridge, or the opening of 5th Street that might create opportunities for new areas of service in the commercial and tourist areas?	Comment acknowledged. SacRT is committed to working with the City, Yolobus, and other partners on potential route changes that could improve Airport connections, if warranted by demand.
88	Other Services	The Mobility Level (lower level) of the BMC is designed for all Micro-Transit services in the region as well as EV Carshare and possibly a small future base for fixed	Clarifications incorporated, where relevant.

Page	Item	Comment	Response
		Automated Vehicle services.	
89	5.3.2	Powerhouse Science Center is now known as the SMUD Museum of Science and Curiosity (MOSAC)	Updated.
90	Fig. 56	Route 86 and 88 on 9th Street should be shifted to 12th Street per recent agreement with James Drake	Updated.
92	Fig. 58	Staff recommends Option C's bus layover location be kept to a minimal footprint and be relocated along Bercut (Railyards & Camille)	Based on comments received on the draft plan, SacRT has decided not to pursue Options A or B, and has downsized the proposed service expansion, focusing on an extension of Routes 30 and 38. Routes 51 and 62 are no longer proposed for extension into the Railyards. Although the indicated terminal locations were only intended as illustrative and approximate in nature, Options C and D have been revised to avoid confusion and now show the terminal location along the west side of Bercut Drive, between Railyards Boulevard and Camille Lane.
		Option C seems the most serviceable from a district standpoint and connections to the upcoming SVS North Entrance with the public plaza connection to Camille Lane, where vehicle PUDO will be located. Has this route looked at capturing some area to the east? One alternate to Option C to avoid the left turn on Railyards and get closer to MLS, would turn east on Camille from 7th, one block to 6th, then turn back west on Railyards through on the proposed route. Also, since these are longer horizon plans, 5th Street connected through North B Street should be considered. Lastly, it would help to have these diagrams hold a larger view of the area and understand the interface with other transit in proximity.	Comment acknowledged. SacRT believes that a route serving the western portion of the Railyards area—specifically, Kaiser and the office blocks in and around the Central Shops area—to have the highest potential for ridership. Areas to the east are more residential in nature, and behavioral analysis of commuters using transit generally shows a preference for shorter walking distances at the employment end of the trip, and a higher tolerance for longer walking distances at the residential end of the trip.

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			The MLS stadium is not expected to be a major trip generator outside of match days, and will generate minimal demand outside of events. Bringing regular-service buses in close proximity to the stadium on event days can also be problematic in terms of schedule reliability. SacRT has explored potential route extensions further north of the Railyards via 5th Street, but considers this to be a longer-term change that will be dependent on the state of redevelopment and ridership demand in the River District.
92	Figure 58	Railyards Terminal – comment from YPCE Option A, an additional “con” for the Option include the blocking of visual access and on- street parking for the public park. Vista Park is a prominent feature of the Railyards Plan Area and will be accessed by the community and employees working in the area. If 8 bus berths to accommodate at least 4 routes are installed on the south of the park, the views to the park would be blocked as well as blocking off any on-street parking needed for park users, which may include families, or sports teams. We would like to retain the on-street parking options at the south side of Vista Park for future park users. Option C, proposed modification. We support a modification to this Option to allow for the 8 bus berths/terminal to be located on the west side of Bercut Drive, adjacent to the I-5 facility. We believe this will allow for bus riders to use the route to access many park opportunities planned for the west side of the Railyards	Comment acknowledged. Please see the response above to the comment on Page 92 (Fig. 58).

Page	Item	Comment	Response
		Plan Area, including the parks planned for under the I-5 facility, the riverfront, and Matsui Waterfront Park. We welcome further discussion on the opportunities to coordinate with SacRT's plan.	
93	Table 11	This table illustrates required bus berths at the Railyards terminal (6-8). Staff recommends coordination with SACOG's Bus Study to analyze locating all RT bus berths in the City's multimodal bus hub at Sac Valley Station. The amount of proposed bus berth's may be detrimental to the project's goals due to potential conflicts with pedestrian access, bike routes, emergency service vehicles, and large equipment trucks & tour busses to support events at the future MLS Stadium and in the Central Shops.	Comment acknowledged. Please see the response above to the comment on Page 92 (Fig. 58) regarding a downsizing of the proposed service expansion into the Railyards. With the revised proposal focused on extending only Routes 30 and 38, the approximate size of the terminal is now only 3–4 berths.
93	Phasing	With the phased extensions of these lines into the Railyards, where will the routes terminate? Where will the break facilities be located before a "Terminal" would be built?	The phasing affects which specific routes would be extended, but the terminal location would likely remain fixed from the initial phase through to the final phase. As mentioned previously, the terminal is strictly a curbside, on-street layover zone with some minor passenger amenities, and does not require significant construction activity. At this time, SacRT does not envision extending service into the Railyards until after a terminal can be secured and completed.
		Reference to an existing Terminal on 8th Street – where is this located?	These routes currently terminate at or near 8th Street at F Street. Clarifications added.
94	Text	Should mention the difficulty cutting through Chinatown from J to SVS at 4th	Clarification added.
95	Text	Were not changes to 42A/42B approved July 12th	The changes were approved after the publication of the draft plan. The text and figure have been updated.

Page	Item	Comment	Response
94	Fig. 59	Please credit: City of Sacramento SVS Area Plan – annotated.	Attributions relocated to each individual figure.
		If the I-5 solution is to move forward, it would be possible to move this stop farther to the west, in front of the station (4th Street), for visibility and closer proximity to the planned hotel on SVS. This is a good option and could possibly be a co-location with other regional services accessing the interstate at the ramp.	Text and figure updated.
97	Text	Isn't eTran now RT?	Clarification added in footnote. The annexation of eTran into SacRT took place on July 1, 2021, after the publication of the draft plan.
102	7.1	Glenn Passing Tracks should be in the second set of bullets	No change. The Glenn passing track is a prerequisite for 15-minute headways east of Sunrise Station. The Hazel passing track, while high-priority, is not essential to providing 15-minute headways.
102	Text	At the bottom of page, "timetabling" – should this be "timetable"?	No change. "Timetabling" refers to the process of developing a timetable for a transit service.
103	LRV Storage	"This improvement is needed to address the potential loss…" This should be an unequivocal statement, please delete "potential" and replace with "future".	Updated.
103	7.2 bottom	The Blue Line for MLS at these two stations, as commented above, needs more consideration as viable stations for patrons of MLS events.	The discussion of gameday service has been revised to conservatively assume all stadium demand is accommodated via Railyards Station.
103	Text	Plan previously mentioned Dos Rios game day service as well even though that is unrealistic	The discussion of gameday service has been revised to conservatively assume all stadium demand is accommodated via Railyards Station.
		…replaced by ~~extended~~ Gold Line trains of more than one car running to and…	"Extended" in this context refers to extension of the Gold Line, not a lengthening of Gold Line trains. Reworded for clarity.

Page	Item	Comment	Response
		…through a combination of longer combination of Green Line trains of more than one car…	Comment acknowledged. SacRT is aware of the existing constraints at the Green Line turnaround at 13th Street, but these constraints are not unsolvable and can be addressed if the need arises. Other solutions could include running Green Line trains beyond 13th Street and turning them around at another location.
110	Phase 1	H Street reference is not correct (not a street) better to reference SacRT bus and light rail platforms.	Clarification incorporated.
110	Phase 2	For consistence on dates, completion was March 2017.	Completion month added to Phase 2 description.
113	I Street Bridge	Contact Jess Gothan, City of Sacramento for updated project schedule.	Project schedule updated with new timeline published on City's website for the project.

Downtown Railyard Venture, LLC

Comment	Response
Section 5.3.2 Railyards Terminal	
While future development within the Railyards will warrant expanded transit service (which was discussed and conceptually approved with Regional Transit (RT) in 2015-2016 in conjunction with the entitlement approval for the Railyards), locating an additional Railyards Terminal is not preferred. In contrast, DRV requests RT evaluate leveraging and limit the layovers to existing and future bus stops within and outside of the Railyards. These bus stops may be scattered throughout existing and future route(s) and the future bus mobility center at the SVS. In turn, this approach would minimize curbside impacts, minimize operational conflicts, and more equitably distribute the necessary facilities.	Comment acknowledged. Based on comments received on the draft plan, SacRT has decided to downsize the proposed service expansion, focusing on an extension of Routes 30 and 38. Routes 51 and 62 are no longer proposed for extension into the Railyards.
Routing and Stop Locations (Figure 58)	
General The options appear to focus on single route that focuses primarily on providing bus service to the Kaiser parcels which is understandable given	SacRT has explored potential route extensions further north of the Railyards via 5th Street, but considers this to be a longer-term change that will be dependent on

Comment	Response
the number of bus users needing public transportation to the proposed hospital. However, the options do not appear to contemplate, from a master planning standpoint, the existing and future bus network within and north of the Railyards. I note, for instance, that the opening of 5th Street to North B Street was not considered in the evaluation (this extension is highly likely to be in place early in the development of the Railyards).	the state of redevelopment and ridership demand in the River District.
Regarding the specific graphics, the identified layover locations materially misrepresents the extent of the curbside impact. Curb space needs would be a minimum 360' for 6 berths, and a minimum of 480' for 8 berths, with 600' being the optimal size. The graphic only shows an estimated 200' to 250' length for the aggregate layover lengths.	The Railyards route and stop location maps provided in the plan are illustrative and approximate in nature, and are not intended to depict the required curbspace to scale.
Option A This option presents many operational conflicts with the future Kaiser Medical Campus and, in addition, the stops on South Park Street do not place passengers at the proposed entrances to the hospital which are on Railyards Boulevard. Given the activity that will be generated throughout the Kaiser campus, the reservation for the placement of 6 to 8 berths along any frontage to the hospital is problematic. Further, this option locates the proposed Railyards Terminal along Vista Park which is in direct conflict with the "Stanford Walk". Stanford Walk is a key element in the Specific Plan for the Railyards and is intended to be the primary north-south pedestrian connection and view corridor, extending from Stanford Street, within the Central Shops district, through the Kaiser campus and terminating at Vista Park.	Comments acknowledged. SacRT has decided not to pursue Options A or B.
Option B In addition to the comments to Option A, this option likely presents many operational conflicts with the future Kaiser Medical Campus and does not place passengers at the likely entrance to the hospital.	
Option C DRV prefers the bus route and proposed bus stops identified in Option C as both the Kaiser site and the Central Shops site are serviced. Should a	Comment acknowledged. Although the indicated terminal locations were only intended as illustrative and approximate in nature, Options C and D have been

Comment	Response
layover bus facility be essential after evaluation of all other alternatives, DRV prefers the layover facilities be located on the west side of Bercut between Railyards Blvd and Camille Lane. The full length of that area is approximately 320' and, with required setbacks from corners, the available number of berths would have to be recalculated to account for approximately 200' to 250' in available curb length.	revised to avoid confusion and now show the terminal location along the west side of Bercut Drive, between Railyards Boulevard and Camille Lane.
Option D DRV does not prefer this route as it does not adequately address the needs for bus stops servicing the Central Shops Historic District. Should a layover bus facility be essential after evaluation of all other alternatives, DRV prefers the location provided in our comments to Option C	
Section 4.3.5 Storage Track Replacement	
North B Street Levee Option This area is not City-owned property. This area is owned by DRV and is the anticipated location of the future MLS stadium. As the most prominent northern access into the Railyards, this location presents numerous development and circulation concerns.	The North B Street levee option is no longer under consideration. Figure 47 has been updated accordingly.
Lot 40 north edge DRV does not prefer this option. This option presents access and operational challenges for Lot 40. Lot 40 is already constrained by the proposed LRT alignment, 5th Street viaduct grade separation and pedestrian access easement extending west of G Street.	Comment acknowledged. Clarifications on potential utility conflicts and property access have been included in the figure.

Kaiser Permanente

Comment	Response
Specifically, both Option A and Option B in Figure 58 of the Railyards Area SacRT bus service present a concern that the placement of 6 to 8 berths along the frontage to the hospital could impede access for emergency vehicles reaching our campus potentially causing delays in care. A delay in care during an emergency can result in unnecessary negative outcomes for patients that could have otherwise been prevented.	Comment acknowledged. SacRT has decided not to pursue Options A or B.

Comment	Response
In addition, Option B does not provide preferred access for non-urgent care and visitors as the stops do not place passengers near the planned entrances to the medical center. For those reasons we respectfully do not support Option A and Option B of the Railyards Area SacRT bus service in Figure 58 of the Draft Network Integration Plan.	

Public Comments

Commenter	Comment	Response
jel114jacob	I think that the blue line should run from Watt/I-80 to 16th Street, the gold line should run from Sutter Health Park to Historic Folsom, and the green line should run from Sacramento International Airport to Cosumnes River College.	Comment acknowledged. At this time, the Downtown / Riverfront Streetcar is currently envisioned to operate between Sutter Health Park and SVS, and opportunities for interlined light rail service east of SVS are currently restricted by the City of Sacramento's vision in the SVS Area Plan, which proposes a pedestrianized plaza between the future station concourse and the historic station building. A track connection is required at SVS to tie the Streetcar to SacRT's light rail network and allow for off-hours access to / from SacRT's existing maintenance facility, but is not intended for frequent use (e.g., regular service). The proposed terminal changes for the Blue Line and Green Line would require a larger, systemwide analysis of ridership trends / markets, operational constraints, and potential costs and benefits to both SacRT and our riders. Such an analysis is outside the scope of this plan. In particular, the existing light rail system is subject to several key operational

Commenter	Comment	Response
		constraints, such as crossover locations, grade crossing frequency, and single-track sections, which limit operational flexibility and can make major changes to operations impractical without significant infrastructure investments.