

Caltrain Business Plan

COVID RECOVERY
PLANNING

UPDATE ON SERVICE
RESTORATION

Local Policy Maker Group (LPMG)

August 26, 2021



Ongoing Recovery Planning Efforts

Caltrain has pivoted its Business Plan effort to focus on COVID-19 Recovery planning. This work is spread across multiple streams as shown on the right

Caltrain staff will engage regularly with the Board, stakeholders and the public as recovery planning proceeds over the next several months



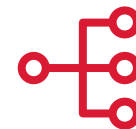
Equity, Connectivity, Recovery, & Growth Framework



Near Term Service Planning



Financial Analysis



Scenario Planning

Ongoing Recovery Planning Efforts

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Equity, Connectivity, Recovery, & Growth Framework



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Context & Background

Pre-Pandemic Caltrain Service



Caltrain's pre-pandemic service amplified its most successful markets, but restricted greater diversity of riders and travel behavior.



Highly tailored to pre-COVID office schedules



20 different stopping patterns



Inconsistent BART connections



Infrequent midday and evening service

Northbound - WEEKDAY SERVICE to SAN FRANCISCO

100 Local 200 Limited 300 Baby Bullet

Train No.	101	103	305	207	309	211	313	215	217	319	221	323	225	227	329	231	233	135	237	139	143	NORTHBOUND	147	151	155		
Gilroy									6:06		6:28			7:06								AM					
San Martin									6:15		6:37			7:15								AM					
Morgan Hill									6:21		6:43			7:21													
Blossom Hill									6:36		6:58			7:36													
Capitol									6:42		7:04			7:42													
Tamien	4:55		5:51	5:56				6:50	6:56	7:15			7:53	7:59		8:28		9:37									
San Jose Diridon	4:28	5:03	5:45	5:59	6:04	6:23	6:49	6:54	6:59	7:04	7:23	7:49	7:54	7:59	8:04	8:23	8:39	9:13	9:50	10:13	11:13				12:13	1:13	2:13
College Park														8:03													
Santa Clara	4:33	5:08		6:06		6:28			7:06		7:28			8:08		8:28	8:44	9:18	9:55	10:18	11:18				12:18	1:18	2:18
Lawrence	4:39	5:13		6:12					7:12		7:34			8:15			8:50	9:24	10:00	10:24	11:24				12:24	1:24	2:24
Sunnyvale	4:43	5:18		6:20	6:15	6:36		7:07	7:20	7:15	7:40		8:07	8:22	8:15	8:36	8:55	9:29	10:05	10:28	11:28				12:28	1:28	2:28
Mountain View	4:48	5:23	6:01	6:25		6:42	7:05	7:12	7:25		7:46	8:05	8:12	8:28		8:42	9:00	9:34	10:10	10:33	11:33				12:33	1:33	2:33
San Antonio	4:52	5:27		6:29					7:29					8:32			9:04	9:38	10:14	10:37	11:37				12:37	1:37	2:37
California Avenue	4:57	5:31		6:34		6:48		7:18	7:34		7:51		8:18	8:36			9:09	9:42	10:18	10:42	11:41				12:41	1:41	2:41
Palo Alto	5:01	5:36	6:09	6:38	6:27		7:13	7:22	7:38	7:28		8:13	8:22	8:41	8:28		9:14	9:47	10:23	10:47	11:46				12:46	1:46	2:46
Menlo Park	5:04	5:39		6:41		6:54			7:41		7:56		8:44		8:51	9:17	9:50	10:26	10:50	11:49					12:49	1:49	2:49
Redwood City	5:10	5:44		6:47	6:33	6:59			7:47	7:35	8:02			8:51	8:35	8:57	9:24	9:57	10:32	10:55	11:55				12:55	1:55	2:55
San Carlos	5:15	5:49				7:04		7:30			8:07		8:30			9:02	9:28	10:01	10:37	10:59	11:59				12:59	1:59	2:59
Belmont	5:18	5:52				7:07					8:10					9:05	9:32	10:05	10:40	11:03	12:03				1:03	2:03	3:03
Hillsdale	5:22	5:56	6:19	6:54		7:11	7:24	7:35	7:54		8:14	8:25	8:35	8:59		9:09	9:35	10:08	10:44	11:06	12:06				1:06	2:06	3:06
Hayward Park	5:25	5:59				7:14					8:17					9:12		10:11		11:09	12:09				1:09	2:09	3:09
San Mateo	5:28	6:03			6:44	7:18		7:39		7:45	8:21		8:39		8:45	9:15	9:40	10:15	10:49	11:12	12:12				1:12	2:12	3:12
Burlingame	5:32	6:06				7:21		7:44			8:24		8:44			9:19	9:43	10:18	10:52	11:15	12:15				1:15	2:15	3:17
Millbrae	5:36	6:11	6:28	7:03	6:52	7:26	7:32		8:03	7:53	8:29	8:34		9:08	8:53	9:24	9:48	10:23	10:57	11:20	12:20				1:20	2:20	3:22
San Bruno	5:41	6:16				7:30		7:51			8:33		8:51			9:28	9:53	10:28	11:02	11:25	12:25				1:25	2:25	3:27
So. San Francisco	5:45	6:20		7:09		7:34			8:09		8:37			9:14		9:32		10:32		11:29	12:29				1:29	2:29	3:31
Bayshore	5:51	6:26				7:41+					8:45+					9:39		10:38		11:35	12:35				1:35	2:35	3:37
22nd Street	5:57	6:32				7:50+					8:53+					9:45		10:44		11:41	12:41				1:41	2:41	3:43
San Francisco	6:03	6:38	6:47	7:24	7:09	7:57	7:52	8:08	8:24	8:13	9:00	8:54	9:08	9:29	9:13	9:52	10:09	10:52	11:19	11:48	12:48				1:48	2:48	3:52



Caltrain Service - Multiple Phases of Crisis & Response

Initial Triage

March 2020 – May 2020

Surviving the Pandemic

May 2020 – Summer 2021

Preparing for the Next Reality

Fall 2021 and Beyond



- Service cut to 42 trains per day during initial shelter-in-place order.

- Service restored to 68 trains per day.
- After board adoption of Equity, Connectivity, Recovery, and Growth Policy, service increased to 70 trains per day with a focus on off-peak service and BART connections.

- Opportunity to rebuild service to capture post-pandemic markets and build upon ECRG policy.

Equity, Connectivity, Recovery, and Growth Policy



Equity

Undertake service changes in a manner that enhances equity and access for historically disadvantaged and underserved groups and communities.



Connectivity

Plan for a standardized schedule with consistent station arrivals so that transit providers can coordinate with Caltrain's service.

Prioritize coordination of major intermodal transfers within service planning, focusing on the connection to BART at Millbrae



Recovery & Growth

Strive to deliver specific elements and benefits of the Long Range Service Vision as soon as practical and supported by market demand and financial circumstances of the railroad.

Service Planning

Post-Pandemic Uncertainty

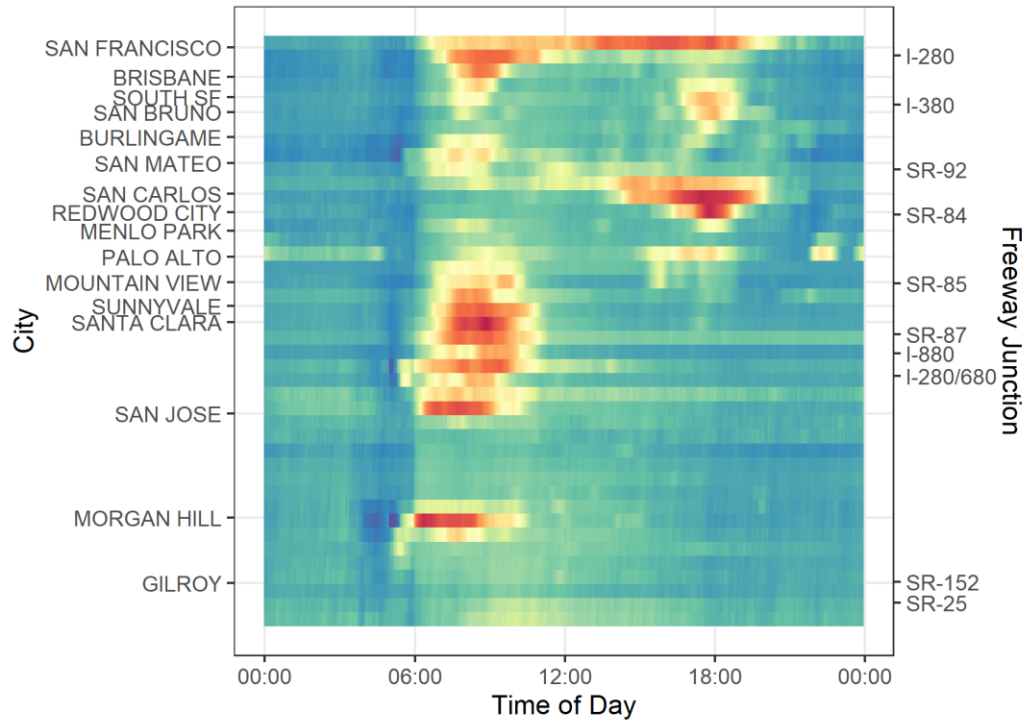
There is substantial uncertainty around post-pandemic travel behavior, especially when and how regular commuting patterns will return. Caltrain travel patterns could look substantially different than before the pandemic, given that many tech companies may shift to regular remote or flexible work schedules. A post-pandemic Caltrain service will need to be diverse and adapt to changing corridor needs while also capturing new markets.

Tracking Data & Trends to Inform Service Planning

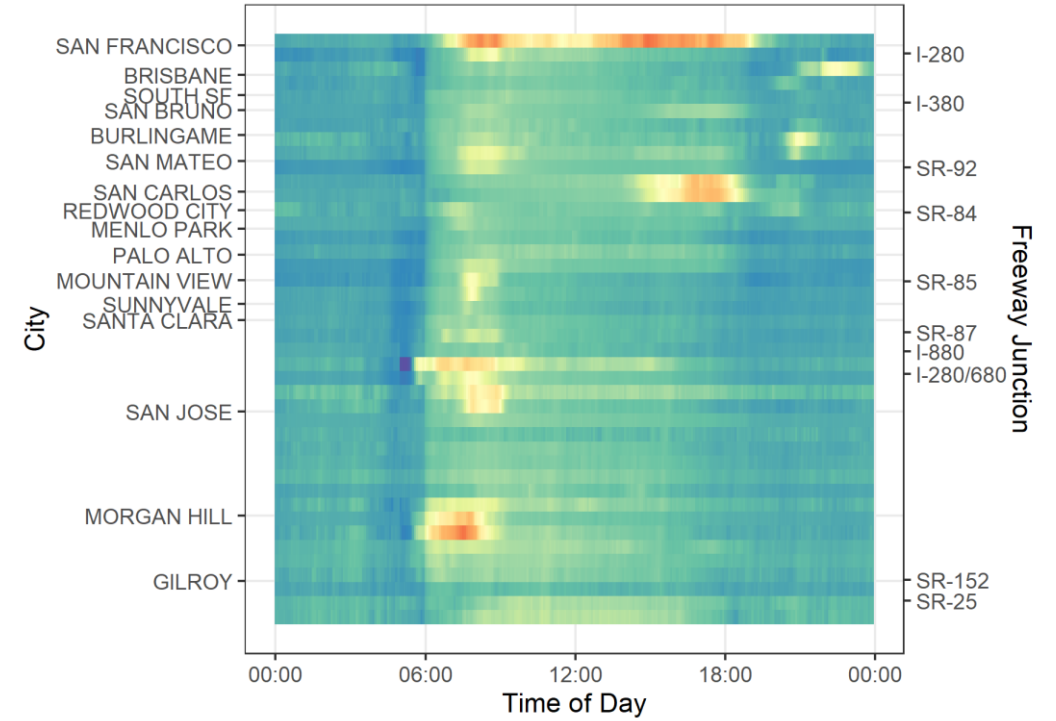
- Pre-Pandemic Ridership Patterns & Surveys
- Pandemic Ridership & Feedback
- Vaccinations & Variants
- GoPass Participation
- University Reopening Plans (Stanford, Santa Clara, San Jose State, UCSF, etc.)
- Gas Prices
- Travel Behavior Trends (Office Reopenings & Remote/Flexible Work Schedules)
- Economic Trends (Office Vacancies, Unemployment Rates, & Development Activity)
- Freeway Congestion
- Restoring Special Events (Giants, Warriors, Sharks, etc.)

Background Analysis: Freeway Speed Comparison (Pre- vs. Post-Pandemic)

US-101 Mid-Week NB Traffic Speeds, Jun 2019

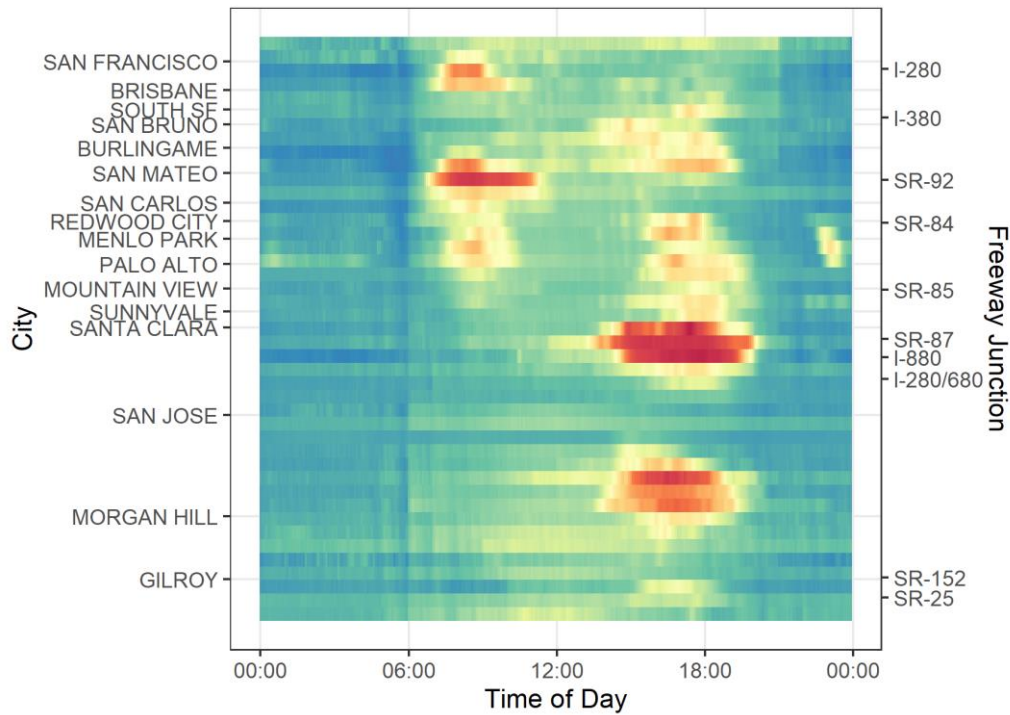


US-101 Mid-Week NB Traffic Speeds, Jun 2021

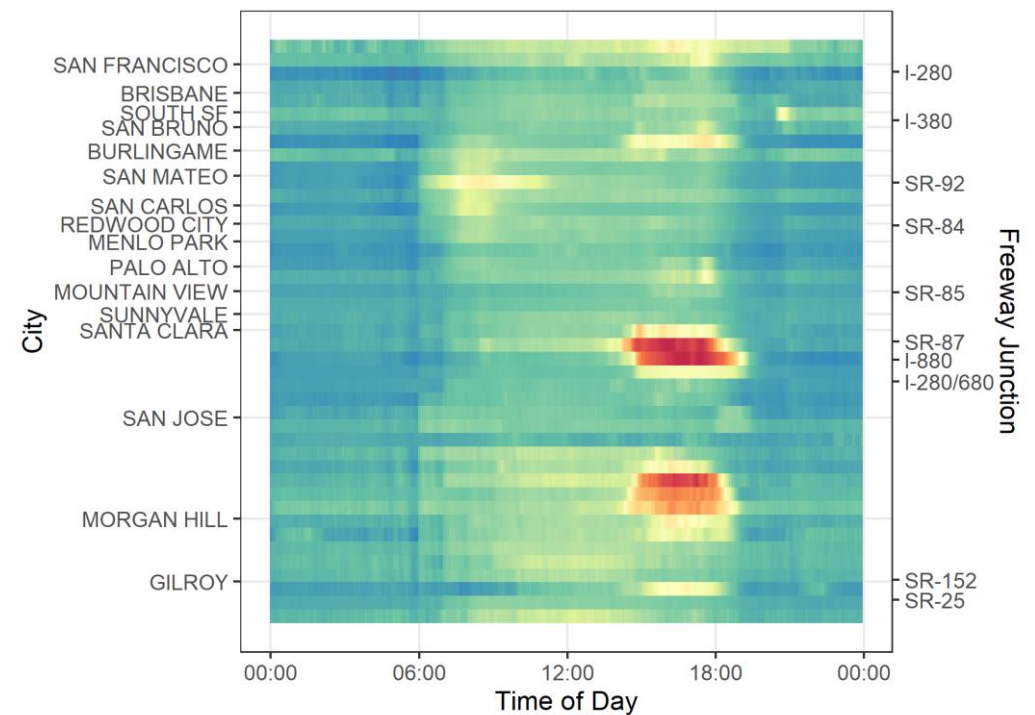


Background Analysis: Freeway Speed Comparison (Pre- vs. Post-Pandemic)

US-101 Mid-Week SB Traffic Speeds, Jun 2019



US-101 Mid-Week SB Traffic Speeds, Jun 2021



Background Analysis: What are other railroads doing?

- **Metra (Chicago):**

New pilot schedules will start July 12 on the UP North, BNSF and Metra Electric lines and July 19 on the Rock Island Line. In response to riders' evolving needs and global best practices, the pilot schedules step away from pre-pandemic schedules that prioritized peak rush-hour service in favor of a more balanced approach that spreads out the service to offer better off-peak options. The schedules also have been reimagined with more memorable timetables and service patterns.

- **MBTA (Boston):**

Over the last year, though Commuter Rail ridership has remained low overall, midday trains retained a higher percentage of their ridership than the traditional AM and PM peak trains with ridership more evenly distributed throughout the day. Recognizing that commuting needs have changed and will continue to evolve, the MBTA and Keolis have developed a Regional Rail style of service that offers more options to returning pre-pandemic commuters as well as new riders who may not have considered the service previously.

A Window of Opportunity

As workplaces, universities, and events establish a “new normal,” Caltrain has a window of opportunity to shape post-pandemic travel behavior:



Caltrain recaptures ridership and attract new riders by increasing service

OR



Former riders shift to driving because Caltrain service does not meet their needs

Service Planning Strategy



**Match Flexibility of Future
Workplace & Recapture
Commuter Market**



**Address Systemic
Inequities of Caltrain
Service**



**Build New
Ridership Markets**

1. Match Flexibility of Future Workplace & Recapture Commuter Market

Key Findings

Uncertainty

Most office-based employers do not have a clear picture of the post-pandemic “new normal” – employer policies and employee preferences continue to evolve

Evolution Over Time

It may take months or years for clear trends to emerge and a new normal to be established. Caltrain will need to monitor and adapt to new travel behavior.

Greater Flexibility

Increased work from home and flexible work hours are expected, but will vary widely by employer:

- Universities, life sciences, logistics, and hospitality/services more likely to be in person all or most of the time
- Offices (especially tech) more likely to have a remote work option, but adoption will be different between employers



2. Address Systemic Inequities of Caltrain Service

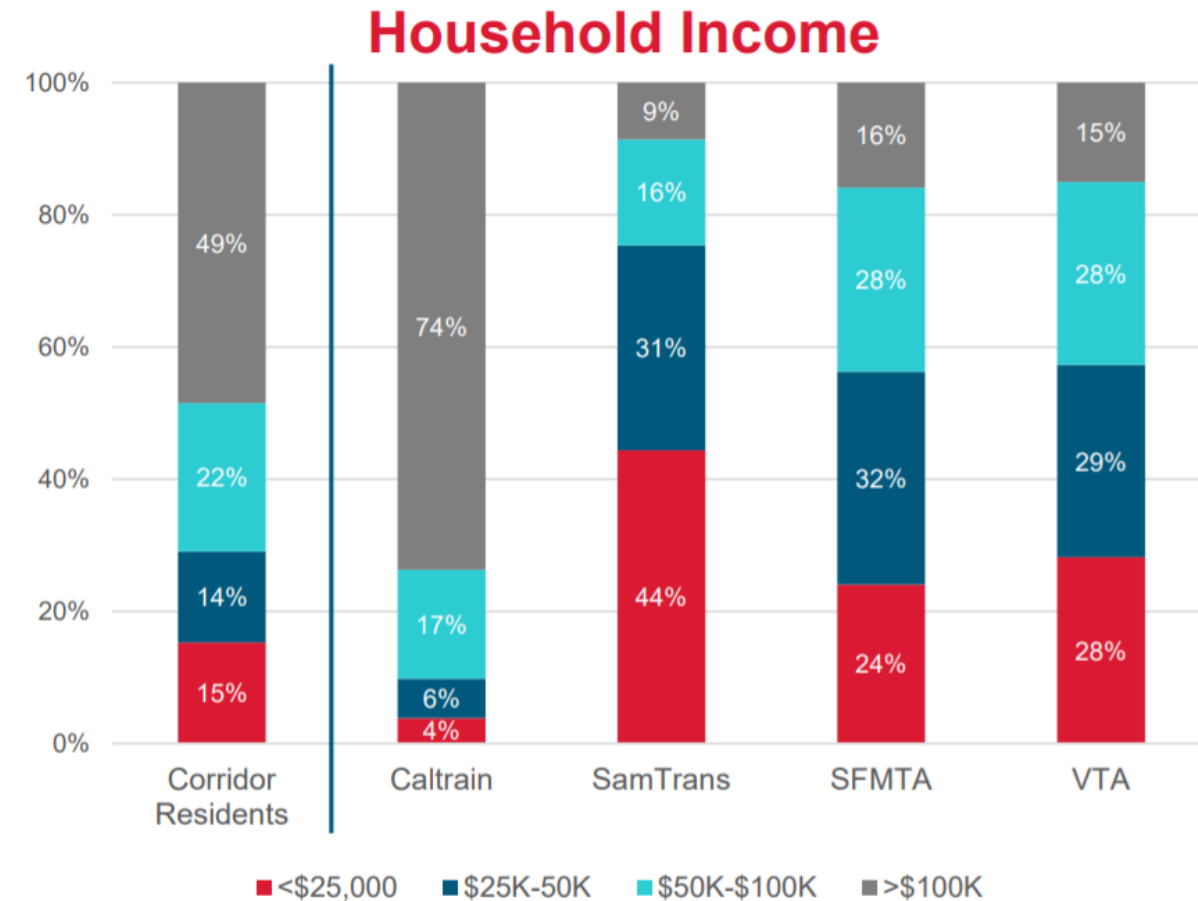
Key Findings

Schedule-Imposed Barriers

Prior to the pandemic, Caltrain's highly-customized schedule posed barriers for off-peak/weekend trips, intermodal transfers, and "novice" riders.

Disproportionate Outcomes

Schedule-imposed barriers particularly affected people who are transit-reliant or work nontraditional schedules – populations that are disproportionately lower income and people of color



3. Build New Ridership Markets

Key Findings

Latent Demand & Development Activity

Prior to the pandemic, Caltrain experienced significant latent demand due to low frequencies and limited connectivity for many stations. Construction activity along the corridor remains strong, and recently-completed developments provide potential for new ridership growth.

Special Events & Non-Commute Trips

Recent ridership data show that the traditional Giants game market is rebounding quickly, and Caltrain has an opportunity to better serve Warriors and Sharks games, concerts and special events, airport travel, medical appointments, and other non-commute trips – especially during evenings and weekends.



Service Planning Strategy

Strategies

Match Flexibility of Future Workplace & Recapture Commuter Market

Address Systemic Inequities of Caltrain Service

Build New Ridership Markets

Approach

Competitive Service

Restore Baby Bullet and zone express service to recapture riders adjusting to new travel behavior

Simple Service

Simplify structure while expanding train options and frequency at as many stations as possible

All-Day Service

Maintain expanded midday, evening, and weekend service to broaden Caltrain's reach

Coordinated Service

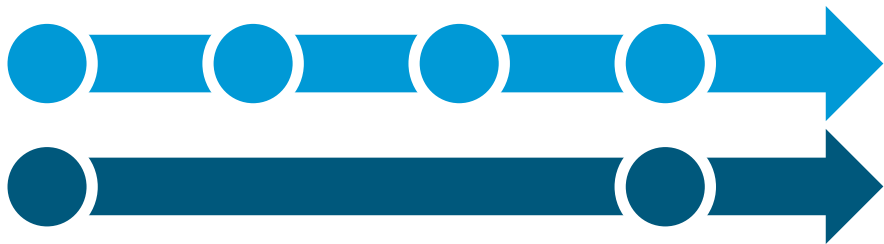
Coordinate connections with BART and other operators

Optimized Service

Adjust stopping patterns to serve latent demand and growing station areas

Key Tradeoffs

Number of Stops



Types of Service



Types of Service

All Trains
the Same

Different
Types of
Trains

Number of Stops

More Stops

Pros: Frequent service to all stations. Consistent headways with good connectivity.

Cons: Trains are slow.

Less Stops

Pros: Reasonable travel times at all stations. Frequent service at major stations only.

Cons: Infrequent service with challenging connectivity at most stations. Complicated service.

Pros: Faster travel times between major stations. Good connectivity between all stations.

Cons: Slow travel times for all other stations. Inconsistent headways at major stations. Somewhat complicated service.

Ongoing Constraints

Caltrain's primary goal of the fall schedule change is to increase service. Still, the railroad must continue to operate within significant schedule constraints, including:



Financial Constraints

- Farebox revenue remains low and will take time to recover
- Service levels must be aligned with financial capacity



Major Construction Projects

- South San Francisco and Electrification projects require track access to complete
- Train schedules must be tailored to accommodate ongoing single-tracking operations

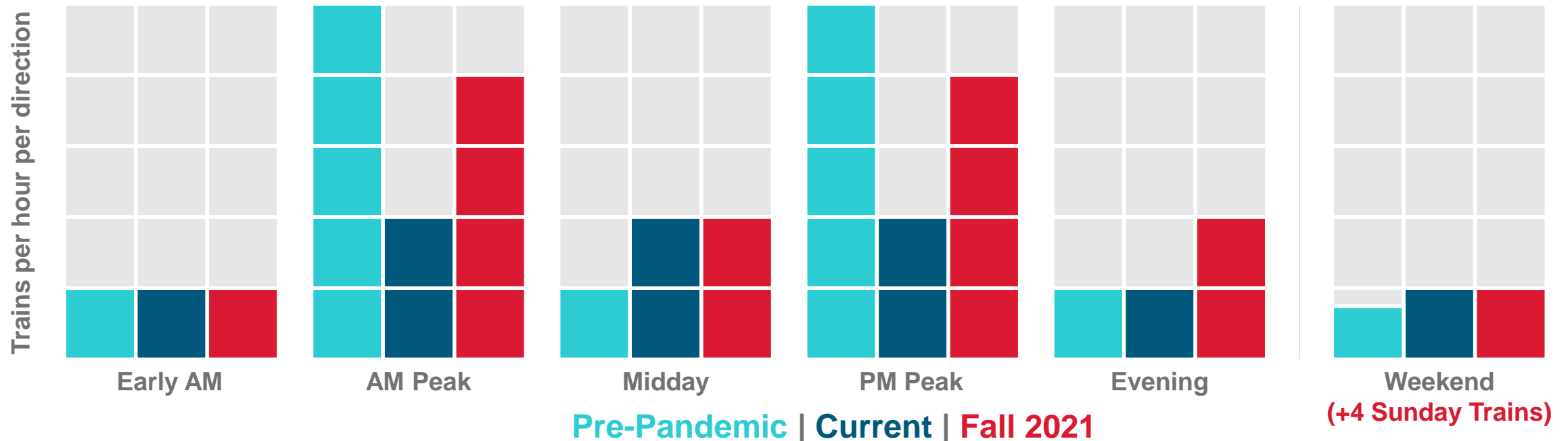


Staffing

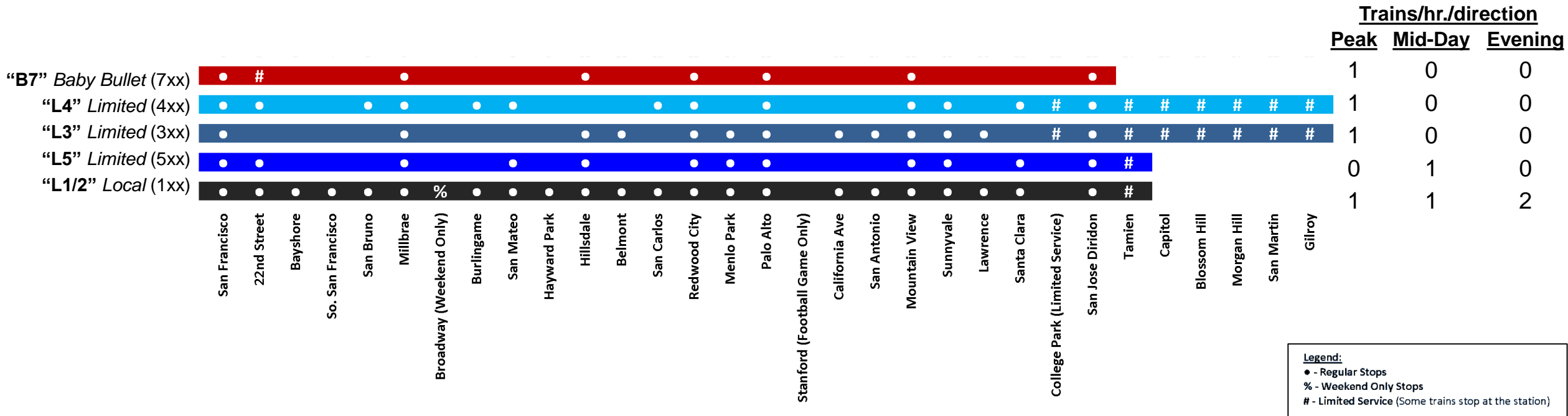
- Service reductions during the pandemic were achieved through attrition (retirements)
- Replenishing through hiring and training will take months.

August 2021 Service Expansion

The August 2021 service plan focuses on expanding peak period and evening frequency as well as adjusting stopping patterns. Overall weekday span of service will not change. Sunday service will be expanded to match Saturday Service.



August 2021 Service Plan (Weekdays)



Note: Colors are for illustrative purposes only and do not reflect what is shown on the actual timetable.

Key Peak Hour Metrics: AM Peak Trains per Hour by Station Pair

From Origin Station to Destination Station	San Francisco	22nd Street	Bayshore	South San Francisco	San Bruno	Millbrae	Burlingame	San Mateo	Hayward Park	Hillsdale	Belmont	San Carlos	Redwood City	Menlo Park	Palo Alto	California Avenue	San Antonio	Mountain View	Sunnyvale	Lawrence	Santa Clara	San Jose Diridon	Tamien
San Francisco		3	1	1	2	4	2	2	1	3	2	2	4	2	4	2	2	4	3	2	2	4	1
22nd Street	2		1	1	2	3	2	2	1	2	1	2	3	1	3	1	1	3	2	1	2	3	1
Bayshore	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
South San Francisco	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
San Bruno	2	2	1	1		2	2	2	1	1	1	2	2	1	2	1	1	2	2	1	2	2	1
Millbrae	4	2	1	1	2		2	2	1	3	2	2	4	2	4	2	2	4	3	2	2	4	1
Burlingame	2	2	1	1	2	2		2	1	1	1	2	2	1	2	1	2	2	2	1	2	2	1
San Mateo	2	2	1	1	2	2	2		1	1	1	2	2	1	2	1	2	2	2	1	2	2	1
Hayward Park	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hillsdale	3	1	1	1	1	3	1	1	1		2	1	3	2	3	2	2	3	2	2	1	3	1
Belmont	2	1	1	1	1	2	1	1	1	2		1	2	2	2	2	2	2	2	2	1	2	1
San Carlos	2	2	1	1	2	2	2	2	1	1	1		2	1	2	1	1	2	2	1	2	2	1
Redwood City	4	2	1	1	2	4	2	2	1	3	2	2		2	4	2	2	4	3	2	2	4	1
Menlo Park	2	1	1	1	1	2	1	1	1	2	2	1	2		2	2	2	2	2	2	1	2	1
Palo Alto	4	2	1	1	2	4	2	2	1	3	2	2	4	2		2	2	4	3	2	2	4	1
California Avenue	2	1	1	1	1	2	1	1	2	2	2	1	2	2	2		2	2	2	2	1	2	1
San Antonio	2	1	1	1	1	2	1	1	2	2	2	1	2	2	2	2		2	2	2	1	2	1
Mountain View	4	2	1	1	2	4	2	2	1	3	2	2	4	2	4	2	2		3	2	2	4	1
Sunnyvale	3	2	1	1	2	3	2	2	1	2	2	3	2	3	2	3	2	3		2	2	3	1
Lawrence	2	1	1	1	1	2	1	1	1	2	2	1	2	2	2	2	2	2	2		1	2	1
Santa Clara	2	2	1	1	2	2	2	2	1	1	1	2	2	1	2	1	1	2	2	1		2	1
San Jose Diridon	4	2	1	1	2	4	2	2	1	3	2	2	4	2	4	2	2	4	3	2	2		1
Tamien	2	1	1	1	1	2	1	1	1	2	2	1	2	2	2	2	2	2	2	2	1	2	

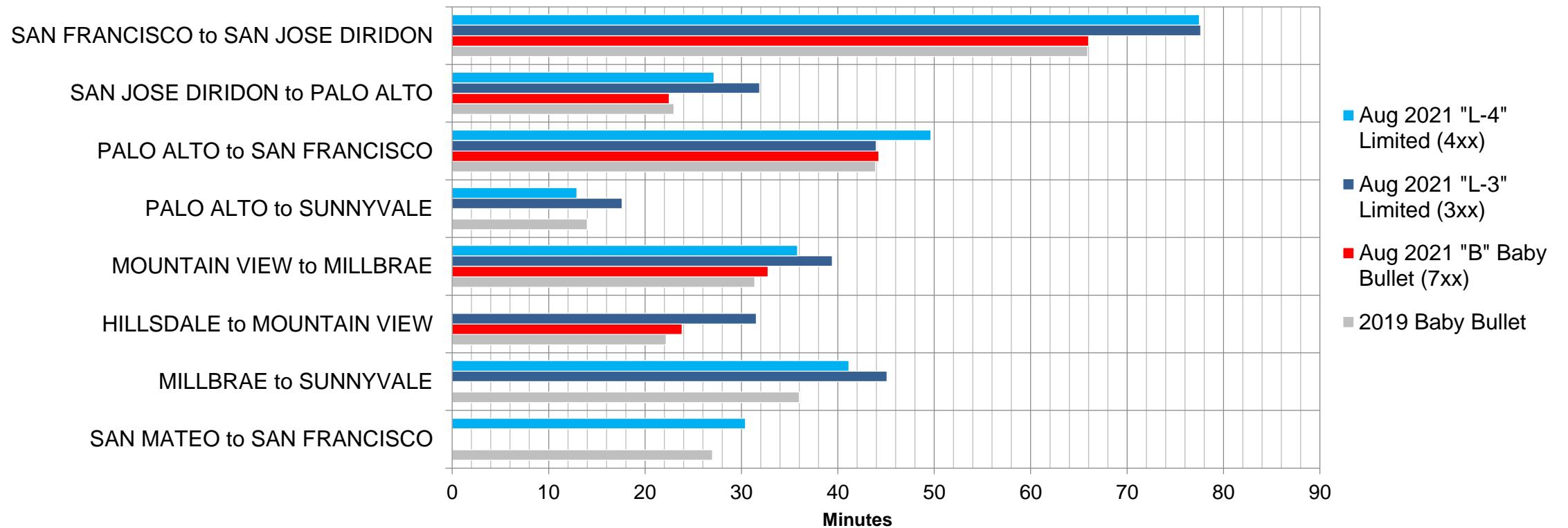
August 30, 2021

From Origin Station to Destination Station	San Francisco	22nd Street	Bayshore	South San Francisco	San Bruno	Millbrae	Burlingame	San Mateo	Hayward Park	Hillsdale	Belmont	San Carlos	Redwood City	Menlo Park	Palo Alto	California Avenue	San Antonio	Mountain View	Sunnyvale	Lawrence	Santa Clara	San Jose Diridon	Tamien
San Francisco		5	1	1	1	5	2	3	1	3	1	3	5	3	5	2	1	4	1	2	5	1	
22nd Street	1		1	1	1	5	2	3	1	3	1	3	5	3	5	2	1	4	1	2	5	1	
Bayshore	1	1		1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	1	1	0
South San Francisco	2	1	1		1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	1	1	0
San Bruno	2	1	1	1		1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	1	1	0
Millbrae	4	1	1	2	1		2	3	1	3	1	3	5	3	5	2	1	4	1	2	2	5	1
Burlingame	2	1	1	1	2	1		2	1	2	1	2	2	1	2	1	2	2	1	2	0		
San Mateo	3	1	1	1	2	2	2		1	2	1	3	3	2	3	1	0	0	0	0	1	1	0
Hayward Park	1	1	1	1	1	1	1	1		1	1	1	1	0	1	0	0	0	0	0	1	1	0
Hillsdale	4	1	1	2	2	3	2	2	1		1	2	3	1	3	1	0	2	0	1	1	3	0
Belmont	1	1	1	1	1	1	1	1	1	1		1	1	0	1	0	0	0	0	0	1	1	0
San Carlos	2	1	1	1	2	1	2	2	1	2	1		3	2	3	2	1	2	1	2	2	3	0
Redwood City	3	1	1	2	1	3	1	2	1	2	1	1		3	5	2	1	4	1	2	2	5	1
Menlo Park	2	1	1	2	1	2	1	1	1	2	1	1	2		3	2	1	3	1	2	1	3	1
Palo Alto	4	0	0	1	1	3	1	2	0	3	0	1	2	1		2	1	4	1	2	2	5	1
California Avenue	3	1	1	2	2	3	2	1	3	1	2	2	2	2	2		1	2	1	2	1	2	0
San Antonio	1	0	0	1	0	1	0	0	1	0	0	0	1	1	1	1		1	1	1	1	1	0
Mountain View	4	1	1	2	2	3	2	2	1	4	1	2	2	2	3	3	1		1	2	1	4	1
Sunnyvale	4	1	1	2	2	3	2	3	1	3	1	3	1	2	3	3	1	3		1	1	1	0
Lawrence	1	0	0	1	0	1	0	0	0	1	0	0	1	1	1	1	1	1	1		1	2	0
Santa Clara	2	1	1	2	1	2	1	1	1	2	1	1	2	2	1	2	1	2	2	1		2	0
San Jose Diridon	5	1	1	2	2	4	2	3	1	4	1	2	3	2	4	3	1	4	3	1	2		1
Tamien	2	0	0	1	0	2	0	1	0	1	0	0	2	1	2	1	1	1	2	1	1	2	

October 7, 2019

Key Travel Time Metrics (Weekday Peak Periods)

Trip Time Comparison 2019 vs. August 2021 Proposed (Average by Type)



Note: Colors are for illustrative purposes only and do not reflect what is shown on the actual timetable.

Gilroy Service

This service change restores the third Gilroy round trip. Service was designed to offer customers multiple options for one-seat rides along the Peninsula, including direct service to College Park on one train in each direction.

Arrival and departure times at Gilroy were coordinated with VTA based on feedback received during the South County survey conducted in 2019. Discussions are ongoing regarding the timing of implementing a 4th round trip in the near future.



Northbound trains leave from Gilroy at 5:54AM, 6:31AM, and 6:52AM.

Southbound trains arrive in Gilroy at 5:21PM, 6:42PM, and 7:19PM.



Overall Benefits

The new Caltrain schedule will attract both former and prospective customers by providing:

- One-seat ride between all station pairs, all day long
- Competitive peak-period trip time in more station pairs
- Faster service during midday periods
- More frequent evening service for special events
 - *New Sunday evening trains will provide service from Chase and SAP Centers*

Scalable to adjust to emerging ridership patterns

Provides adequate connections with BART at Millbrae

Accommodates construction activities during off peak hours



Future Considerations

- **Collaborate with BART to improve Evening and Sunday Millbrae Connections**
- **Schedule is designed to allow for the addition of a 5th train per hour (second Baby Bullet) during peak periods when demand increases**
- **Increasing work windows to accelerate upcoming construction work for PCEP**

Next Steps

- **Ongoing “All Aboard Transit” Marketing Campaign**
- **Monitor ridership patterns on specific trains**
- **Continue to analyze market trends and regional developments to guide future service adjustments**
- **Collaborate with BART and other partner agencies to continue to improve transit connections**